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FROM THE EDITOR

This final issue of the sixth volume of the *Journal on Telecommunications & High Technology Law* features five articles followed by two student notes that includes the winner of the 2007 Silicon Flatirons Writing Competition. In the first article, Professors Phil Weiser, Dale Hatfield, and Brad Bernthal report on how new technologies are impacting emergency 9-1-1 services and the resulting need for reform. They make several recommendations for changing both governance and funding models. The second article features the work of Charles Cooper and Brian Koukoutchos examining the principles of federalism and telecommunications deregulation. In their comprehensive article, these authors argue the case for broad preemptive federal deregulation across the telecommunications industry in light of the intermodal competition found within today's telecommunications world. Following on the deregulatory theme, Professor Rob Frieden examines the Federal Communications Commission's ("FCC") efforts to deregulate some next-generation network services through categorizing them as information services, while at the same time imposing obligations on other services, most notably Voice over Internet Protocol service providers. Professor Frieden explores the problems arising from these contradictory strategies. Professors Lynne Holt and Mark Jamison then discuss the issues of federal communications regulation and competitive access as they pertain to multi-unit housing complexes. They propose the need for a uniform set of rules regarding competitive access for multi-unit premises that are not dependent upon the type of technology platform being provided. In the fifth article, William Hebert and Professor Nicholas Economides discuss the intersection of patent and antitrust law, exploring the antitrust issues that arise when patent holders leverage their monopoly power into adjacent markets.

This issue also features two student notes. First, Patrick Thiessen, the winner of the 2007 Silicon Flatirons Writing Competition and one of the journal's Associate Editors, critiques the Real ID Act of 2005. He presents the different legal arguments that states could make to challenge this federal law and the obligations it imposes upon the states. Lastly, Note and Comment Editor Kaydee Smith examines the idea of a Global First Amendment. She discusses two recent bills that Congress has considered to increase freedom for the Internet globally and makes recommendations on which bill is mostly likely to succeed in its goals.

J. ON TELECOMM. & HIGH TECH. L.

This issue, along with the entire volume six, would not have been possible without the efforts of our fine Articles Editors Conor Boyle, Brian Geoghegan, Scott Grayson, and Karam Saab. I wish to thank them for all their hard work over this past year. In addition, endless gratitude goes to our Note and Comment Editors Tina Amin, Scott Challinor, Gil Selinger, and Kaydee Smith who have spent these past two semesters working with our Members to produce excellent student notes, some of which you will see published in volume seven. I also wish to thank both our Executive Editor Carin Twining, who provided essential oversight to the entire journal's operations, and our Managing Editor Todd Blair, who kept our finances and meetings in good order.

Once again, our Production Editor Michael Beylkin deserves many thanks for his countless hours reviewing each article and putting each issue into its final form. The *Journal* is also indebted to Assistant Production Editor Mike Boucher who continues to volunteer his time to help us whenever and wherever production needs a helping hand. Our Associate Editors Joe Chen, Ed Hafer, Venu Menon, Patrick Thiessen, and Mike Varco have also continued to give generously with their time, providing assistance on a wide variety of tasks—from additional cite checking to editing a student note or two. To them and to the whole crew, I give my thanks for making this my most rewarding year in law school.

Phil Weiser and Paul Ohm, our faculty co-advisors, along with Brad Bernthal, Dale Hatfield, Jill Van Matre, Anna Noschese, Cindy Gibbons, the Silicon Flatirons Advisory Board, and our Office Manager Martha Utchenik all deserve special thanks. While the *Journal* is a student-run organization, it would not succeed as it has without their encouragement and the time and effort they give to support our work.

I would like to acknowledge the hard work our incoming editorial board has already done. I am certain that Hiwot Molla, Kyaw Tin, Erin McLauthlin, John Bergmayer, and Chris Larson will do an excellent job overseeing the production of volume seven.

Last but not least, I wish to thank my family whose support, advice, and encouragement have made my experience working on the *Journal* possible.

Along with the entire board of editors, I am pleased to offer this last issue of the sixth volume of the *Journal on Telecommunications & High Technology Law*.

David B. Wilson
Editor-in-Chief

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THE FUTURE OF 9-1-1: NEW TECHNOLOGIES AND THE NEED FOR REFORM

PHILIP J. WEISER,* DALE HATFIELD,** & BRAD BERNTHAL***

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* Professor of Law and Telecommunications at the University of Colorado Law School. This Article stems from a report commissioned by the 9-1-1 Industry Alliance ("9IA"). It resulted from a series of interviews as well as independent research. The content and conclusions of this Article (as well as the earlier report upon which it was based) reflect the authors' perspective alone and should not be attributed to 9IA or any of its members. This Article benefited greatly from valuable research from Valerie Yates, Steve Robertson, Mark Changaris, and Brian Geoghegan.

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INTRODUCTION

The development of the United States' 9-1-1 system remains a public policy success story. This success masks, however, the system's vulnerabilities and its failure to keep up with technological change. In particular, our 9-1-1 system was not designed for a world of dynamic technologies such as Voice over Internet Protocol ("VoIP"). To update our 9-1-1 system for today's communications marketplace thus requires changes in technology, governance, and funding strategies.

Many citizens do not realize that our 9-1-1 system is only two generations old. In 1968, at the outset of the effort to establish 9-1-1 as the emergency number in the United States, *Life* magazine observed, "It won't be long before 911 takes over as the most memorable trio of digits in American culture."¹ Today, this is largely the case. Wherever an individual needs help, a call to 9-1-1 almost always goes through and, in many cases, also reports the caller's telephone number and location to the 9-1-1 operator. Notably, an estimated 99 percent of the population and 96 percent of the geographic United States have access to at least basic 9-1-1 services.² Most importantly, the success of our 9-1-1 system has saved numerous lives. Due to the system's success over the past four decades, American citizens now reasonably expect access to 9-1-1 as a critical public service that is ubiquitous and reliable.

The 9-1-1 system's success to date belies the fact that its core premises will not continue to serve it effectively and it has come to a critical juncture. In particular, the balkanized nature of 9-1-1 systems that differ across jurisdictions and are supported by Byzantine funding mechanisms obscure a simple but profound development: our nation's emergency communications system is not keeping up with or taking advantage of technological change. The original provision of 9-1-1 arose in a world where a single carrier (AT&T in most cases) provided service to customers using analog voice connections from fixed locations. Today, by contrast, there are a multiplicity of providers, almost all of which use digital technology and many of which offer "nomadic" or mobile services. In response to technological innovation, our current 9-1-1 infrastructure is a clever but "jury-rigged" system that uses yesterday's technology to provide service in a world very different than that for which it was designed. Indeed, the limits of the legacy technology used

1. Letter from Lee Loevinger, Def. Comm'r, FCC, to Hon. Joseph A. Califano, Jr., Special Assistant to the President, The White House Office (Mar. 7, 1968) (on file at the Lyndon Baines Johnson Library and Museum), *available at* http://www.911dispatch.com/911/history/loevinger_letter1.html.

2. E9-1-1 Institute, The Issues, <http://www.e911institute.org/theIssues/index.html> (last visited May 10, 2008).

in emergency communications can be best understood by viewing today's 9-1-1 system as an analog island in a digital sea. To be sure, the ingenuity of the engineers who have stretched the current system to accommodate wireless telephony and other services is admirable. But policymakers must recognize that the system is stretched to its limits and change is required.

In the telecommunications industry overall, competitive forces and technological innovations have ushered in an era of digital, mobile, and often Internet Protocol-based communications capabilities. At the same time, limited competition in portions of the 9-1-1 system and analog bottlenecks have conspired to restrain the capabilities of today's 9-1-1 systems. Because the system continues to work and policymakers largely do not appreciate the system's technological limitations, decision makers not only fail to focus on this challenge, but instead are all too willing to raid 9-1-1 funds to put them to other uses. Accordingly, our emergency communications networks are unable to accommodate what is increasingly viewed as basic functionality inherent in many of today's advanced technologies. These include, for example, the ability to receive photos from a scene or the ability to receive text messages, as students attempting to text message 9-1-1 during the recent Virginia Tech tragedy realized when their messages did not go through. This chasm between the capabilities of modern networks and today's 9-1-1 system needs to be bridged. Put differently, it is a grave policy failure that, compared to state-of-the-art commercial networks, our emergency communications networks are less efficient, less technologically advanced, and, as a consequence, less able to provide the public with the level of protection it deserves.³

This Article sets forth a coherent vision for reforming the state of 9-1-1 services. Notably, the United States' 9-1-1 "system" is hardly a monolith and prescriptions for its evolution cannot be reduced to simple "one size fits all" solutions. In practice, the system is comprised of numerous jurisdictions (including over 6000 Public Safety Answering Points ("PSAPs")); a myriad of governance structures and controls which vary across state, county, and local jurisdictions; a ballooning number of service providers; and a diversity of funding amounts and models that differ across jurisdictional boundaries. The result, not surprisingly, is a fractured and complicated system where policy is highly contingent on

3. As a New York Times article observed: the 9-1-1 "system has not kept pace with the nation's rapidly changing communication habits. As it ages, it is cracking, with problems like system overload, understaffing, misrouted calls and bug-ridden databases leading to unanswered calls and dangerous errors." Shaila Dewan, *An SOS for 911 Systems in an Age of High-Tech*, N.Y. TIMES, Apr. 6, 2007, at A1.

parochial and often political perspectives.⁴

Even with such a wide ambit of variability, however, it is important for policymakers to appreciate the basic weaknesses of our current system of 9-1-1 and the clear directions for reform. Accordingly, with this goal in mind, this Article serves as a compendium that integrates technology, governance, and funding perspectives into a comprehensive call for reform. By so doing, we hope that this Article will draw attention to the importance of coordinated decision making and improved funding models in upgrading the state of 9-1-1 system capabilities in the United States.

In developing our recommendations, we conducted a thorough research effort that involved reaching out to a large number of stakeholders, ranging from public safety answering points to state regulatory commissions to affected companies.⁵ Additionally, we canvassed relevant government reports and audits, industry publications and materials, secondary literature, and technical materials. In total, our research pointed clearly to a number of best practices and suggestions. Stated simply, the essence of our recommendations is that: (1) clear leadership and vision is needed to move the 9-1-1 system to a next generation architecture; (2) leadership requires, most notably, more effective state oversight to provide both funding and logistical support; and (3) localities should remain responsible for providing access to 9-1-1, but that they must be supported from higher levels of government as well as industry to exercise that responsibility. On the last point, we must emphasize that it is critical that federal and state governments, in conjunction with 9-1-1 technology leaders, help develop the necessary statement of requirements and standards for a new 9-1-1 technological architecture as well as provide the tools for local or regional PSAPs to utilize advanced technologies.

Following this Introduction, Part I of this Article discusses the

4. Other fractured but related information systems face similar policy challenges. Indeed, emergency communications represents only one area of government services attempting to improve collaboration across jurisdictions in order to better realize technology benefits. See CTR. FOR TECH. IN GOV'T, UNIV. AT ALBANY, SUNY, NEW MODELS OF COLLABORATION: AN OVERVIEW 1 (2004), *available at* http://www.ctg.albany.edu/publications/reports/new_models_exec/new_models_exec.pdf (analyzing instances where "government reform and new technologies has opened new opportunities to redesign public services").

5. In particular, we interviewed officials from 21 states (Alabama, California, Colorado, Indiana, Louisiana, Massachusetts, Michigan, Minnesota, Montana, New Mexico, North Carolina, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, and West Virginia), a leading consultant (L. Robert Kimball), service providers (Comcast, Qwest, Skype, T-Mobile, Verizon Wireless, and Vonage), vendors (Cisco, Intrado, Neustar, and Plant CML), associations (E911 Institute, Comcare, CTIA, and NENA), and the federal government (Department of Transportation).

history of 9-1-1. Part II details the traditional architecture of the 9-1-1 system and outlines the opportunities created by a next generation architecture. In laying the two models side-by-side, we do not believe that policymakers have a choice whether or not to migrate to an advanced technology platform. The rationale for doing so is simply overwhelming. Thus, the relevant questions are how soon will such a transition take place and how will it take place? The first question is one of political will and awareness, partially explained by the fact that policymakers have remained in the dark about just how stressed and limited our 9-1-1 system is. The second set of questions focuses on the challenges in terms of governance and funding reforms necessary to upgrade our 9-1-1 capabilities and services.

In terms of the development of a 9-1-1 system, it is critical that state governments appreciate and seek to demonstrate to localities the value of next generation technologies. In so doing, they can provide critical leadership and funding sources to enable the development of a next generation 9-1-1 system (“NG9-1-1”). Specific to state leadership, as we explain in Part III, states need to examine their models of governance to ensure that they provide the support, guidance, and oversight necessary to facilitate the transition to NG9-1-1. On the matter of funding examined in Part IV, we detail the current state of the system and note the often irrational funding strategies to support 9-1-1. Significantly, we do not believe that, on the whole, the amount of money being raised is necessarily insufficient, but rather that the funding procedures and strategies now in place are often not well conceived, fail to adequately promote capital expenditures, and are ineffectively directed to facilitate an expedient transition to a new technological architecture.

In short, there is an important opportunity for thoughtful leadership and vigilant policy reform that will serve the goals of 9-1-1 emergency response far more effectively than the policies currently in place. We believe that the time for action is now.

I. THE HISTORY AND BACKGROUND OF 9-1-1⁶

Today’s telephone subscribers expect to be able to dial 9-1-1 to obtain emergency assistance from their local law enforcement, fire, and emergency medical services (collectively, “First Responders”). As consumers increasingly adopt wireless phones, Voice over Internet Protocol (“VoIP”) services, and other advanced communications technologies, they generally expect that such services will enable them to reach 9-1-1 just as they can from an ordinary landline telephone. This

6. We acknowledge Valerie Yates for her helpful research and assistance in drafting this part.

consumer expectation, however, also underscores a grave source of concern for policymakers and industry professionals: because consumers are often unaware of the limitations of 9-1-1 service in various geographic areas or with respect to certain technologies, they are apt to be disappointed—and left in the lurch—when such technologies fail to reach 9-1-1 or provide the precise location of the caller. The recent tragedy at Virginia Tech, for example, reinforced the weakness of our current 9-1-1 system, as students attempting to text message 9-1-1 were disappointed to find that our 9-1-1 system has yet to embrace this functionality.

With the development of residential telephone service, the telephone became a lifeline for subscribers needing emergency assistance. Before the implementation of the 9-1-1 dialing code, however, it was not always clear which authority to call or which telephone number to use. In 1967, President Johnson's Commission on Law Enforcement and Administration of Justice issued a report (the "Johnson Commission Article") observing that:

When trying to call the police from an ordinary telephone, a person is faced with a bewildering array of police jurisdictions and associated telephone numbers. In the Los Angeles area alone, there are 50 different telephone numbers that reach police departments within Los Angeles County. It should be possible to use a single telephone number to reach the appropriate police department (or some other emergency center) directly.⁷

For reasons of expedience, subscribers commonly dialed "0" to reach the operator and ask for help. The operator would then determine the appropriate authority—generally, a PSAP—and transfer the call. At that time, telephone companies advertised the emergency calling service provided by their operators, which reinforced the importance of access to emergency services. Although this practice made it easy to remember what number to call, the use of operator-assisted dialing wasted valuable time because these calls were not prioritized over the other calls requiring the operator's assistance. Moreover, operators were generally not trained as thoroughly as today's call-takers to handle emergency situations (which were a very small percentage of the incoming calls), thereby introducing a margin for error into dangerous situations and resulting in needless losses of life and property.

To enhance public safety, policymakers embraced the concept of a single, memorable, emergency calling code in the late 1960s. In

7. INST. FOR DEF. ANALYSES, TASK FORCE REPORT: SCIENCE AND TECHNOLOGY (1967), available at http://www.911dispatch.com/911/history/task_force_rpt.html.

particular, the Johnson Commission Article recommended that:

Wherever practical a single number should be established, at least within a metropolitan area and preferably over the entire United States, comparable to the telephone company's long-distance information number. This is difficult but feasible with existing telephone switching centers; it appears more practical with the new electronic switching system being installed by the telephone companies, and should be incorporated. In the interim, the telephone companies should print on each telephone number disc the number of the police department serving that telephone's location.⁸

Despite federal support for the initiative, the federal government did not formally authorize or establish a nationwide emergency calling number. Indeed, Congress did not formally establish 9-1-1 as the universal emergency assistance number until 1999.⁹ The informal efforts to spur the establishment of such a number resulted from the leadership of Lee Loevinger, the Defense Commissioner of the Federal Communications Commission ("FCC"), who urged AT&T to develop and implement a universal emergency telephone number.¹⁰ Following this request, AT&T selected 9-1-1 as the emergency calling number and agreed that all Bell System companies would establish circuits that would route 9-1-1 calls directly to a central emergency switchboard to be established, staffed, and controlled by local emergency agencies. As Loevinger put it: "The establishment and operation of a unified emergency agency switchboard center with trained attendants shifts the problem of knowing what facilities are available and of determining which agencies are best able to provide help from the panic-stricken, helpless citizens to the experienced, informed and presumably skilled attendants."¹¹

In a memorandum accompanying a correspondence with the Honorable Joseph A. Califano, Jr., Loevinger outlined some of the obstacles he encountered in seeking to persuade AT&T to implement an emergency calling code.¹² In particular, AT&T objected to the move on the grounds that it would be difficult to reconcile the jurisdictional issues associated with having a single number for disparate and potentially rival organizations; the company would need to incur the costs of

8. *Id.*

9. Peter P. Ten Eyck, Note, *Dial 911 and Report a Congressional Empty Promise: The Wireless Communications and Public Safety Act of 1999*, 54 FED. COMM. L.J. 53, 61 (2001) (analyzing Congressional action via 1999 Act).

10. Letter from Lee Loevinger, *supra* note 1.

11. *Id.*

12. *Id.*

implementing this change; and emerging technological developments would supersede the proposed system, quickly rendering it antiquated.

Despite its now outdated network design, the legacy 9-1-1 system has worked reasonably well. Indeed, because the system is all too often viewed as “good enough,” policymakers have overlooked its antiquated technological premises and vulnerabilities. As we explain in Part II, however, the advent of wireless telephones has underscored these vulnerabilities, leaving many wireless callers without the benefits of location identification information when they call 9-1-1 and preventing such callers from passing along valuable information such as photos when they access 9-1-1.

With respect to governance, localities (and, to a lesser degree, states) have taken the lead in developing 9-1-1 and the subsequently developed “enhanced 9-1-1” (or “E9-1-1”) services for traditional wireline, circuit-switched telephone service. In all cases, the ability to support 9-1-1 service depends on the establishment of available PSAPs, which vary in size and structure from locality to locality. Notably, the geographic territory served by PSAPs range from a single local municipality, to a large city, to a county-wide or regional district, to an entire state. Similarly, the governance structure of PSAPs vary widely as well. Many of them are housed within a branch of public safety or law enforcement, such as the police department, fire department, or sheriff’s office; others are managed by an independent board that oversees a civilian force of trained call-takers. To make matters more complicated, sometimes the PSAP function, i.e., the operator who takes calls from the public, is combined with the dispatch function (which communicates with First Responders in the field) whereas in other instances, the two are entirely separate from one another.

For almost 30 years after the Johnson Commission recommendation to establish a universal emergency number, the FCC did not formally exercise jurisdiction over 9-1-1 related services. With the growth of wireless services (and more recently VoIP services), however, the FCC has asserted its jurisdiction over E9-1-1 insofar as it has formally required wireless carriers to provide access to 9-1-1. In particular, the FCC enacted rules extending the requirement to provide basic and enhanced 9-1-1 service to wireless phones in 1996. As we discuss in Part II, the rules governing wireless carriers called for two phases of compliance: (1) a Phase I where they were required to provide PSAPs with a callback number and location of the cell site/antenna sector receiving the 9-1-1 call; and (2) a Phase II where wireless carriers were required to provide PSAPs the location of all 9-1-1 calls by latitude and longitude.

Just as 9-1-1 technology and governance developed on an *ad hoc*,

jurisdiction-by-jurisdiction, piecemeal basis, as the 9-1-1 system expanded to accommodate more than wireline technologies, so did funding mechanisms for 9-1-1. Indeed, the funding system that emerged after the introduction of newer, post-wireline technologies has resulted in a suboptimal process. Notably, during the 1970s, the initial costs of implementing 9-1-1 were absorbed by the telephone companies and the local communities they served. Starting in the 1980s, however, as part of a strategy to spur the deployment of E9-1-1—which sends calls to the correct PSAP through the action of a Selective Router and an associated database—a fee on telephone bills was implemented to pay for the necessary technological upgrade. In the 1990s, moreover, many states adapted their laws to institute fees for wireless services, often to enable PSAPs to upgrade their technologies so that they could receive information from wireless carriers. Most recently, many states have amended their laws to require subscribers of VoIP services to contribute to the support of E9-1-1 services.

The establishment of fees to support the development of 9-1-1 services underscored the importance of the previously ignored questions of who would manage decisions about ongoing operations, maintenance, and upgrades necessary to support an effective 9-1-1 system. Significantly, the issues around managing the emergency communications network include the fundamental question of what elements should be defined as within that network, i.e., should merely communications technologies be supported, should the costs of buildings used by PSAPs be included, and should the radio dispatch systems used to reach First Responders be included? Moreover, states have taken different positions on whether 9-1-1 surcharges could be used to reimburse telephone companies for the costs of connecting to the PSAPs. Stated simply, the decisions about how to use and manage these funds, like the decisions about what type of funding strategies to use, were often made on an *ad hoc* basis. Once such decisions were made, however, states often left them unchanged despite concerns that the current framework failed to spur technological upgrades.

The lack of any technological upgrade to the 9-1-1 system relative to the broader telecommunications system is particularly pronounced following the advent of Internet Protocol (“IP”)-based voice services and other broadband technologies. For example, early VoIP services often failed to provide access to 9-1-1—despite being marketed in some cases as a replacement service for traditional telephone service—and PSAPs, which generally lacked any broadband capability, could not receive information in an Internet Protocol-based (“IP-based”) format. In June 2005, the FCC addressed one side of the issue (related to how VoIP providers operate) by requiring providers of “interconnected VoIP

services”¹³ to provide access to E9-1-1.¹⁴ As with wireless services, VoIP services can be “nomadic,” i.e., a VoIP subscriber can take her phone with her and use it around the world, making the provision of location information difficult at times. Thus, in addition to requiring VoIP providers to notify their customers of the relevant limitations of the service vis à vis E9-1-1, the FCC has continued to investigate what automatic location capabilities can be implemented for both wireless and interconnected VoIP services.

As to the requirements imposed on wireless and VoIP providers, it is important to appreciate that wireless, VoIP, and other broadband-based technologies are unable to communicate with the 9-1-1 network in an advanced (i.e., digital and IP-based) format and thus cannot do so in an efficient or effective manner. Rather, because the 9-1-1 network continues to use antiquated analog technologies, it is unable to take advantage of “next generation” technologies. To be sure, the 9-1-1 system has thus far survived as a patchwork of old technologies and operates in a reasonably effective albeit limited manner. But it is indisputable that the 9-1-1 network’s lagging technological capabilities both limit what the network can do and render it less effective than modern commercial networks. Part II turns to this very dilemma, explaining how the 9-1-1 system works and how a next generation 9-1-1 system would operate.

II. THE TECHNOLOGY OF THE 9-1-1 NETWORK

A. Introduction

In this part of the Article, we explain the evolution and current state of this country’s 9-1-1 system as well as identify and describe its constraints and shortcomings. We also outline the elements and architecture of a Next Generation 9-1-1 system (“NG9-1-1”) that would overcome these constraints and shortcomings as well as provide a sound platform for its future evolution. As noted above, we do not view the migration to such an architecture as a matter for debate: an NG9-1-1 is plainly superior to the technology currently in place and implementing an enhanced system of emergency communications is critical to protecting

13. “Interconnected VoIP services” are those VoIP services that allow a user to receive calls from and make calls to the traditional “public switched telephone network” or PSTN. In practice, this means that services like Vonage, which use 10 digit phone numbers, must provide E9-1-1 access whereas services like Skype, which uses a username, need not do so.

14. E911 Requirements for IP-Enabled Serv. Providers, *First Report & Order & Notice of Proposed Rulemaking*, 20 FCC Rcd. 10,245 (2005), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-116A1.pdf.

life and property and ensuring our homeland security.

In Section B, we describe how the original wireline E9-1-1 system evolved from a technical perspective and how the early requirements were met by building upon analog technologies available in the late 1960s and early 1970s. In particular, we explain how the original wireline E9-1-1 system was “jury-rigged” upon what ultimately proved to be a dead-end signaling and transmission system. Moreover, we outline how the changes and modifications to that system have failed to overcome the fundamental constraints and shortcomings associated with the continued reliance upon an increasingly outdated basic technology.

In Section C, we explain how the original wireline system was adapted, and is still being adapted, to facilitate the delivery of 9-1-1 calls from wireless and, more recently, VoIP callers. In so doing, we explain how policymakers called for two distinct phases of access to 9-1-1 for wireless providers—one with the caller’s number and the cell site and another with specific location information as well—without seeking to improve the basic underlying 9-1-1 infrastructure. Similarly, we detail how the effort to enable nomadic VoIP devices to connect to 9-1-1 services did little or nothing to address the constraints and other shortcomings associated with the continued reliance upon the outdated wireline E9-1-1 infrastructure.

In Section D, we discuss these technological constraints and shortcomings in detail, explaining how they have created an E9-1-1 system that literally chokes off the use of all but the most rudimentary features of modern end-user devices and stifles the development of more specialized equipment and services. In particular, we explain how the legacy technology uses a hierarchical structure that creates single points of failure. Moreover, the legacy system’s use of analog signaling as well as its lack of broadband data connectivity among independently operated PSAPs both undermine the ability to improve the system’s performance and frustrate cooperative efforts among PSAPs to improve performance, efficiency, and reliability. Finally, Section D also explains how the continued reliance upon antiquated analog technology means that public safety agencies and the public they serve will not benefit from the improved performance, economies of scale, and declining costs associated with modern digital, IP-based systems.

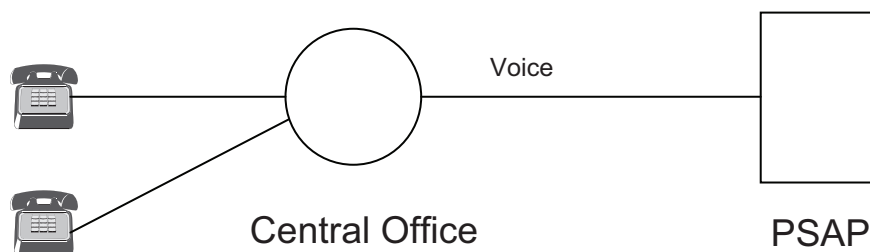
To conclude our technical discussion, Section E builds upon the work of experts in the field and the weight of recent analyses to set forth the basic architecture for an NG9-1-1 system built upon a modern, secure, digital, packet-switched, IP-based broadband platform. In particular, we explain how such a platform could handle E9-1-1 calls from virtually any end user device (PDA, landline phone, computer) served by any type of call delivery network (wireline, satellite, wireless)

using any available mode (voice, text, data, image and video). We further explain how such a network would enable E9-1-1 calls and critical information associated with the call (such as the caller's location) to be seamlessly transferred between and among PSAPs, thereby facilitating cooperative arrangements among PSAPs that would improve performance in critical situations, increase overall reliability, and promote significant efficiencies. Finally, we explain how such a platform would enable the PSAP community to benefit from the same technological advances and declining costs that telecommunications service providers and their enterprise customers are currently enjoying.

B. Background and Evolution of Our Nation's 9-1-1 System¹⁵

The 9-1-1 system still used in the United States dates back roughly four decades. In the earliest implementations of wireline 9-1-1, the switch in the local telephone company Central Office interpreted or translated the easily dialed and easily remembered sequence "9-1-1" and forwarded or routed the call to a single PSAP (as illustrated in Figure 1). Except for the use of the special number "9-1-1" and some added, specialized functionality, the call was switched or routed in the same as any other call. As limited and outdated as this arrangement is, it is still in use in some parts of the U.S. today.

Figure 1: Basic 9-1-1 Service Architecture



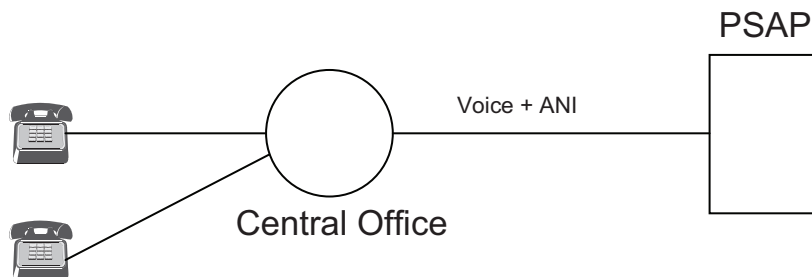
While this arrangement (or "architecture") had the advantage of not

15. The descriptions in this section rely heavily upon the following references: BILLY RAGSDALE ET AL., NAT'L EMERGENCY NUMBER ASS'N, 9-1-1 TUTORIAL (2007), available at <http://www.nena.org/florida/Directory/911Tutorial%20Study%20Guide.pdf>; and DALE N. HATFIELD, A REPORT ON TECHNICAL AND OPERATIONAL ISSUES IMPACTING THE PROVISION OF WIRELESS ENHANCED 911 SERVICES (2002) [hereinafter HATFIELD REPORT], available at http://gulfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&cid_document=6513296239 (prepared for the Federal Communications Commission).

requiring any major modifications to the incumbent provider's existing network, it suffered from three significant limitations. First, it provided no automatic means of delivering the telephone number of the calling party (i.e., the call back number) for use in the event the call was disconnected. Second, it did not automatically provide the call taker at the PSAP with the location of the caller seeking emergency assistance. Third, because the geographic area served by a telephone company Central Office might not match the relevant political boundaries, the call might be routed to the "wrong" PSAP (viz., a PSAP which communicates with First Responders whose jurisdiction does not include the caller's location). Moreover, without the relevant location information, a PSAP generally did not have an easy or efficient way to determine who the correct PSAP might be, thereby wasting valuable time in an emergency situation.

Over time, steps were taken to overcome these three limitations and, subsequently, to adapt the 9-1-1 system so that it could handle new forms of call delivery (e.g., wireless and VoIP calls) as the telecommunications market evolved. As we discuss below, however, these refinements and additions were largely built (or, perhaps more accurately, "jury-rigged") upon an analog platform that reflected the legacy telephone technology of the time the system was first designed. Moreover, some industry participants point to the reluctance and, in many cases, the unwillingness of the public safety community to fund longer range solutions rather than rely upon these short-term fixes as a major contributor to the current situation. As a result, the limitations of this now-antiquated analog platform continue to constrain the provision of efficient and advanced emergency services to the public. The promise of overcoming these continuing constraints provides a compelling case for the development and deployment of an NG9-1-1 system.

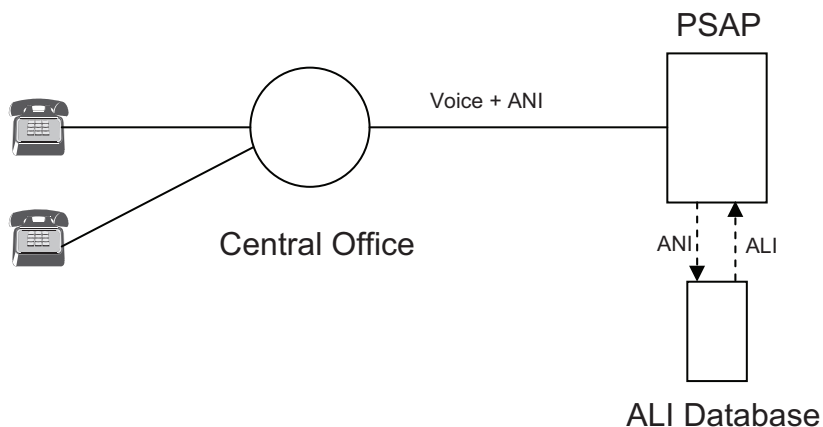
The first limitation, the lack of a call back number, was overcome by the adoption of Automatic Number Identification ("ANI") technology. As a business practice, the calling number was captured to enable telephone companies to properly bill for long distance toll calls and the automation of that process required the introduction of the ANI technology. This ANI technology was then adapted for use in the 9-1-1 system. Using the ANI technology, the calling number was captured by the switching equipment in the Central Office and relayed to the PSAP along with the emergency call to provide the call taker with the call back number. This arrangement is illustrated in Figure 2.

Figure 2: Basic 9-1-1 Service Architecture with ANI

The second limitation, the lack of caller location information in the original wireline implementation, was overcome through the creation and utilization of a specialized database for emergency service use. For billing and other purposes, a Local Exchange Carrier (“LEC”) must be able to associate a particular telephone line and number with a subscriber’s name and address. This information is used to create the specialized 9-1-1 database which is known as the Automatic Location Identification (“ALI”) database. This specialized database makes the necessary association between the telephone number and the name and address information. Conceptually at least, the LEC could deliver this additional information—the name and address (location)—along with the ANI information using the architecture illustrated in Figure 2. As other reports have explained, constraints associated with the legacy analog platform effectively precluded this arrangement and, as a consequence, the PSAP generally uses the ANI information that is delivered to query the ALI database over a separate data circuit.¹⁶ Notably, under this arrangement, the ALI database is usually situated at a central location in the network and serves numerous PSAPs as illustrated in Figure 3.¹⁷

16. HATFIELD REPORT, *supra* note 15, at 4.

17. Because of the critical role played by the ALI databases, they are typically deployed in geographically dispersed pairs to provide needed redundancy in the event of a failure. To simplify the diagram, this redundancy is not shown in the accompanying figure.

Figure 3: Basic 9-1-1 Service Architecture with ANI and ALI

The third limitation, the challenges associated with delivering the emergency call to the proper PSAP, was overcome through the introduction of an additional, “higher level” Tandem Office switch known as a “Selective Router” and another specialized database known as the “Selective Routing Database” (“SRDB”).¹⁸ In an area containing multiple Central Offices and multiple PSAPs, it is uneconomical to directly connect each Central Office to each of the multiple PSAPs. Instead, the 9-1-1 calls from a number of Central Offices are aggregated at a Tandem Office and delivered over a single connection (i.e., group of “transport trunks”) to the proper PSAP. In the usual case where there are multiple PSAPs, the Tandem Office performs the selective routing function necessary to deliver the call to the proper PSAP. To do so, it accesses the SRDB, which associates each telephone number served by one of the subtending Central Offices with the proper PSAP. Creating this logical association—between the calling number and the proper PSAP—requires the development of another database known as the Master Street and Address Guide (“MSAG”). In particular, the MSAG links the street address associated with the telephone number to a particular PSAP and provides information about the different emergency service agencies that respond to that location.¹⁹

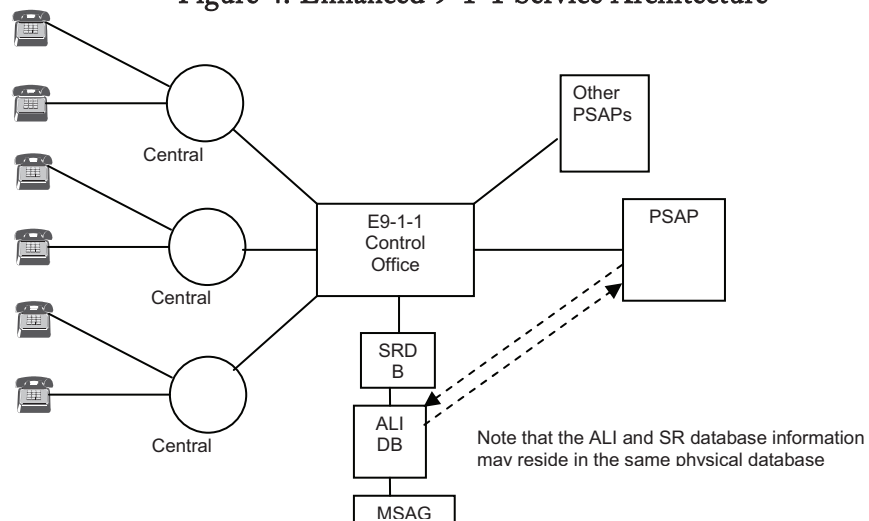
Significantly, it is the Selective Router function that distinguishes

18. In actuality, a new switch was not necessarily required. Instead, additional features and functionality to accomplish the selective router functions can sometimes be added to existing (e.g., Tandem Office) switches.

19. This is necessary because police, fire, and emergency medical jurisdictions may not overlap with each other exactly. For example, a given household at a particular street address may be served by a county-wide law enforcement agency but by a community-based volunteer fire department.

basic wireline 9-1-1 from E9-1-1. In the classic wireline E9-1-1 scenario, the emergency call along with the ANI information is delivered to the Tandem Office containing the Selective Router (the E9-1-1 Control Office) via the Central Office serving the caller. In turn, the Selective Router in the E9-1-1 Control Office determines which PSAP should receive the call by querying the SRDB and then relaying the call and associated ANI information to that PSAP. Using that telephone number as its guide, the equipment located at the PSAP utilizes a separate data link to the ALI database to retrieve the caller's address, the emergency services information corresponding to the calling number, and, in some cases, the name of the subscriber associated with that number. This E9-1-1 architecture or arrangement is illustrated in Figure 4.²⁰

Figure 4: Enhanced 9-1-1 Service Architecture



Today's E9-1-1 system in the U.S. is largely built upon the architecture represented in Figure 4. As discussed, it relies upon antiquated analog transmission and circuit-switching technology. To appreciate the outdated nature of the relevant technology, consider that the connections between the E9-1-1 Control Office and the subtended PSAPs use a form of multi-frequency ("MF") signaling²¹ that now is at

20. Because of the critical role played by the ALI and Selective Routing databases, they are typically deployed in geographically dispersed pairs to provide needed redundancy in the event of a failure. Once again, to simplify the diagram, this redundancy is not shown in the accompanying figure.

21. Signaling involves the exchange of control information between the end user customer and the network or between elements (e.g., switching machines) interior to the

least two technological generations out-of-date. MF signaling was originally designed decades ago to handle inter-office call signaling in the public switched telephone network. When deployed in the 9-1-1 system, the use of such existing technology was justifiable on the grounds that it allowed wireline E9-1-1 to be rolled out faster than it might have been otherwise. But that time is long gone and the consequence of continued use of that analog technology is a technologically limited system of emergency communications.

The limits of the legacy technology used in emergency communications can be best understood by viewing the 9-1-1 system as an analog island in a digital sea. Where all of the telecommunications world has transitioned to digital technology, the connections between the E-9-1-1 Control Office housing the Selective Router and the PSAP typically still utilize analog "CAMA transport trunks,"²² which carry signaling information as "in-band" (i.e., audible) MF tones as explained above. This has at least two pernicious consequences: (1) the time it takes to establish or "set up" a 9-1-1 call is far longer than necessary; and (2) the amount of associated information that can be conveyed as the call is setup is severely constrained.

Having outlined the limits of the legacy technology and observed that all telecommunications providers have long abandoned analog systems for digital ones, it is difficult to understand why the 9-1-1 network, which carries such important information, lags beyond the rest of the telecommunications world. The answer, as we discuss in Parts III and IV, has a lot to do with fragmented and sometimes ineffective leadership and the lack of appropriate funding models and related incentives. But there is a technological component as well. Namely, it is important to appreciate that PSAPs long ago purchased or leased Customer Premises Equipment ("CPE") compatible with this now antiquated architecture—meaning that modernizing the existing architecture typically requires the upgrading of PSAP CPE as well as learning to use that new CPE. As a study of Missouri's 9-1-1 system found:

In most cases, PSAP CPE has not kept pace with the rate of change in technology. Many PSAPs continue to use key-set style CPE installed in 1993. This equipment is not computer based and the display screens are small, which limits the information that can be

network. Signaling is used to establish, disconnect and otherwise control the call itself. It is separate and distinct from the actual telephone message or conversation. For a more detailed explanation of signaling, see HATFIELD REPORT, *supra* note 15, at 3-4.

22. CAMA is an acronym standing for Centralized Automatic Message Accounting. CAMA trunks were originally developed to convey signaling information necessary for the telephone companies to automate the billing process for long distance toll calls.

displayed. . . . In several cases, PSAPs are using equipment that is no longer supported by manufacturers or is supported only under special contracts.²³

Indeed, to appreciate the severe limitations of technological architecture and how it has a constraining effect of its own, consider the fact that some jurisdictions have yet to make the transition from basic wireline 9-1-1 to E9-1-1.

C. Adapting the 9-1-1 Network to Allow Wireless and VoIP Calls

By the early 1990s, when policymakers became increasingly concerned about the inability of wireless telephones to reach 9-1-1, the wireline E9-1-1 network was already out-of-date. Nonetheless, rather than chart a new technological course and adopt advanced technology, policy makers often required (at least as a practical matter) wireless devices and, more recently, nomadic VoIP devices to use the legacy 9-1-1 system. In particular, the FCC opened a rulemaking proceeding in 1994 that proposed requiring wireless telephone providers to enable the same level of access to 9-1-1 service as that available to wireline subscribers.²⁴ Notably, unlike their wireline counterparts, it was not self-evident how wireless providers could determine and report the caller's location to the PSAP. Because of the challenges associated with developing the necessary technology to determine and report on a mobile subscriber's location, the FCC divided compliance into two stages known as Phase I and Phase II.

Under Phase I, wireless carriers are required to provide to the PSAPs the callback number and the location of the cell site/antenna sector receiving the 9-1-1 call. Under Phase II, in addition to the callback number, the wireless carriers are required to provide to the PSAPs the estimated latitude and longitude ("X-Y coordinates") of the caller's device. In Phase I implementations, a set of non-dialable telephone numbers known as "pseudo ANIs" or "pANIs" is assigned to each cell site/antenna sector. In a mobile wireless network, the equivalent of a wireline carrier's local Central Office is the Mobile Switching Center ("MSC"). The cell sites or base stations connect to the MSC via microwave or wireline backhaul facilities. When a MSC

23. L. ROBERT KIMBALL & ASSOC., REPORT OF CURRENT PUBLIC SAFETY ANSWERING POINT AND 9-1-1 INFRASTRUCTURE SUBMITTED TO THE STATE OF MISSOURI 25 (2006) [hereinafter L. ROBERT KIMBALL & ASSOC. PSAP REPORT FOR MISSOURI], available at <http://www.911.oa.mo.gov/pdffiles/Report1.pdf>.

24. Revision of the Commission's Rules to Ensure Compatibility With Enhanced 911 Emergency Calling Sys., *Notice of Proposed Rulemaking*, 9 FCC Rcd. 6170 (1994).

receives a 9-1-1 call, a processor associated with the switch knows the cell site/antenna sector where the emergency call is coming from and selects an unused pANI from the set associated with that cell site/antenna sector to facilitate routing. The MSC then forwards the 9-1-1 call along with the pANI to the legacy E9-1-1 Control Office.

Thus wireless access to E9-1-1 was jury-rigged onto the existing network by “tricking” the legacy system into viewing wireless callers as comparable to their wireline counterparts. More specifically, the Selective Routing Data Base is given information so that it can determine what particular PSAP relates to the pANI (and its associated cell site/sector). Based on this determination, the E9-1-1 Control Office or Selective Router forwards the call (along with the associated pANI) to the PSAP’s CPE.

To complete the “tricking” of the legacy network, the MSC also relays a key (i.e., the pANI information) to the ALI database so that the PSAP can gain access to that information. In particular, at the same time that the MSC forwards the call to the E9-1-1 Central Office, the associated processor also provides the call back number of the mobile unit and Phase I location information to the ALI database. Thus, when the PSAP’s CPE receives the call and pANI from the E9-1-1 Control Office, it is able to query the ALI database using the pANI and receive in return the call back number and cell/site sector information, which it can then display for the dispatcher.

At one level, the jury-rigging of the legacy 9-1-1 system was an ingenious solution. After all, the use of pANIs as a database retrieval key enabled the existing wireline E9-1-1 infrastructure to be used for wireless Phase I implementations with minimal modifications because the pANI key was simply substituted for the ANI information and the wireline E9-1-1 portion of the network continued to operate much as it always did.²⁵ While this arrangement had the advantage of allowing wireless Phase I implementations to move forward more quickly and thereby save countless lives in the interim, it did nothing to alleviate the technological constraints and other shortcomings associated with the use of the outdated wireline E9-1-1 infrastructure with, among other things, its reliance upon a dead-end analog CAMA technology. Rather, at least in some cases, it actually created additional reliance interests in that outdated system by requiring new investments in the legacy technology.²⁶

25. It should be noted that, while actual modifications to the wireline portion of the network were minimized using this approach, a substantial amount of additional equipment and effort was needed in order to effectively interface the wireless carriers’ equipment, information, and processes with the legacy wireline E9-1-1 network.

26. See, e.g., Letter from Thomas J. Sugrue, FCC Chief, Wireless Telecomms. Bureau, to Marlys R. Davis, E-911 Program Manager, King County E-911 Program Office (May 7,

The Phase II vision of wireless compliance with E9-1-1 could not be implemented as quickly as Phase I. In particular, Phase II required the wireless carrier to deliver the callback number and the geographic location or “X-Y” coordinates of the caller to the PSAP. In principle, this information could be relayed in a similar fashion to that approach described above, except additional equipment would be needed to determine the position of the caller. This equipment, known as Position Determination Equipment (“PDE”), estimates the location of the wireless subscriber placing the 9-1-1 call both at the start of the call and, if needed, during the progress of the call.

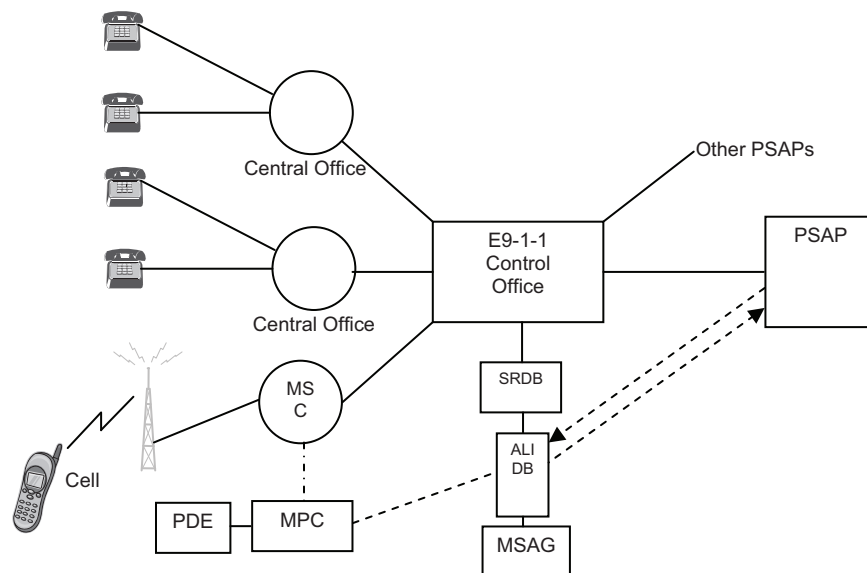
Once the position is estimated, the MSC receiving the emergency call is able to forward it and the Phase I pANI to the E9-1-1 Control Office or Selective Router just as it does in the case of a Phase I call. As before, the E9-1-1 Control Office uses the Phase I information stored in the Selective Routing Data Base (i.e., the information that associates the pANI and its related cell site/sector with a particular PSAP) to deliver the call and pANI to the proper PSAP.²⁷ When the PDE locates the mobile terminal, it also provides the pANI, call back number and location information, i.e., X-Y coordinates, to the ALI database over another data link.

On the PSAP side of the equation, the Phase II process works slightly differently from Phase I. Notably, when the PSAP’s CPE receives the call and pANI from the E9-1-1 Control Office or Selective Router, it queries the ALI database using the pANI. The ALI database returns the call back number and Phase II location information, which is then processed and made available to the call-taker, assuming that the PSAP has upgraded its CPE so that it can receive and utilize this information. Note that during the call, the location information can be refreshed over the data link between the PDE and the ALI database. The E9-1-1 network architecture with the wireless elements added is illustrated in Figure 5.

2001), *available at* <http://www.fcc.gov/Bureaus/Wireless/Orders/2001/kingco.pdf> (explaining demarcation of the point up to which wireless carriers are obligated to bear costs for Phase I implementation—“the proper demarcation point for allocating costs between the wireless carriers and the PSAPs is the input to the 911 Selective Router maintained by the Incumbent Local Exchange Carrier (ILEC)”).

27. The call could be routed based upon the Phase II (X-Y) information, but, typically, this is not done due to the delay that occurs between the time the wireless 9-1-1 call is placed and the estimated X-Y coordinates are available from the PDE and associated Mobile Positioning Center (“MPC”).

Figure 5: Enhanced 9-1-1 Service Architecture Supporting Wireless

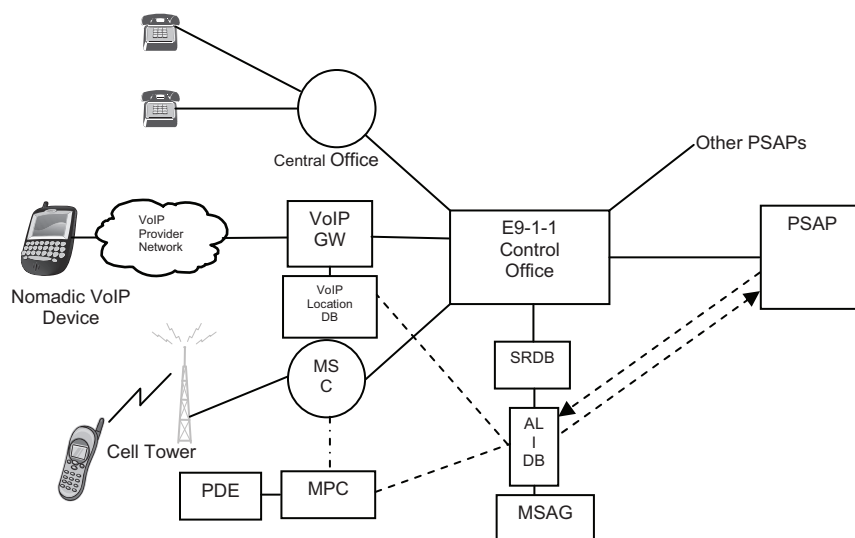


As suggested above, the FCC responded to the advent of VoIP technology by requiring VoIP providers who offered services that interconnected to the public switched telephone network to also offer E9-1-1 service to their subscribers. For entities such as cable television companies that offer VoIP to fixed devices (i.e., “fixed-line VoIP”), the solution was relatively straightforward as they possessed the necessary location (street address) information of the caller and, assuming access to the Selective Routers and associated E9-1-1 databases was available, they could readily interface with the existing wireline E9-1-1 network. As in the case of wireless E9-1-1, the major challenge in providing nomadic VoIP services is to determine the location of the subscriber and his or her device.

In the VoIP environment, the providers of nomadic VoIP services lacked a practical means of locating nomadic devices, such as a Vonage phone that can be taken abroad and plugged into an Ethernet port to receive “dialtone” and act like an ordinary phone with a number associated with the North American Numbering Plan. To address this failing and to comply with FCC requirements, providers like Vonage have required their subscribers to manually enter their current address over the Internet. The provider then provides this subscriber location

information to the appropriate E9-1-1 databases. With this arrangement, an emergency VoIP E9-1-1 call is passed, along with the ANI information, through a “gateway”²⁸ to the E9-1-1 Control Office and, ultimately, to the correct PSAP. The CPE at the PSAP then utilizes the data link to the ALI database to retrieve and display the call-back number, subscriber name (in some cases), address, and emergency services information associated with the calling number.²⁹ To illustrate the current architecture of the E9-1-1 network architecture, Figure 6 outlines how it integrates the wireline, wireless, and VoIP elements.

Figure 6: Enhanced 9-1-1 Service Architecture Supporting Wireless and VoIP



28. In this context a gateway is simply a device that converts VoIP calls on one side of the device to ordinary public switched telephone network (“PSTN”) calls on the other.

29. VoIP providers are migrating to E9-1-1 compliance in three stages referred to as I1, I2, and I3. In the first stage, I1, the 9-1-1 call is routed to the ordinary ten digit telephone number of the PSAP (sometimes referred to as an administrative line) without location information. In the second stage, the VoIP provider participates in the updating of the ALI database and the 9-1-1 call is routed along with the ANI information over the incoming trunks to the correct PSAP. The PSAP can then retrieve the caller’s location information by querying the ALI database as usual. The third stage refers to the future situation wherein the PSAP is able to receive 9-1-1 calls and associated information directly in the IP-format without conversion.

D. Constraints and Shortcomings Associated with the Current 9-1-1 System

In the previous section, we traced the evolution of the Nation's system for handling 9-1-1 emergency calls and emphasized how that system relies upon the badly outdated wireline E9-1-1 infrastructure. As one of us concluded in an earlier report released in 2002, "[T]he wireline E911 system . . . was jury-rigged upon a dead-end CAMA technology that continues to constrain the evolution of wireless E9-1-1 service."³⁰ As the same report put it, "While the Nation should be forever grateful to the engineers and others who designed the original 911 system, it must be recognized that it was—and remains—somewhat of a 'kluge.'"³¹

In this section, we discuss the constraints and shortcomings associated with the current generation of E9-1-1 systems. It is important to appreciate those limitations and constraints not only because they create the urgent need for the development and deployment of NG9-1-1 systems in general, but also because they are crucial to understanding the requirements for how such systems must be governed and funded in the future. With that in mind, we now turn to a discussion of the constraints and shortcomings associated with the current E9-1-1 system.

1. Constraints on Serving and/or Exploiting Modern End-User Devices

When the first 9-1-1 call was completed in 1968, telephone subscribers by and large accessed the telephone network using ordinary telephone handsets designed to do nothing more than: (a) convert voice sounds to variations in electric current on the outbound side of the line, (b) convert variations in electric current to voice sounds on the incoming side, and (c) handle the simplest of signaling functions, e.g., dialing and ringing. By contrast, modern state-of-art handsets, especially those used on wireless networks—let alone VoIP networks—are entirely different.

Today's wireless devices are, in many cases, an electronic swiss army knife. In particular, these small digital devices have powerful processor and storage capabilities and are capable of creating and handling not only voice communications, but also text, data, image, and video signals and combinations of them (multimedia) as well. Unlike the voice-oriented, analog, circuit switched technology that lies at the heart of the existing E9-1-1 system in the U.S., today's wireless networks increasingly—like

30. HATFIELD REPORT, *supra* note 15, at 10.

31. *Id.* at 14.

the broadband networks utilized by VoIP providers—use modern, all-digital packet switched technology based upon the Internet Protocol suite.³² Consequently, these networks are capable of conveying voice, text, data, image, and even video signals from these increasingly powerful digital devices.³³

If our nation relied on a 9-1-1 network based on cutting-edge broadband Internet Protocol-based technology (and not based on antiquated analog technology and MF [CAMA] signaling), it could take advantage of, rather than cripple, the capabilities of modern end-user devices. Consider, for example, that most modern cell phones could easily send along pictures to a PSAP (say, of a car leaving the scene of an armed robbery), but few PSAPs are equipped with the necessary technology to be able to receive and process such information. Similarly, the adoption of enhanced IP-based technology would enable a deaf person who relies upon the text messaging features of a modern wireless phone to communicate electronically with a PSAP by sending a text message to the 9-1-1 call-taker. The message could request help and convey relevant information about the emergency situation.³⁴

The adoption of modern, broadband IP-based technology would not only allow our 9-1-1 system to take advantage of current capabilities, but also to develop specialized devices and functionalities tailored to particular emergency response scenarios. With the aid of such technology, for example, firms could develop and market technologies that would not only allow an elderly person living alone to use a simple pendant-type device to call for help, but also to automatically convey other critical (e.g., medical) information as well. Similarly, an Automatic Collision Notification system in a vehicle could automatically call for help while conveying other relevant information such as the vehicle's

32. Protocols are simply pre-established rules implemented in software or hardware that facilitate electronic communications between and among computers and other devices. A protocol suite is thus a set of such protocols. In particular, the Internet Protocol suite is the set of protocols upon which the Internet runs. Note, as we will explain later, that private data networks that are entirely separate from the public Internet can be implemented using the Internet Protocol suite.

33. In fairness, it should be pointed out that while wireline public switched telephone networks have largely been converted from analog to digital switching and interoffice transmission, most residential subscribers still access the digital network over narrowband, analog local loop or "last mile" facilities. Thus, PSAPs are not unique in relying upon analog facilities in an increasingly digital era. However, a technology known as Digital Subscriber Line ("DSL") gives many of those residential subscribers the option of accessing the public Internet over broadband facilities that support voice, data, image, and video signals in the digital format as well as traditional narrowband analog voice signals. In the alternative, some ILECs are extending broadband digital capacity to individual homes using fiber optic rather than twisted-pair copper cable facilities.

34. Jim McKay, *Texting 911?*, GOV'T TECH., Aug. 1, 2007, available at <http://www.govtech.com/gt/127961>.

location and the severity of the crash. Finally, the adoption of modern technology would enable operators of commercial, third-party operated (telematics) emergency services (e.g., Onstar, ATX and CrossCountry), burglar alarm companies, and remote health monitoring centers all to more efficiently and effectively convey emergency information to the appropriate First Responders.³⁵

In evaluating the opportunity to upgrade the capacities of 9-1-1 services, it is important to recognize that if only the network connection were upgraded, that alone would not be sufficient to facilitate the use of enhanced technologies such as those discussed above. In particular, even with the adoption of a modern all-digital, broadband, IP-based packet switched network (i.e., one capable of conveying voice, text, data, image, and video traffic) for 9-1-1 traffic, PSAPs would still lack the capability to receive, process, and display such information without upgrading their CPE. As noted above, the CPE in today's PSAPs are generally configured to receive emergency calls over analog CAMA trunks (with all of the attendant constraints) and to request and receive information associated with the call over rather rudimentary, low-speed, point-to-point communications links connected to the ALI database. Paraphrasing one of the E9-1-1 professionals we interviewed during the project, "upgrading the network side of the system without upgrading the PSAP equipment itself will only move the bottleneck or chokepoint from the last few miles to the last few feet."³⁶ Moreover, as we discuss in the next part related to governance, it is also crucial that the right training and incentives are put in place so that PSAPs not only adopt advanced technology, including CPE, but also learn how to use it effectively.

Another important consideration to appreciate in evaluating the opportunities presented by advanced technology is to recognize the inevitable resistance to technological change. This Article discusses strategies to overcome such resistance in the next part, but it bears mention that many of the criticisms of the enhanced, IP-based technologies are not well founded. First, some maintain that IP-based networks are unsecure or unreliable. But, as we will explain in more detail later in conjunction with our discussion of the NG9-1-1 network,

35. These third party providers are often forced to access PSAPs over administrative lines rather than the regular E9-1-1 trunks. In some cases, these administrative lines may not be staffed with trained emergency call takers and, in extreme cases, may not be staffed on a 24/7 basis. It should be noted, however, that requiring this mode of operation is not always a purely technological problem since operational issues such as excessive false alarms may require manual screening of calls by third party providers.

36. In order to elicit candid responses in interviews, we agreed to provide anonymity where credible sources volunteered potentially sensitive information. Accordingly, where this Article cites an interview without personally identifying the speaker, it is pursuant to such an agreement.

one can use IP-based equipment on a private, managed, and secure network that is physically separate from the public Internet. This separate network can ride, for example, on a fiber optic cable configured as a self-healing ring that provides an additional level of reliability over and above the diverse routing capabilities of IP-based networks. This separation from the public Internet coupled with modern encryption techniques could provide the requisite level of security and reliability. Indeed, many mission critical networks rely upon similar arrangements today.

A second criticism leveled by some E9-1-1 professionals against the modernization of the E9-1-1 platform is that the ability to receive more information delivered by end-user devices will overload the call-taker in the PSAP with information. To be sure, this is a legitimate and plausible concern. It fails to appreciate, however, that whether and when a call-taker receives information is a matter of software design and that all information need not be presented to the call-taker when the call is received or in progress. If a PSAP was served by modern all-digital, broadband, IP-based packet switched network, the additional information (e.g., the photograph of the fleeing suspect or the information on the severity of the crash) could be conveyed but, rather than displaying this information to the call-taker and/or dispatcher, it could simply be stored in a database attached to the network for later retrieval.³⁷

2. Constraints Associated with Analog Circuit Switching and Selective Routers

Stated simply, the 9-1-1 network remains a voice-centric environment in a data-centric world. Notably, the connections between the Central Office that handles the emergency call and the E9-1-1 Control Office—as well as between the E9-1-1 Control Office and the PSAP—are optimized for voice communications and hence severely limit the bandwidth available for data communications. Similarly, the Selective Routers in the E9-1-1 Control Office constrict the bandwidth available because they are also optimized to handle voice traffic.³⁸ To be sure, the use of Selective Routers ensures that calls are delivered to the correct PSAP and distinguishes other forms of 9-1-1 service from E9-1-1. Nonetheless, it does so at a great and now unnecessary cost to innovation in the 9-1-1 network.

37. In this scenario, the information can then be retrieved or “pulled” when, and only when, it is wanted by the call taker, dispatcher, or first responder.

38. Note that this bandwidth constriction is true whether the trunks are using an analog or digital format.

The technological limitations imposed by the use of traditional circuit-switched Selective Routers present problems other than constraining bandwidth available to applications beyond the core voice delivery function of today's network.³⁹ By requiring a hierarchical structure for E9-1-1 calls to be delivered, the use of Selective Routers creates a potential single point of failure. Consider, for example, that if the Selective Router fails, emergency calls via Central Offices connected to that Selective Router will not be delivered. One remedy for this concern is to deploy two Selective Routers at two different locations with separate independent trunks from each subtending Central Office to each of the redundant Selective Routers and from each of the two Selective Routers to each PSAP. As should be evident, however, this approach comes at a considerable cost and often cannot be borne by the relevant PSAPs, with the result that the 9-1-1 network is often vulnerable to at least one single point failure.

In reality, the traditional circuit-switched Selective Router as a point of failure is matched by the specter that the PSAP itself represents another single point of potential failure insofar as PSAPs typically have no back-up arrangements—at least outside of those PSAPs connected to the same Selective Router—should they suffer an outage based either on their network or CPE infrastructure.⁴⁰ Notably, the existing 9-1-1 network is limited in terms of allowing one PSAP to backup another in the event of failure or in a period of unusually high call volumes. Thus, in a state or region with a large number of Selective Routers, the requirement to be served by the same Selective Router limits the ability of more distant PSAPs to provide backup support. Moreover, as a historical matter, the presence of different telephone carriers in different areas as well as the existence of incumbent rate centers and LATA boundaries have created seams that make such cooperation difficult.⁴¹ In

39. Clearly, the function provided by the traditional Selective Routers in today's 9-1-1 network (i.e., routing the call to the appropriate PSAP based upon the caller's location) is still needed in the NG9-1-1 network; by contrast, in a broadband, packet-switched, IP-based network, the bandwidth constraints would be removed and numerous other benefits, as explained herein, would result.

40. We are not aware of any publicly available, comprehensive study of E9-1-1 system failures. Based upon conversations with professionals in the field, however, we believe that individual PSAPs remain the single weakest link in the E9-1-1 chain and it is our understanding that individual PSAP outages are not reported in most cases. These outages are caused by PSAP physical plant and/or public utility failures, CPE failures within the PSAP, or failure of the telephone company outside plant (i.e., the local loop and transport facilities) that are used to connect the PSAP to the E9-1-1 network. The latter type of failure isolates the PSAP from the balance of the network and the risk of such isolation can be reduced by deploying redundant, diverse physical routes into and out of the building housing the PSAP.

41. LATA refers to "Local Access and Transport Area," which was the term adopted by the court overseeing the AT&T consent decree. The LATA boundaries thus defined the areas within which the Bell Operating Companies could deliver phone calls and where calls

short, technological constraints and politically defined boundaries make it difficult to create a more cohesive state-wide or regional E9-1-1 network even if different agencies were inclined to cooperate with one another on a broader scale.

To make matters worse, even where cooperation is technically feasible and politically viable, the existing technology limits the effectiveness of such cooperation. In particular, current constraints based on the use of old signaling technology and the lack of broadband communication links between PSAPs limits the ability of call-takers to transfer data that has already been collected from the caller along with the call when it is transferred from one PSAP to another. By contrast, users of modern call centers managed by businesses such as airlines generally take for granted that information taken by one operator can be passed along to another. In a cruel irony, it is the 9-1-1 network where such capabilities are at a premium—and not for those airline customers, for example—as the loss of precious seconds while the call-taker in the other jurisdiction collects the same information a second time can be a matter of life and death. Moreover, this limitation has other spillover effects as it discourages cooperation that might give rise to a range of efficiencies, such as shared foreign-language-speaking call-takers, call-takers during slow periods, and specialized databases or software programs.

3. Constraints Associated with In-band Multi-frequency CAMA Signaling

For many casual users and observers of telecommunications technology, the importance of signaling technology often goes unappreciated. Such technology, while largely hidden from view, plays a key role in handling all telephone calls—including emergency calls to 9-1-1—and is sometimes referred to as the “nervous system” of telecommunications networks. As described above, the in-band, analog MF signaling that is used to deliver the ANI information between the E9-1-1 Control Office and the PSAP is a particularly primitive and outdated form of signaling. Consequently, it is slow and has limited capacity compared to modern forms of signaling.

The limitations of MF signaling undermine the effectiveness of the 9-1-1 network in two important ways. First, its slow speed prolongs call setup time (which can exceed 5 to 10 seconds), thereby wasting seconds that are precious when responding to emergencies. Indeed, in extreme cases where the call setup delay is long enough, this delay may have the

could only be handled by the so-called “long distance companies” like AT&T and MCI (who carried “inter-LATA” calls).

pernicious effect of leading the caller to think that the call has not gone through rather than still being processed. In such a situation, the caller may simply abandon the call only to try again and receive the same delay. This not only results in the waste of precious seconds, but also unnecessarily adds to the traffic load on a system that may already be under stress in a disaster situation. Second, because MF signaling information is transmitted in an analog format, i.e., as audio tones, it is also more prone to errors than its more reliable digital signaling counterpart.

A third limitation that results from the use of MF signaling is that critical information associated with a call cannot be carried along with the call itself. As explained above, wireless networks are capable of discerning the X-Y coordinates (and potentially Z, the altitude information that may indicate the floor of a high-rise building) of a caller when they achieve Phase II compliance. Given the constraints of MF signaling, however, such information cannot be carried along with and delivered simultaneously with the call. Rather, in the current architecture, the PSAP must request the additional information over a separate datalink. This additional step may result in increased delay in the delivery of information associated with the call. This delay may not be consequential if the call-taker does not need the information immediately, but the limitations of MF signaling constrain the ability of the designer to choose between what information is delivered simultaneously with the call and what information is delivered later based upon a database query.

The limitations of MF signaling are easily remedied through an upgrade to the more modern and widely adopted form of signaling known as "Signaling System No. 7" ("SS7"). Unfortunately, this will not occur so long as the E9-1-1 network continues to rely upon CAMA signaling between the E9-1-1 Control Office and the PSAP. As a result, the E9-1-1 network will be constrained by the performance of those trunks and the associated equipment at the PSAP. In an insult on top of injury, not only is the performance of the E9-1-1 network constrained by the use MF signaling—the weakest link in the signaling chain—but the use of that technology requires an extra device or gateway to translate between more modern forms of signaling (e.g., SS7) and the MF signaling which can cause additional call setup delay. Finally, because the CAMA equipment used to support MF signaling is no longer specified or used in the ordinary Public Switched Telephone Network ("PSTN"), it is more difficult to maintain and there is little or no incentive for manufacturers to improve its performance.

4. Constraints Associated with Fixed Point-to-Point Data Links

As explained earlier, today's E9-1-1 architecture includes a point-to-point, non-switched data link between the equipment at the PSAP and the ALI database. It is not unusual to find this data link operating at extremely low speeds and over analog facilities using antiquated modems rather than over modern high-speed, digital facilities. These low-speed links can slow the time between when a query is initiated and the ALI information is delivered to the call-taker. Moreover, the limited MF signaling capacity described immediately above, coupled with the limited connectivity and capacity of these low-speed dedicated point-to-point data links, severely constrains the ability of call-takers/dispatchers in a PSAP serving one area to efficiently share information with call-takers/dispatchers in a PSAP serving another area. As we noted in our discussion of traditional circuit-switched Selective Routers, the lack of broadband communications links between and among PSAPs limits the ability of call-takers to automatically transfer data that has already been collected from the caller along with the call when it is transferred from one PSAP to another. More generally, the lack of switched, broadband data communications links between and among PSAPs and other public safety and governmental agencies not only means that precious seconds may be lost while call-takers exchange information verbally or collect it a second time from the caller, it also reduces important performance measures such as call processing time and reliability. Finally, because the current architecture creates "isolated PSAP islands," it discourages efficiencies that could be gained by sharing expensive or specialized personnel and information resources between different PSAPs.

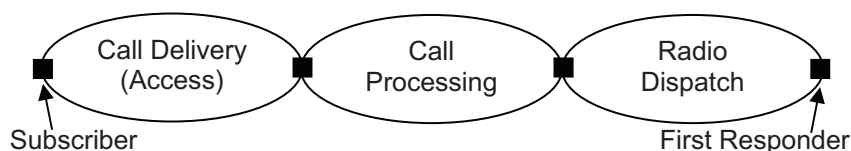
E. Elements and Architecture of the Next Generation 9-1-1 System

Having described the current E9-1-1 architecture and the constraints and shortcomings associated with that architecture, we now move to describe a Next Generation 9-1-1 ("NG9-1-1") system that would diminish—and, in some instances, alleviate—these constraints and limitations. In particular, we outline how an NG9-1-1 system should follow the path of commercial enterprises by using a modern, secure, and reliable digital, packet-switched, IP-based broadband platform capable of receiving and processing emergency calls in increasingly diverse and powerful ways. As we explain, such an NG9-1-1 system would enable emergency 9-1-1 "calls" from a myriad of different devices to connect to the system over a wide range of competitive access networks.

1. Introduction to Next Generation Technology and Its Application to 9-1-1

First, it is useful to conceive of the entire E9-1-1 network as consisting of three parts: (1) call delivery, (2) call processing, and (3) radio dispatch. These three parts are depicted in Figure 7.

Figure 7: Elements of a NG9-1-1 System



Call delivery consists of picking up the emergency call at the subscriber's terminal device and delivering the call and associated information, including the location of the device, to an interface at the Selective Router (or its equivalent). Call delivery is accomplished over an access network so named because it is the portion of the broader network used by subscribers to obtain access to voice, text, data, image, video services, or combinations thereof. In an earlier era, the only network that delivered calls was that operated by Incumbent Local Exchange Carriers ("ILECs"). Today, however, an array of providers deliver such calls, including Competitive Local Exchange Carriers ("CLECs"), wireless providers, and Voice over IP ("VoIP") providers.⁴² Indeed, more 9-1-1 calls are delivered today by non-ILEC subscriber access networks than by the ILECs themselves.⁴³

Call processing consists of picking up the call and location information at the input interface of the Selective Router or its equivalent, delivering the call to the correct PSAP, determining the nature of the emergency and the needed response, and handing the call off to the dispatcher. Call processing thus includes the Selective Router or its equivalent, the switching and transmission facilities for delivering the call to a call-taker, plus the supporting CPE, computers, databases,

42. Note that today, the PSAP must take a specific action—a database dip into the ALI database—to obtain the location of the caller. In the future, we assume that all access providers will be responsible for delivering the location information with the call.

43. See, e.g., N.H. OFFICE OF LEGISLATIVE BUDGET ASSISTANT, STATE OF NEW HAMPSHIRE ENHANCED 911 SYSTEM: PERFORMANCE AUDIT REPORT 2 (2006) [hereinafter N.H. PERFORMANCE AUDIT REPORT], available at http://www.gencourt.state.nh.us/lba/PDF/E911_2006.pdf ("According to a 2003 [Bureau of Emergency Communications] report, an estimated 33,000 of 64,000 calls (52 percent) received during a two-month period were placed from wireless phones.")

and other information processing equipment utilized by a PSAP. In some cases, where the call-taker and dispatcher functions are combined, the interface between the call processing function and the dispatch function will be in the mind of that person. By contrast, where the functions are split, the call processing function includes the delivery of the necessary information on the call to the proper dispatcher of the needed First Responders, e.g., law enforcement, fire, or emergency medical personnel.

Radio dispatch consists of receiving the information about the emergency call and dispatching one or more First Responders and associated assets to the scene, taking into account a host of factors such as the location and nature of the emergency, and the location and status of First Responders and other assets in the field.

In the remainder of this section, we focus our attention on the second part of the overall network described, i.e., on the call processing portion illustrated in Figure 7. Before so doing, however, we offer three preliminary observations. First, it is important to appreciate that the radio dispatch portion of the overall network also suffers from a number of important constraints or limitations. Foremost among these limitations are: (1) bandwidth constraints that limit the ability of the dispatch function to support the delivery of broadband services (e.g., high-speed data, image and video) to and among First Responders and (2) limitations on interoperability which severely limit badly needed coordination among different first responder groups especially when different jurisdictions or levels of government are involved (as in a mutual aid situation).⁴⁴ These issues are beyond the scope of this Article, but it is important to highlight for our purposes that a modern, secure, and reliable digital, packet-switched, IP-based broadband platform that supports the call processing or PSAP portion of the overall network could also provide the fixed (e.g., fiber optic based) part of the next generation, interoperable, broadband wireless dispatch network that is now being developed.

Second, it is important to recognize the implications of an environment where the call processing portion of the overall network is supported by a modern, secure, and reliable digital, packet-switched, IP-based broadband platform. As we will discuss in more detail below, such a platform removes the signaling and data communications constraints that now prevent the rapid seamless sharing of information among PSAPs and other public safety and governmental agencies. By so doing,

44. DALE N. HATFIELD & PHILIP J. WEISER, SILICON FLATIRONS TELECOMMS. PROGRAM, TOWARD A NEXT GENERATION NETWORK FOR PUBLIC SAFETY COMMUNICATIONS 11-13 (2007), *available at* <http://www.silicon-flatirons.org/documents/publications/policy/HatfieldWeiserPublicSafetyCommunications.pdf>.

it saves precious seconds in call processing time, increases reliability by facilitating backup and load-sharing arrangements,⁴⁵ and encourages efficiencies that could be gained by sharing expensive or specialized personnel and information resources.

Third, before proceeding to explain the architecture of an IP-based NG9-1-1 system, it merits explanation that the use of Internet technology does not necessarily involve the use of the public Internet *per se*. Consider, for example, that the Internet Protocol suite or family of protocols is widely used by corporate America to enable “Intranet” systems that connect branch offices, key suppliers, and valued customers. Such a network is maintained as a secure and managed network that, while utilizing the same protocols as the public Internet, is entirely separate from it.

From a technical perspective, the concept of a “next generation” architecture is taking on a standardized meaning across different environments ranging from classic wireline telephony, to cable television, to wireless telephony, and to emerging networks such as WiMAX systems. Next generation networks replace analog, narrowband technology with digital, broadband technology and use packet-switching facilities that support all kinds of applications—voice, text, data, image, video, and multimedia combinations thereof—on a multipurpose network. Moreover, next generation networks almost universally use the IP suite of standards and protocols as a means of logically organizing their respective platforms and as a way of routing packets of information—voice, text, data, image or video as the case may be—between different platforms and over diverse types of transmission media, e.g., fiber optic cable, coaxial cable, twisted pair copper cable, or radio spectrum.⁴⁶

In the case of a next generation network for 9-1-1, there are three powerful reasons why the Internet Protocol suite of protocols should support the NG9-1-1 platform. First, since the different access networks providing the call delivery portion of the overall network are or will be using IP packets and the IP protocol suite to interconnect with other

45. Load sharing would be helpful in exigent circumstances where call takers are busy. For example, a recent TV news station’s investigation of Valley Emergency Communications Center—which serves six Salt Lake, Utah-area cities and Salt Lake county—found that “the center’s internal memos and [KSL’s] investigation reveal it doesn’t matter if it’s a busy time or not. Calls made at 3 a.m., 11 a.m., and 8 p.m. were all put on hold with people waiting minutes for a live person.” Debbie Dujanovic, *911 Nightmare Uncovered in Investigative Report*, KSL.COM, Nov. 1, 2007, <http://www.ksl.com/index.php?nid=481&csid=2077061>.

46. An IP packet of information is sometimes analogized to standardized shipping containers that can be used to convey a wide variety of content such as television sets, clothing, household goods, and machinery on a wide variety of transportation vehicles such as containerized ships, railroad cars, or truck trailers. The standardized container facilitates interconnection among the different transportation modes.

networks, it makes sense for the NG9-1-1 system do the same to be compatible. In particular, this eliminates or reduces the amount of processing that is necessary at the interface between the call delivery and NG9-1-1 call processing portions of the overall network. Second, since traditional narrowband, circuit switched technology is being rapidly abandoned, vendors and the academic research community are focusing their attention and financial resources on IP-based broadband digital networks. Unless the NG9-1-1 system relies upon this same fundamental technology, it will not be able to benefit from the improved performance, economies of scale, and declining costs that are associated with this seismic shift in industry direction. Third, the decentralized control associated with certain aspects of the IP-based architecture provides for an ability to route packets around network failures, thereby promoting greater end-to-end reliability of the network. This open (rather than proprietary) architecture provides great value to end users because it diminishes the chances of “vendor lock-in.”

2. The Case for a Next Generation Architecture for E9-1-1

To develop our notional description of an NG9-1-1 system, we have relied heavily upon the work of experts in the field, including the forward-looking work of certain vendors. Most notably, however, we draw upon the description in the a recent publication entitled “Next Generation 9-1-1 System Initiative: Concept of Operations” published by the Intelligent Transportation Division of the U.S. Department of Transportation (“DoT”).⁴⁷ In particular, the DoT vision calls for a next generation 9-1-1 initiative that would: (1) “[e]nable E9-1-1 calls from any networked communications device,” (2) “[e]nable geographic-independent call access, transfer, and backup among PSAPs and between PSAPs and other authorized emergency organizations,” (3) “[e]ncourage a flexible, open, non-proprietary, and secure architecture to facilitate the implementation of an interoperable internetwork” of all emergency organizations, and (4) “[m]aximize emergency services capital, operations, and maintenance cost savings.”⁴⁸

47. U.S. DEP’T OF TRANSP., NEXT GENERATION 9-1-1 (NG9-1-1) SYSTEM INITIATIVE: CONCEPT OF OPERATIONS (2007), *available at* http://www.its.dot.gov/ng911/pdf/NG911ConOps_April07.pdf.

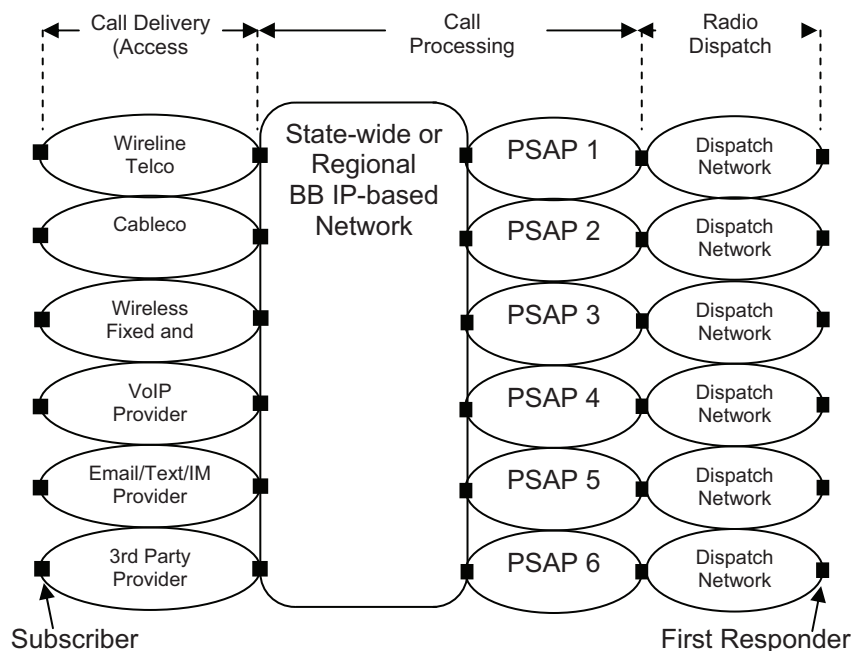
48. *Id.* at 8. In principle, an NG9-1-1 system can reduce capital, operations, and maintenance costs over what they would otherwise be to support today’s E9-1-1 functionality. In practice, however, the future costs may actually exceed today’s 9-1-1 costs because of the need to run both the traditional system and the NG9-1-1 system during a transition phase and because of the greatly increased functionality that is enabled by broadband, IP-based technology. Consider, for example, that while the NG9-1-1 network may provide economies of scale and/or scope in transporting voice, text, data, image, and video traffic, additional software and hardware may well be needed at the PSAP to utilize new applications that take

As explained earlier, an NG9-1-1 system can be divided into the three components—call delivery, call processing, and radio dispatch, which are depicted in the high-level diagram set forth in Figure 8 (below). Note that the oval shapes on the left of the Figure 8 represent different types of call delivery or access networks ranging from wireline telephony companies to wireless cellular/PCS companies to VoIP providers to email or Instant Messaging systems. Notably, as for each category, there may be multiple companies and some companies may provide more than one service. Moreover, the rectangular dot at the left of each access network represents the subscriber or end user device whereas the rectangular dot at the right of the oval represents the interface point between the call delivery network portion of the system and the call processing network portion of the system, i.e., the equivalent function of the Selective Router in today's E9-1-1 network.

The large vertically oriented oval represents a state-wide or region-wide, modern, broadband, packet-switched, managed, IP-based network of the type we described earlier. That network both routes the emergency call and associated information (e.g., call back number or its equivalent) to the proper PSAP and provides broadband connectivity between and among the PSAPs shown as smaller ovals toward the right of the figure. Moreover, it provides connectivity to associated shared resources such as specialized databases (e.g., on the characteristics of hazardous materials or the status of emergency medical facilities such as hospitals in the area/region). As for the small rectangular dots between the state-wide or region-wide network and the PSAPs, they represent the interfaces between those networks. Finally, to the right in the figure are ovals representing the radio dispatch networks for dispatching law enforcement, fire, and emergency medical personnel in response to the emergency call.

advantage of the additional capabilities. Moreover, the technological life of the elements comprising the NG9-1-1 system may well be shorter than the equipment that is being replaced with the result that the new elements may need to be upgraded or replaced more frequently.

Figure 8: NG9-1-1 System (Notional)



As explained above, this Article focuses on the call processing portion of the system—including the state-wide or region-wide broadband network and the individual PSAPs within the state or region. Significantly, there are two types of advances facilitated by the adoption of an NG9-1-1 system: (1) the ability to provide a more effective service and (2) the ability to do so more efficiently. We will enumerate the points behind each category in turn.

In terms of providing greater levels of effectiveness, there are five principal reasons that an NG9-1-1 network would constitute a dramatic improvement over the traditional 9-1-1 network. First, an NG9-1-1 network would enable E9-1-1 calls to be received from virtually any end user device served by any type of IP-based call delivery (access) network using any available mode—voice, text, data, image, and video.⁴⁹ Second, this network would enable E9-1-1 calls and critical information associated with the call to be seamlessly transferred from one PSAP to any other PSAP connected to the state-wide or regional network.⁵⁰

49. Until the conversion of the existing PSTN to an IP-based network is complete, gateways between the existing E9-1-1 network and the NG9-1-1 call processing network would be required.

50. While transferring E9-1-1 calls and associated information from one PSAP to

Third, an NG9-1-1 network would reduce call setup times, facilitate faster overall response times, and improve the quality of service as perceived by the end users of E9-1-1. Fourth, the use of flexible, open, and non-proprietary standards would facilitate information exchange between and among different emergency responder groups operating at different levels of government by and with appropriate private sector entities—thus facilitating interoperability between them. Fifth and finally, by reducing the threat of “vendor lock-in” and enabling PSAPs to benefit from technological advances transforming the telecommunications sector more broadly, PSAPs would be able to adopt innovations and benefit from declining costs that telecommunications providers and their enterprise customers are currently enjoying.⁵¹

In terms of efficiency, there are three principal efficiency gains that would arise from the implementation of an NG9-1-1 system. First, as noted above and discussed more in the next part, an NG9-1-1 system would facilitate other cooperative arrangements between and among PSAPs connected to the state-wide or regional network, ranging from backup agreements (e.g., to handle call overflows during unexpectedly heavy usage periods or in the event of a major failure at one or more PSAP locations) to agreements to share scarce resources such as call-takers with a particular expertise (e.g., a speaker of a language in addition to English) and agreements to share specialized databases. Second, the adoption of an NG9-1-1 system would enable the automatic delivery of additional information regarding the caller (e.g., voluntarily entered information on the caller’s medical condition) or the caller’s location (e.g., information regarding onsite hazardous materials) that could be retrieved at the option of the call-taker. Finally, an NG9-1-1 architecture would enable the E9-1-1 network to be managed in a

another in the event of a failure or overload conditions is important in the sense that it provides greater assurance that emergency calls will be answered, it is not an end in itself. Rather, the PSAP that ultimately receives the emergency call must be in a position to assist in the appropriate response. If the call is in regard to an incident that has already been reported or if it is simply someone making an inquiry regarding an incident, providing an appropriate response in the form of information may be straight-forward. More extensive coordination among different PSAPs and First Responders is necessary if the call requires the dispatch of personnel and other resources. The NG9-1-1 is a necessary but not sufficient condition for facilitating such cooperation.

51. As one observer stated in a related context:

[T]he public safety user community is two orders of magnitude smaller than the commercial user base. As a result, R&D investments in commercial wireless technologies dwarf those made in public safety wireless technologies. In addition, the large size of the commercial market wireless market fosters greater levels of competition between vendors of network infrastructure, user devices, and applications.

Krishna Balachandran et al., *Mobile Responder Communications Networks for Public Safety*, IEEE COMM. MAG., Jan. 2006, at 56.

modular fashion, with clearer demarcations between responsibilities for call delivery, call processing, and radio dispatch, thereby providing more opportunities for competitive supply of the different elements of the system.

III. TOWARD NEW GOVERNANCE MODELS FOR E9-1-1

The management of calls to 9-1-1 incontestably represents a matter of grave local concern because local—and not federal or state—officials are likely to be the first ones to respond in a case of emergency. It is thus understandable that localities often resist suggestions that statewide oversight is appropriate. As discussed in Part II, however, the technological changes related to the Internet and broadband networks, along with the antiquated state of most 9-1-1-related infrastructure, creates an opportunity for local PSAPs to transition to a more advanced technology platform. Stated differently, PSAPs can begin to share with one another virtually and benefit from economies of scale and scope by becoming users of NG9-1-1 technology. To make this transition, however, localities and operators of PSAPs will need to be willing to cooperate with one another, states will need to ensure reliable sources of funding (see Part IV), and all relevant stakeholders will need to ensure that the appropriate coordination takes place and the necessary technology infrastructure is put in place.

At the outset, we need to emphasize two basic points. First, while we do not recommend a “one size fits all” model—remote rural areas will need to adopt different strategies than dense urban ones—we do believe that some basic governance structures and strategies can help to manage and expedite the transition to an NG9-1-1 system. Second, we recognize that different states have different governmental traditions, such as a stronger commitment to home rule, and that these traditions must be taken into account in devising appropriate governance strategies. In any event, rather than attempt to devise a comprehensive solution, we emphasize strategies that we believe can work across the several states and provide effective governance strategies that go hand-in-hand with the funding strategy recommendations we make in Part IV.

In general, this Part discusses the relevant governance issues, highlighting important reforms that state governments can make to spur progress toward an NG9-1-1 system. In particular, Section A begins by providing some basic background information and Section B outlines the range of governance models used by the several states. Section C then sets forth our conclusions on best practices, suggesting four lessons for state oversight of 9-1-1 networks. Finally, Section D explains the appropriate role for the federal government in this area.

A. Background

PSAPs have emerged as part of local and, in some cases, state governments' provision of fire, law enforcement, and emergency medical services. This development, however, has not reflected any clear or consistent logic or thoughtful strategy. In some states, for example, PSAPs track geographic boundaries such as counties whereas other states, such as Missouri, have some PSAPs at the county level, some at the local level (with 23 PSAPs in one county), and yet others at the regional level.⁵²

As part of the effort to institutionalize "9-1-1" as a universal emergency number, some state governments entered into 9-1-1 matters by establishing state oversight bodies. Such inroads, however, were often viewed with suspicion by local agencies, particularly when they were already operating effectively. Thus, in many states, the real impetus for state involvement came around the push for enhanced functionality for wireless telephones supported by the wireless providers themselves, as they did not want to deal with multiple jurisdictions. Unlike their wireline predecessors, wireless telephones did not necessarily fall within the jurisdiction of a particular PSAP. For example, a commuter with a wireless phone may cross the jurisdictional boundaries of several PSAPs en route to the workplace. Consequently, the effort to oversee the upgrade of their capability and of the PSAPs' ability to process information relayed from wireless phones lent itself more naturally to state oversight spanning multiple PSAP jurisdictions.

As explained in Part II, the emergence of next generation technologies related to the Internet provides new opportunities for emergency communications. Such opportunities, which depend upon a successful migration strategy away from the legacy infrastructure, generally entail the use of new network architectures that can be best provided at the state or regional level. The transition to a next generation architecture, however, is not only a matter of upgrading the relevant equipment. Rather, states must also develop effective governance models to spur the adoption of technological change and to overcome resistance to change.

As we discuss below, the traditional stance that the technology used in wireline E9-1-1 is a matter of local control needs to yield to the exercise of some authority and oversight by state agencies in order to spur the necessary technological development and cooperation that will make possible the use of an advanced communications infrastructure.⁵³ Some

52. L. ROBERT KIMBALL & ASSOC. PSAP REPORT FOR MISSOURI, *supra* note 23, at 4.

53. To be sure, state public utility commissions ("PUCs"), insofar as they regulate

of those we interviewed suggested that local officials appreciated this fact and welcome state oversight. By contrast, others suggested that localities would be reluctant to give up control of traditional prerogatives, including the right to purchase whatever equipment they chose, and thus would resist adopting new technologies. As noted at the outset, however, we do not believe that the opportunities afforded by an NG9-1-1 system are merely discretionary choices that should be left to local control. Rather, the capabilities afforded by such a system are critical to public safety and homeland security and should thus be implemented as soon as practicable.

B. The Range of Governance Models

Unlike many areas of public policy concern, the models of regulation to spur the adoption of 9-1-1 technology on the part of both governments and telecommunications providers vary widely across the several states. Indeed, the extent of the variability is so considerable that the differences cannot be neatly categorized along one dimension. For exposition purposes, we will distinguish between states by the level of statewide leadership they provide concerning the provision of E9-1-1 services. That classification, however, is a crude one, as some states have instituted centralized bodies to address issues related to calls to PSAPs from wireless phones, but not from wireline ones. Similarly, some states have instituted statewide leadership initiatives in theory, but have failed to empower them in practice.

As noted above, many states have entirely separate governance systems to support wireless E9-1-1 than wireline E9-1-1. In Alabama, for example, the State has an E9-1-1 Coordinator, who lacks statutory or formal authority concerning wireline E9-1-1 matters, but has a wireless E9-1-1 Board that is charged with distributing funds to localities. Similarly, in Indiana, there is a state wireless E9-1-1 Board with formal authority, but no such counterpart on the wireline side, which ultimately limits the opportunities for upgrading the entirety of the 9-1-1 infrastructure.

Putting aside the gradations in authority, we conclude that the empowerment of a state 9-1-1 entity makes a material difference in facilitating faster adoption of advanced 9-1-1 technology. Compare, for example, Indiana and Ohio. In Indiana, the state established a well-funded and empowered state wireless 9-1-1 Board with a professional

incumbent providers, do regulate the technology used in 9-1-1 services. Outside of the antiquated model of requiring the incumbent provider to cross-subsidize the provision of 9-1-1 services, however, the PUCs have generally played a limited role in technology adoption decisions.

executive director. Consequently, it has not only implemented Phase II wireless access throughout the state, it has also developed an advanced infrastructure and emerged as a leader in migrating toward an NG9-1-1 system. Notably, Indiana has enabled non-traditional entities like telematics services and SMS messages (on a trial basis) to gain access to the 9-1-1 network. Meanwhile, in Ohio, there is no statewide oversight and the state relies on an advisory board structure that leaves each PSAP free to act autonomously. Notably, even though Ohio collects some 9-1-1 funding at the state level, it automatically disperses it to the local agencies and provides no accountability for how it is spent. Not surprisingly, Ohio has yet to complete the transition to Phase II wireless and, except for some local efforts (like Hamilton County) has not progressed toward an NG9-1-1 system.

The interviews we conducted with all segments of the 9-1-1 world underscored that support for PSAPs in terms of education, funding, and accountability make a considerable difference and that those states with oversight bodies are able to provide those functions far more effectively than those without oversight. These discussions echoed the findings of important studies of the state of 9-1-1, including the Hatfield Report commissioned by the FCC.⁵⁴ Despite the strong consensus on this point, some states—about 15 according to NENA⁵⁵—have not developed any central 9-1-1 coordination function and have fallen behind those states with coordinators in terms of their level of progress on Phase I and Phase II wireless. Notably, even some states with coordination functions, like Colorado, have failed to truly empower their coordinators. Underscoring the weaknesses of the Colorado model, Susan Sherwood from Verizon noted that Colorado has lagged behind other states when it comes to upgrading the 9-1-1 network, noting more generally that “states without oversight bodies are not good at PSAP education” in terms of advancing technologies.⁵⁶

Empowering leaders to spur technological change is an important part of upgrading the 9-1-1 system for a new era. In New Mexico, for example, the state took seriously the need to upgrade its 9-1-1 system and conducted a national search for a highly qualified E9-1-1 Program Director and hired an industry professional (Bill Range) to work in the

54. See generally HATFIELD REPORT, *supra* note 15; see also U.S. GOV'T ACCOUNTABILITY OFFICE, STATES' COLLECTION AND USE OF FUNDS FOR WIRELESS ENHANCED 911 SERVICES 16 (2006) [hereinafter GAO STATES' COLLECTION REPORT], available at <http://www.gao.gov/new.items/d06338.pdf>.

55. For a discussion of central coordination functions, see MONITOR GROUP, ANALYSIS OF THE E9-1-1 CHALLENGE 58, 77-78 (2003) [hereinafter MONITOR GROUP REPORT 1], available at <http://www.911monitor.com/Analysis.pdf>.

56. Telephone interview with Susan Sherwood, E911 Manager, Verizon Wireless (Aug. 8, 2007).

state Department of Finance and Administration. The state also empowered the Office of the Program Director to collect and disperse funding, oversee equipment procurement, and provide support to local PSAPs. As such, New Mexico has already commissioned a feasibility study and aspires to be one of the first states to develop an NG9-1-1 system for both wireless and wireline access networks. By contrast, states that constitute oversight bodies with representatives only from local telephone companies or from any one particular industry segment are less likely to be effective than those with a more representative body and professional administration.

C. Recommended Governance Reforms within State 9-1-1 Management

Policymakers have experimented with different approaches to 9-1-1 over the last thirty years and additional experimentation has occurred over the last ten or so years with respect to wireless E9-1-1. Collectively, these experiences yield some useful lessons. In this Article, we will focus on four such lessons. In particular, we address the importance of: (1) a formally authorized and statutorily codified oversight body, (2) statewide oversight over mission critical networks, (3) an incentive strategy to spur PSAP technological upgrades, and (4) an empowerment strategy toward “PSAP cooperation.”

1. The Importance of an Empowered Oversight Body

In California, the state relied on an informal advisory board for years before the State Legislature codified its commitment to a more formal structure. As Daphne Rhoe, the California 9-1-1 Program Manager and member of the State 9-1-1 Board explained, the statutory codification of the Board was important because it ensured that the Board would have diverse representation.⁵⁷ Moreover, she explained, the added formality raised the profile of the Board because its members were appointed by the Governor, and the Board was required to comply with the Public Meetings Act, ensuring that meetings were accessible to the public.⁵⁸

In Tennessee, the creation of a statewide board composed of, among others, those professionals who run PSAPs and elected officials and the hiring of a professional Executive Director provided critical focus to that state’s efforts to improve its 9-1-1 system. With this model of

57. Telephone interview with Daphne Rhoe, California 9-1-1 Emergency Commc’ns Office Chief, State of Cal. Dep’t of Gen. Servs. – Telecomms. Div., in Sacramento, Cal. (June 28, 2007).

58. *Id.*

governance and the ability to collect as well as disperse funds, Tennessee emerged as the third state to provide state-wide Phase II wireless service. Similarly, in Vermont, where the Legislature passed a 1993 statute calling for an oversight board with broad experience and a professional director, the state rolled out the first state Internet Protocol-based system to support 9-1-1 communications, enabling the state to provide a “virtual PSAP service” available to all public safety agencies in the state. By contrast, other states have failed to ensure that state 9-1-1 Boards were composed with officials with true expertise, thereby sacrificing their ability to provide effective leadership on matters ranging from spurring Phase II wireless services to planning for next generation technologies.

Our findings based on those we interviewed are echoed by other analyses. The National Emergency Number Association (“NENA”), for example, highlighted the significance of an empowered state oversight body in an important 2003 study conducted by the Monitor Group.⁵⁹ Moreover, recognizing that the establishment of such a body along with an implementation plan for upgrading E9-1-1 were commendable practices, Congress required both as a condition of receiving funding under the ENHANCE 9-1-1 Act, which we discuss below.⁶⁰

In advocating for an empowered oversight body, it is important to note that such a body need not exist at the state level. Rather, for larger and more populous states like Texas, such bodies can be created at the regional or district level. In Texas, however, this approach has left the relevant state entity, which oversees and works with more rural areas, less able to support those 9-1-1 agencies not supported by a district. Our interviews reported that districts in Texas were able to all achieve Phase II wireless compliance effectively, whereas the rural areas outside of the districts have yet to do so—highlighting that a lack of statewide oversight can allow some areas to thrive at the same time that others continue to use antiquated technology.

2. Statewide Oversight over Mission Critical Networks

Historically, 9-1-1 networks were provided as part of a “regulatory compact” between the telephone company (mostly the pre-divestiture Bell System) and the public. Unfortunately, the commitment to invest in mission critical networks and spur innovation in such networks was and still is rarely a top priority for the telephone company. Thus, as noted in Part II, much of the current 9-1-1 infrastructure relies on out-of-date

59. *Id.*; see also MONITOR GROUP, ACCELERATING DEPLOYMENT OF NATIONWIDE E9-1-1: SUMMARY FINDINGS OF THE NENA SWAT E9-1-1 STAKEHOLDERS’ INITIATIVE (2003), available at <http://www.911monitor.com/Summary.pdf>.

60. See 47 U.S.C. § 942(b)(3) (2006).

equipment that is difficult to replace and lacks advanced functionality. To remedy this failing, we recommend that a state oversight body should spur the development of an advanced system and continue to oversee its use.

The mandate for state bodies to oversee the operation of a 9-1-1 system would represent a marked departure from the status quo. In many states today, such as California, the relevant state body lacks control to oversee and address network failures. This means that where a crucial 9-1-1 connection goes down, or a service level agreement is not adhered to, the state body cannot sanction the provider. To be sure, it is possible that oversight over such networks can be managed by the Public Utilities Commission (“PUC”). In such cases, however, it is still important that the state 9-1-1 coordinator be involved in that process.

As discussed in Part II, the reliability and functionality of the 9-1-1 system is not only a matter of the state of the network but also the equipment (i.e., the “CPE”) used by the PSAPs. After all, as a thoughtful report found in a study of Missouri’s PSAPs, “[m]ost PSAPs use equipment that cannot be upgraded to accommodate modern public safety communications needs.”⁶¹ To address this concern and ensure that PSAPs adopt and use reliable equipment, many states have also called for the 9-1-1 Coordinator to oversee and approve purchasing decisions.

In practice, a statewide oversight regime focused on equipment usage can operate most effectively when the coordinator or oversight body possesses some control over funding. As one state official put it, “he who has the money makes the rules.” Some state program offices, however, lack either control over funding or approval authority over equipment, preventing them from either assuring the effectiveness of the relevant equipment or facilitating bulk purchasing opportunities. The benefits of statewide oversight are not merely in bulk purchasing; the use of uniform standards in a state facilitates better training opportunities, increased support for the technology, and a higher level of interoperability. In many states, however, use of disparate technologies is the rule. In Missouri, for example, one study found “at least 15 different ALI formats being used.”⁶² In short, state oversight should ensure adherence to a standardized architecture that facilitates greater levels of functionality (i.e., the ability to take advantage of ongoing innovations), as well as enables PSAPs to procure equipment and software at lower costs (i.e., because of the ability to benefit from economies of scale and competition).

61. L. ROBERT KIMBALL & ASSOC. PSAP REPORT FOR MISSOURI, *supra* note 23, at 5.

62. *Id.* at 19.

Finally, the effectiveness of the 9-1-1 network also relies on well-trained operators and users of critical equipment. To ensure that local PSAPs receive appropriate training and operators are qualified to use—and are comfortable with—advanced equipment, state oversight bodies should maintain some form of a certification and re-certification program. In Pennsylvania, for example, the State 9-1-1 Coordinator requires the re-certification of dispatchers every three years. In short, we believe that such practices are important and that states should develop operational standards, provide training support so that they can be easily met, and build in some form of oversight to ensure that they are being met.

3. An Incentive Strategy for PSAP Technology Upgrades

Even in states with a centralized body to oversee aspects of the 9-1-1 system, the respective bodies face considerable challenges with certain PSAPs that, for one reason or another, have failed to invest in technological upgrades. In the case of enabling Phase II wireless capabilities, a number of states have overcome those challenges, but even a number of these states, like Indiana, acknowledge that some PSAPs have maintained antiquated analog equipment. Notably, such equipment either requires the use of converters to translate digital communications to analog or prevents the use of advanced technologies, such as those necessary to enable 9-1-1 access by non-traditional entities like telematics providers and SMS messages. To address the continuing failure of certain PSAPs to upgrade their equipment, we recommend that both education campaigns at the state level and dedicated sources of state funding be provided to fund at least a portion of the necessary upgrade. To be sure, like any sound fiscal strategy, such funding must be coupled with effective oversight to ensure that the funds are spent appropriately.

The starting point for encouraging PSAPs to upgrade their infrastructure is for state bodies to educate PSAPs about new technological opportunities. As Susan Sherwood of Verizon put it, “a lack of understanding leads to hostility.”⁶³ As detailed in the Hatfield Report, some PSAPs remained in the dark about what equipment and software upgrades were necessary to be able to receive wireless E9-1-1 information.⁶⁴ We acknowledge, however, that education alone may not be sufficient to spur PSAPs to embrace technological progress. After all, changing the hearts and minds of PSAPs about the opportunities created by new technologies may not be easy when, at a minimum, significant job re-training will be required and, in some cases, old jobs will no longer

63. Telephone interview with Susan Sherwood, *supra* note 56.

64. HATFIELD REPORT, *supra* note 15, at 30.

be necessary.⁶⁵

To appreciate the cultural changes associated with migrating to a new technological environment, consider the reactions of a few seasoned government professionals. To underscore the gravity of the challenge to overcome the legacy mindset and the attachment to the old ways of doing things, Indiana's Ken Lowden explained that:

Existing deficiencies (inter-agency [data] transfer, for example) have existed for so long that they become the "given" environment. A new network, even though it would address these long-standing deficiencies, is not accepted by [many] PSAPs because 3-4 "generations" of PSAP staff have made the best of a technologically antiquated network. In their minds, 9-1-1 modernization is considered "high risk," and change is to be avoided at all costs to avoid any risk.⁶⁶

Similarly, in the related context of public safety communications, one report observed that:

[T]he history of fiefdoms within the respective agencies obscures the "gains from cooperation." In many cases, managers of legacy radio systems tell chiefs that "you need to stick with the traditional land mobile radio system" or the system won't remain secure. To be sure, education and demonstration projects are part of the answer because there is a basic lack of understanding about how modern networks are designed and managed—for example, security stems from effective encryption, not physically separate networks. Yet education alone will not do the trick. As Chief Werner recounted from his experience, getting beyond the silo-based approach is starting to happen where incentives for cooperation—in the form of federal grants—create opportunities to bring together groups of distinct agencies and individuals through consensus-building leadership.⁶⁷

65. Explaining a similar dynamic in a different context, one observer suggested that: More than that, however, it's clear the changes required won't be a consensus cakewalk. Jobs will change. Careers will change. Status and relationships will change. Some people will see themselves as worse off, perhaps dangerously worse off, even completely without a role in the new order. In such situations, people are rightfully anxious. As e-government moves to the future, reform becomes a game of musical chairs. When the music stops, people must find new chairs, and some won't be able to do so.

Jerry Mechling, *A Sobering Challenge*, GOV'T TECH., Sept. 2, 2005, available at http://www.govtech.com/gt/print_article.php?id=96524.

66. Telephone interview of Ken Lowden, Executive Dir., Ind. Enhanced Wireless 911 Bd., in Indianapolis, Ind. (Aug. 2, 2007).

67. Philip J. Weiser, The Aspen Institute, *Clearing the Air: Convergence and the Safety Enterprise* 24-25 (2006), available at <http://www.aspeninstitute.org/atf/ct/%7BDEB6F227->

Similarly, as Garry Briese put it, “[t]he hardest part of improving emergency warning and recovery efforts is changing human behavior.”⁶⁸

It is important that the use of the financial incentives and demonstration projects by state bodies be coupled with an effective and transparent oversight mechanism. Such mechanisms can vary from audits to reporting requirements designed to ensure that local PSAPs develop and implement viable strategies to adopt advanced technology. Moreover, such mechanisms should ensure that public funds given to local agencies are spent appropriately and that they are using appropriate policies, training, and procurement decisions to implement advanced technologies.

At present, some states, such as Michigan, are already using oversight mechanisms like requiring jurisdictions operating a PSAP to file a 9-1-1 plan with the state. In the case of Michigan, this requirement not only mandates reporting on technological progress, but also on the status of cooperative efforts to ensure that data exchanges shared between jurisdictions are managed in an effective fashion. Articulating requirements are not only a valuable means of enabling oversight (as to matters including cooperation and technology adoption), but they also enable localities to compare their approaches with one another and pressure them not to fall behind their counterparts. In particular, the use of systematic benchmarking as to the relative progress of different PSAPs is likely to be a powerful motivator and means of holding those lagging behind accountable. After all, when areas that fail to adopt technical upgrades leave affected citizens in the dark about what they are missing, that failure may well go unremedied; as Justice Brandeis famously put it, “sunlight is the best disinfectant.”⁶⁹

A core challenge of state oversight and guidance efforts is to overcome the resistance to technological change. Traditionally, local PSAPs have not thought of themselves as smart users of dynamic technology and thus the migration from the legacy model to a next generation one will require a change in the prevailing cultural mindset. To facilitate such a change, the relevant state agency needs to demonstrate the virtues of an NG9-1-1 system, provide important logistical support, and evangelize about the benefits of the new technology. Moreover, state agencies also need to provide financial

659B-4EC8-8F84-8DF23CA704F5%7D/C&S%20FINALAIRSREP06.PDF (quoting Charlottesville Fire Chief Charles Werner).

68. SPACE & ADVANCED COMM’NS RESEARCH INST., GEORGE WASHINGTON UNIV., WHITE PAPER ON EMERGENCY COMMUNICATIONS 2 (2006), available at http://satjournal.tcom.ohiou.edu/issue10/PDF/Final_Version_White_Paper.pdf.

69. LOUIS D. BRANDEIS, OTHER PEOPLE’S MONEY AND HOW THE BANKERS USE IT 92 (Melvin I. Urofsky ed., Bedford/St. Martin’s 1995) (1913).

incentives for local PSAPs to migrate to an NG9-1-1 system. Such incentives must be managed carefully, however, as some past grant programs geared to spur adoption of new technology and change traditional approaches have been criticized as ineffectual.⁷⁰

4. An Empowerment Strategy toward PSAP Cooperation

In almost all states we investigated, the concept of “PSAP Consolidation” is viewed as a dirty phrase. In general, the resistance to mandatory consolidation reflects concerns not only about the possible loss of jobs, but even more fundamentally about the loss of control. For local law enforcement and fire departments, for example, the ability to manage their own call-taking operations is considered a vital component in their emergency response operation. By contrast, the thought of outsourcing that function can thus be seen as challenging their ability to perform their public mission effectively. At the same time, however, there is considerable evidence that localities are willing to enter into voluntary agreements to collaborate and share resources.⁷¹

As discussed in Part II, the use of a modern IP-based NG9-1-1 system can present PSAPs with new opportunities premised on sharing economies of scale and scope. To appreciate this point, consider three real-world weaknesses that many PSAPs routinely face today. First, consider PSAP reliability. With a modern IP-based NG9-1-1 architecture, PSAPs can easily route calls to back-up providers or re-route them if they were sent to them in error. Today, however, most PSAPs employ very crude forms of call transfer that make re-routing difficult and may even not allow for redundant connections. Second, for a PSAP that does not have an operator on duty at all times, a next

70. On the issue of federal grants to spur public safety interoperability, for example, the United States Government Accountability Office concluded that, despite over \$2 billion awarded in grants from 2003 to 2005, “strategic planning has generally not been used to guide investments and provide assistance to improve communications interoperability on a broader level.” U.S. GOV’T ACCOUNTABILITY OFFICE, FIRST RESPONDERS: MUCH WORK REMAINS TO IMPROVE COMMUNICATIONS INTEROPERABILITY 3 (2007), *available at* <http://www.gao.gov/new.items/d07301.pdf>. As to its finding with regard to specific states, it is found that in Kentucky where the “grant reviewers at the state level who are in charge of disbursing DHS grant money to localities have had limited means for determining whether funding requests for equipment and training were compatible with statewide interoperability goals.” *Id.* at 21.

71. A recent New Jersey study concluded, for example, that “about half of the state’s municipalities had entered into regional relationships to carry out 9-1-1 services.” JOHN J. HELDRICH CENTER FOR WORKFORCE DEVELOPMENT, N.J. OFFICE OF EMERGENCY TELECOMMS. SERVS., NEW JERSEY 9-1-1 CONSOLIDATION STUDY: PROFILE OF THE NEW JERSEY E9-1-1 SYSTEM 1 (2005) [hereinafter PROFILE OF THE NEW JERSEY E9-1-1 SYSTEM], *available at* http://www.heldrich.rutgers.edu/uploadedFiles/Publications/New%20Jersey%20State%20Profile%20E9_1_1.pdf.

generation architecture promises the opportunity to maintain service at all times. And third, consider the PSAP that relies on a single operator who does not speak Spanish. Today, that operator is sometimes left without any resources in the event a Spanish speaker calls for help. In an NG9-1-1 environment, by contrast, that PSAP could easily conference in another PSAP operator with Spanish speaking abilities. To be sure, the ability to forward calls exists in today's environment as well, but the technology is relatively primitive, is not always available, and, most significantly, the ability to facilitate cooperation is greatly enhanced in an IP-based environment.

In highlighting the powerful capabilities that collaboration and cooperation can provide, we champion the empowerment of PSAPs through a collaboration strategy, not a consolidation one. As explained in Part II, however, this strategy relies on the adoption of advanced technology by PSAPs and the use of mission critical applications that can tie together all relevant stakeholders as part of a "systems architecture." Where such systems are put into place, the reviews are very favorable. As Bill Buchholtz, the Executive Director of the Bexar-Metro 9-1-1 Network District in San Antonio, Texas, explained, "while talk of consolidation sparks turf wars, talk of cooperation through networking different PSAPs—and even operators from home—inspires interest and support."⁷² In Vermont, the state has taken this level of interest to the next level, tying together all ten PSAPs into a virtual system so that they can support and provide back-up services for one another.

We recognize that even the empowerment strategy we advocate here is likely to meet some resistance. After all, many PSAPs are content with their current call processing model and may lack the funding to migrate to a new technological architecture or may simply lack sophistication in modern information and communications technology and resist change on that ground. Recognizing such resistance and funding challenges, we suggest that statewide funding for a next generation systems architecture be managed at the state level and coupled with state logistical support for this transition. To be sure, local or regional PSAPs can—and some do—develop cooperative agreements on their own, but our conclusion is that a statewide commitment to forging such cooperation will result in a greater level of overall cooperation and collaboration. After all, there is no reason why individual PSAPs should own and operate individual "back office systems" when such systems can be much more affordably shared among a number of them.

In developing models for cooperation between PSAPs, it is critical

72. Telephone interview with Bill Buchholtz, Executive Dir., Bexar-Metro 9-1-1 Network Dist., in San Antonio, Tex. (June 29, 2007).

that the collaboration be structured through a well-understood model of governance. In particular, if one PSAP is taking the lead on managing the shared resource, or if a state entity is doing so, it is essential that the parties agree up-front on the relevant terms of cooperation. After all, “[e]xperiences in public sector cross-boundary collaboration demonstrate that a sound governance structure is critical to success and should not be left to chance.”⁷³ Notably, such structures will be easier to implement if they take place within the context of a state framework that calls for standardization of equipment and operating procedures, such as how operators are trained. We recognize that, even under the best of scenarios, implementing structures to facilitate cooperation will not take place without some challenges. Such challenges, however, are worth confronting to improve the quality and reliability of the 9-1-1 network as well as to save money through more effective sharing of resources.

D. The Role for the Federal Government

As suggested above, state and local governments are principally responsible for providing access to 9-1-1 from all communications technologies. To date, the federal government has sought to promote progress in access to 9-1-1 by focusing largely on only one-half of the equation—the carriers themselves. This focus has resulted largely from the fact that the FCC in particular and the federal government more generally has lacked jurisdiction over PSAPs. Nonetheless, this strategy is an unfortunate one, as discussed in Part II, because it mandates that next generation services interface with antiquated technologies used in the 9-1-1 network. Such jury-rigging often comes at considerable expense and, moreover, fails to enhance the ability of the PSAPs to receive valuable information such as data, text, images, and video services. Consequently, the federal government must also focus on the other half of the equation as well, i.e., the technological capabilities of the PSAPs and play a constructive role in supporting the development

73. NAT'L ASS'N OF STATE CHIEF INFO. OFFICERS, GETTING STARTED IN CROSS-BOUNDARY COLLABORATION: WHAT STATE CIOs NEED TO KNOW 4 (2007), available at <http://www.nascio.org/publications/documents/NASCIO-CrossBoundaryCollaboration.pdf>. As that report detailed:

A clear and representative governance model reflecting the diverse leadership among the entities that are collaborating is one of the most important first steps. Even the best intentions can fail if each organization involved is unclear which entity is spearheading the project, or if each organization thinks that it is the leading body. Developing a charter at the outset of collaboration can be a beneficial way to establish rules of engagement. Involving stakeholders at the very beginning of the project, and keeping them informed throughout the life of the collaboration, can prove to be an important asset in maintaining momentum and progress.

Id.

and adoption of new technologies.

Over the last several years, the federal government has begun to acknowledge the importance of supporting the development of a more technologically advanced E9-1-1 system. In 2004, Congress enacted the “Ensuring Needed Help Arrives Near Callers Employing 9-1-1” (“ENHANCE”) Act, which established an “E-9-1-1 Implementation Coordination Office” and authorized \$250 million per year for five years in matching grants to enhance emergency communications services.⁷⁴ Despite recognizing the value of a federal leadership role, Congress has thus far failed to appropriate these funds. Recently, however, some recent legislative efforts have sought to address this failing (at least in part) and others (notably, the H.R. 3403, 9-1-1 Modernization and Public Safety Act of 2007)⁷⁵ have sought to provide additional federal leadership on the transition to a next generation network for emergency communications. On the whole, however, the federal government has yet to commit to supporting the transition to an NG9-1-1 architecture and has enacted legislation that fails “to effectively further federal legislative purpose and policies.”⁷⁶

In short, we recommend that the federal government play a constructive role in supporting the technological progress towards an NG9-1-1 system as part of a “cooperative federalism” strategy.⁷⁷ First, the federal government should work, as the Department of Transportation (“DoT”) already is doing, in developing the basic architecture that outlines how an NG9-1-1 system would operate and why it is vastly superior to the legacy system. Going forward, however, “achieving consensus on the finer details of the architecture will be challenging and complex.”⁷⁸ To aid the federal government in this effort, the DoT has selected a number of subcontractors to develop a national architecture and transition plan, including Texas A&M University, where different solutions are being tested and trialed in an Internet Protocol-based environment. Ideally, the federal government can both demonstrate to the states the advantages of such advanced technologies

74. ENHANCE 911 Act of 2004 § 104, 47 U.S.C. § 942.

75. 9-1-1 Modernization and Public Safety Act of 2007, H.R. 3403, 110th Cong. (2007), available at <http://www.govtrack.us/congress/billtext.xpd?bill=h110-3403>.

76. James E. Holloway et al., *Regulation and Public Policy in the Full Deployment of the Enhanced Emergency Call System (E911) and Their Influence on Wireless Cellular and Other Technologies*, 12 B.U. J. SCI. & TECH. L. 93, 125 (2006).

77. For a discussion of how cooperative federalism programs work, see Philip J. Weiser, *Federal Common Law, Cooperative Federalism, and the Enforcement of the Telecom Act*, 76 N.Y.U. L. REV. 1692 (2001).

78. LINDA D. DODGE, NEXT GENERATION 9-1-1 INITIATIVE, ADDRESSING THE OPPORTUNITIES AND CHALLENGES OF TOMORROW AT THE U.S. DEPARTMENT OF TRANSPORTATION 2 (2007), available at [http://www.iacptechology.org/Communications/missioncritical3-sjr%20\(4\)%20\(3\).pdf](http://www.iacptechology.org/Communications/missioncritical3-sjr%20(4)%20(3).pdf).

as well as provide a roadmap that can facilitate their adoption.

Second, the federal government should play an active role, through agencies like the National Institute for Standards and Technology (“NIST”), the National Telecommunications and Information Agency (“NTIA”), the Department of Homeland Security, the DoT, and the FCC to support the development of the basic standards that will enable a next generation network for emergency communications to operate effectively. It is important that the specialized applications for emergency communications be developed. To do so, however, will require national leadership in terms of both vision and support for research and development. At present, there are some notable private sector efforts, including (1) an ATIS/ESIF initiative to develop standards (along with NENA) for the interconnection of all types of networks and with the emergency 9-1-1 networks⁷⁹ and (2) the Internet Engineering Task Force (“IETF”)’s focus on the use of 9-1-1 in connection with Internet-based communications.⁸⁰ Going forward, however, it will be imperative for the federal government to play a supportive role, just as they are doing in the related context of supporting the advancement of communications technologies used in public safety communications.

Finally, the federal government—through its 9-1-1 Implementation Coordination Office—should fund the grant program codified by the ENHANCE 9-1-1 Act. In taking such a step, the federal government should develop a program that benchmarks the progress of the several states and provides matching funding conditioned on, among other things, effective governance mechanisms as well as sound funding strategies, such as not engaging in raiding of E9-1-1 funds. In short, even though the states and localities will be the primary vehicle for funding the transition to next generation networks, it is clear to us that a strategic federal effort in this area would be enormously valuable in catalyzing and reinforcing such efforts.

IV. THE NEED FOR A NEW FUNDING STRATEGY

The first step in developing a new funding strategy for 9-1-1 is for

79. ATIS “is a United States based body that is committed to rapidly developing and promoting technical and operations standards for the communications” industry. ATIS Home Page, <http://www.atis.org> (last visited May 11, 2008). The Emergency Services Interconnection Forum (“ESIF”) works on standards related to emergency services. See ATIS, Emergency Services Interconnection Forum, <http://www.atis.org/esif/index.asp> (last visited May 11, 2008).

80. Comments of Cisco Sys., Inc., to the *First Report & Order & Notice of Proposed Rulemaking* in E911 Requirements for IP-Enabled Serv. Providers, WC Dkt. No. 04-36, WC Dkt. No. 05-196, 6-7 (Aug. 15, 2006), available at http://gulfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518142878.

policymakers to recognize that the provision of effective access to emergency services is a “public good” that benefits all citizens, whether or not an individual will ever call 9-1-1.⁸¹ After all, if someone is the victim of a crime, has a house burning down, or is in a car accident, another individual’s call to 9-1-1—whether from a cell phone in a car, a VoIP connection at home, or a text message—could make an enormous difference in limiting the damage to person or property. With this perspective in mind, this Part outlines the state of 9-1-1 funding.

Section A explains the more vital social function that the 9-1-1 system performs today as compared to past decades. In particular, despite the current nature of 9-1-1 as a public good, legacy approaches to funding continue to prevail. Moreover, another vestige of 9-1-1’s past involves a lack of competition. Finally, Section A discusses why NG9-1-1 systems would address this failing by facilitating innovations ushered in by a more competitive telecommunications landscape.

Section B aims to help legislators, regulators, and other relevant policymakers understand the big picture of 9-1-1 funding procedures, models, and trends. By providing a comprehensible overview, we hope to lower the barriers to the sound development of 9-1-1 policy. Notably, existing 9-1-1 funding policies are “complicated by the lack of understanding on how funding is collected and dispersed”⁸² and, as a result, complexity is itself a barrier to sound and principled policymaking. To address this problem, we diagram the prevailing methodology by which 9-1-1 funds are collected, remitted, allocated, and ultimately used. To be sure, our goal of making 9-1-1 funding comprehensible entails trade-offs; foregrounding some aspects necessarily requires backgrounding other details. Nonetheless, we believe that an accessible

81. As one report stated, today’s 9-1-1 usage “meets the non-rivalry and non-excludability tests, frequently used to define public goods, and it is used in many circumstances to report incidents that relate to the safety of the public as opposed to the caller.” MONITOR GROUP REPORT 1, *supra* note 55, at 11. Indeed, the Monitor Group Report found that “in more than 60 percent of all 9-1-1 call situations, the caller is not involved in the emergency being reported.” *Id.* at 68. A public good is defined as:

a very special class of goods which cannot practically be withheld from one individual consumer without withholding them from all (the ‘nonexcludability criterion’) and for which the marginal cost of an additional person consuming them, once they have been produced, is zero (the ‘nonrivalrous consumption’ criterion). The classic example of a nearly pure public good is national defense: you cannot defend the vulnerable border regions of a country from the ravages of foreign invaders without also simultaneously defending everyone else who lives within the borders.

Auburn University, Dr. Paul M. Johnson, Public Goods: A Glossary of Political Economy Terms, http://www.auburn.edu/~johnspm/gloss/public_goods (last visited May 11, 2008).

82. NGA CENTER FOR BEST PRACTICES, ISSUE BRIEF: STATE STRATEGIES FOR ACCELERATING ENHANCED 9-1-1 IMPLEMENTATION 4 (2004) [hereinafter NGA ISSUE BRIEF], <http://www.nga.org/cda/files/0404E911.pdf>.

discussion of 9-1-1 funding is worthwhile.

Section C, building off our findings and research, distills a series of five normative recommendations that federal, state, and local policymakers should consider in charting 9-1-1 policy going forward. We emphasize that, in addition to funding amounts for 9-1-1, policymakers must pay close attention to broader issues related to funding, including procedures for the collection of funds, allocation and usage of funds, and auditing and monitoring of all parties involved in the 9-1-1 system. Moreover, Section C discusses the issue of how to evaluate the sufficiency of existing 9-1-1 funding level, recommending as a critical prerequisite the development of a statement of requirements that can enable policymakers to discern whether existing funding levels and mechanisms are sufficient to support the development and migration to such a system. In so doing, it highlights that policymakers should focus both on preserving existing 9-1-1 systems and in developing new funding models to facilitate the transition to NG9-1-1 systems (including strategies for financing capital expenditures).

A. The Importance of Understanding That 9-1-1 Is a Public Good and Innovation Should Be Promoted

As a practical matter, the United States has not always viewed an effective and ubiquitous emergency network as a core social value. Notably, the United States adopted 9-1-1 approximately 30 years after England implemented a similar 9-9-9 system.⁸³ Even when implemented in the late 1960s, when it was clear that 9-1-1 capability would be offered by the Bell System Companies, the emergency calling system was “not mandatory” and would only be “implemented where the emergency agencies in a community are willing to cooperate with each other.”⁸⁴ Thus, by 1987, only 50% of the United States population had access to 9-1-1.⁸⁵ The relatively slow pace of adoption reflects the fact that 9-1-1 wireline-based funding models largely developed during a time when 9-1-1 service was local, optional, and primarily benefited residential phone owners who were served by a regulated monopoly local exchange carrier.⁸⁶ Not surprisingly, legacy funding mechanisms

83. Letter from Lee Loevinger, *supra* note 1.

84. *Id.*

85. Positron Public Safety Systems, Powerpoint on Behalf of Qwest, at 1, http://www.911dispatch.com/911/ng911_qwest.pdf (last visited May 11, 2008).

86. Another forward-looking report sounds a similar note: “The current funding model for 9-1-1 service has its foundation in the historic regulated wireline telecommunications environment of the past 30 years.” NAT’L EMERGENCY NO. ASS’N, FUNDING 9-1-1 INTO THE NEXT GENERATION: AN OVERVIEW OF NG9-1-1 FUNDING MODEL OPTIONS FOR CONSIDERATION 3 (2007) [hereinafter NENA NG9-1-1 FUNDING REPORT], <http://www.nena.org/media/files/NGFundingReport.pdf>.

reflected these characteristics. With the rise in wireless telephony, policymakers turned to new funding models developed in the late 1990s and early 2000s to help achieve Phase I and II compliance goals.

Even today, contemporary funding models often reflect the legacy tradition of the telephone monopoly past: fragmented and local-centric approaches that remain heavily dependent on inputs such as user surcharges or costs borne by service providers. Meanwhile, the number of players involved in the 9-1-1 system has ballooned in the wake of local competition introduced by the 1996 Act and an expanding range of communications services. For example, competition in the local exchange telephony market introduced Competitive Local Exchange Carriers (“CLECs”) to 9-1-1 funding obligations. And the proliferation of innovative telecommunications technologies and services—mobile phones, VoIP devices, pre-paid wireless phones, etc.—added several more types of service providers into many jurisdictions’ 9-1-1 funding schemes. Finally, while 9-1-1 remains closely tied to local government services, its larger public safety and homeland security impacts have accelerated state and federal government interest in 9-1-1.

With the increased use of 9-1-1 services and its now-central role in promoting public safety, most citizens expect calls to 9-1-1 to operate effectively and to be able to take advantage of modern technologies. One industry source colorfully referred to heightened consumer expectations of technology as “the *CSI* effect”⁸⁷ and confirmed that proprietary industry surveys have reached the same conclusion.⁸⁸ As another report put it, “the perception of 9-1-1 service by the public has changed from an optional service to an expected public good.”⁸⁹ Significantly, approximately 99% of the population and 96% of the geographic United States now have access to at least basic 9-1-1 services.⁹⁰ In short, the value of 9-1-1’s contributions to society is qualitatively different today

87. *CSI*—short for Crime Scene Investigation—is a popular television show in which crimes are regularly solved by use of technology resources and forensic science. The show’s popularity has generally raised public expectations of technology capabilities. See, e.g., *The CSI Effect: Does The TV Crime Drama Influence How Jurors Think?*, CBS NEWS, Mar. 21, 2005, available at <http://www.cbsnews.com/stories/2005/03/21/earlyshow/main681949.shtml>.

88. Survey data shared by the industry source empirically underscores the chasm between public expectations and 9-1-1 capabilities. A Spring 2007 survey of 2,580 individuals in the United States found that almost 40% of individuals under 35 years old believe that they “can use a text message from a cell phone to summon 9-1-1” and, additionally, over 30% of the same group believes that they “can send a cell phone picture to 9-1-1.” INTRADO INC., CONSUMER 9-1-1 RESEARCH (2007) (on file with author).

89. VOIP OPERATIONS FUNDING WORK GROUP OF THE VOIP OPERATIONS COMM., NAT’L EMERGENCY NO. ASS’N, NENA VOIP FUNDING AND REGULATORY ISSUES OPERATIONAL INFORMATION DOCUMENT 5 (2006) [hereinafter NENA VOIP OID REPORT], available at <http://www.nena.org/media/files/VoIPNENAFundingRegulatoryOIDfinal060606.pdf>.

90. E9-1-1 Institute, *The Issues*, *supra* note 2.

than during the period when traditional 9-1-1 funding models developed and, accordingly, the elevated societal value of 9-1-1 cannot be ignored.

The levels of 9-1-1 funding, the mechanisms for fund collection, and the usage of the relevant funds fail to reflect the modern reality that 9-1-1 is more valuable and critical now than it was at earlier stages of the system's development. In particular, the qualitatively different value of the 9-1-1 system today than when it was developed provides urgency for federal, state, and local policymakers to evaluate whether their existing 9-1-1 funding strategy will accomplish two fundamental objectives: (1) meeting the needs of citizens who expect uniform and reliable 9-1-1 service across jurisdictional boundaries, across communication devices, and across different communication services; and (2) promoting public safety and homeland security by closing the chasm between E9-1-1 public safety capabilities (often limited to analog voice) and the capabilities of commercial communications systems (often IP-based systems that are capable of carrying voice, data, text, image, and video services).

To ensure that it meets its objectives, we recommend a strategy for 9-1-1 that would harness the competitive forces that drive innovation in other sectors of telecommunications. Despite widespread industry deregulation favoring competition over the last 25 years—first, around the break up of AT&T and, second, arising out of the 1996 Telecom Act—significant portions of today's 9-1-1 system remain a *de facto* monopoly in most jurisdictions. In particular, as one company's white paper laments: “[R]egulation of 9-1-1 networks and related services remains firmly rooted in a regionalized monopoly model in which 9-1-1 call routing, switching, transport, and database management services have been the exclusive domain of the incumbent local exchange carrier (ILEC).”⁹¹

To be sure, the historic success of the 9-1-1 system is to be applauded and the CAMA technology leveraged by the Bell System and subsequent incumbent providers once served the country well. It is clear, however, that the ongoing monopoly-era style regulation of incumbent 9-1-1 service providers should be reevaluated. To that end, state officials, carriers, and would-be competitive providers commonly pointed to a lack of innovation incentive on the part of 9-1-1 service providers. Consequently, even though some vendors and would-be competitive 9-1-1 service providers are eager to move to an NG9-1-1 system, incumbent 9-1-1 service providers (“9-1-1 SPs”) are unlikely to champion an upgrade absent regulatory change.

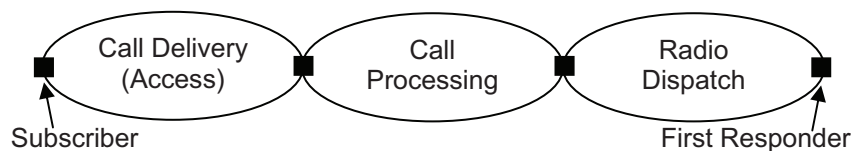
91. INTRADO COMMCS, INC., 9-1-1 NETWORKS IN THE 21ST CENTURY: THE CASE FOR COMPETITION 2 (2007).

In order to understand the opportunity for reforming the 9-1-1 system, policymakers must examine the current incentives of incumbent 9-1-1 SPs. Overall, incumbents often view 9-1-1 services not as a profit center, but as a social obligation with minimal room for profits. Indeed, one carrier insider observed that 9-1-1 services—originally provided as part of a monopoly’s regulatory compact—are not a market that many incumbent 9-1-1 SPs would actively seek today. Significantly, an incumbent 9-1-1 SP typically provides services at tariffed prices which are approved by regulators at amounts that permit the recovery of their costs plus a rate of return. To help establish lower rates, regulators often require long amortization periods for incumbent 9-1-1 SPs’ facilities.⁹² This creates strong incentive to continue to collect on existing if aging network elements, i.e., to capture past costs and collect ongoing profits, resulting in a limited incentive to innovate.

In some instances, incumbent 9-1-1 SPs’ failure to upgrade effectively blocks innovation and serves as a bottleneck that traps architectural improvements to the system. In particular, at least two forms of bundled offerings from 9-1-1 SPs frustrate competition and stifle innovation. From the PSAP’s perspective, a state official noted that incumbent 9-1-1 SPs’ network and equipment are frequently offered to PSAPs as a bundled package, and the network provider then uses its position to prevent deployment of other networks. From the perspective of other carriers and potential competitors, a 9-1-1 SP often bundles its offerings into a single package, forcing would-be competitors to purchase duplicative and rival services in order to receive necessary access to a PSAP.

Significantly, the migration to an NG9-1-1 system promises a path to reforming the legacy monopoly model. To highlight the nature of that change, we return to Figure 7’s tripartite representation of the 9-1-1 system (reproduced below).

Figure 7: Elements of a NG9-1-1 System



In today’s system, the selective router is located within the first

92. *Id.* at 7.

portion (Call Delivery) of the above sequence such that an incumbent 9-1-1 SP typically possesses a powerful bottleneck that requires interconnection and interoperability by would-be competitive 9-1-1 SPs. In the NG9-1-1 system, however, the *selective router functionality*⁹³ can be placed directly where a call is handed off from the access network to the call processing network. By placing the selective router functionality at the outset of the call processing portion of the system, there is opportunity to help relieve the traditional incumbent bottleneck and introduce greater competition into the system. More generally, an NG9-1-1 architecture should enable the 9-1-1 network to be managed in a more modular fashion, with clearer demarcations between responsibilities for call delivery, call processing, and radio dispatch. This will provide more opportunities for competitive supply of the different elements of the system. Accordingly, in contrast to the current model, we believe that this transition to a more open and competitive system will introduce opportunities and incentives to innovate that do not exist under and are greatly limited by today's antiquated technological architecture.⁹⁴

B. The Current System of Collecting, Remitting, Allocating, and Using 9-1-1 Funds

Much is misunderstood about the world of 9-1-1 funding. This is not surprising as 9-1-1 funding is often a complicated matter within individual states, and the myriad different approaches taken by different jurisdictions collectively creates a convoluted picture for policymakers and legislators who are not closely familiar with the area.

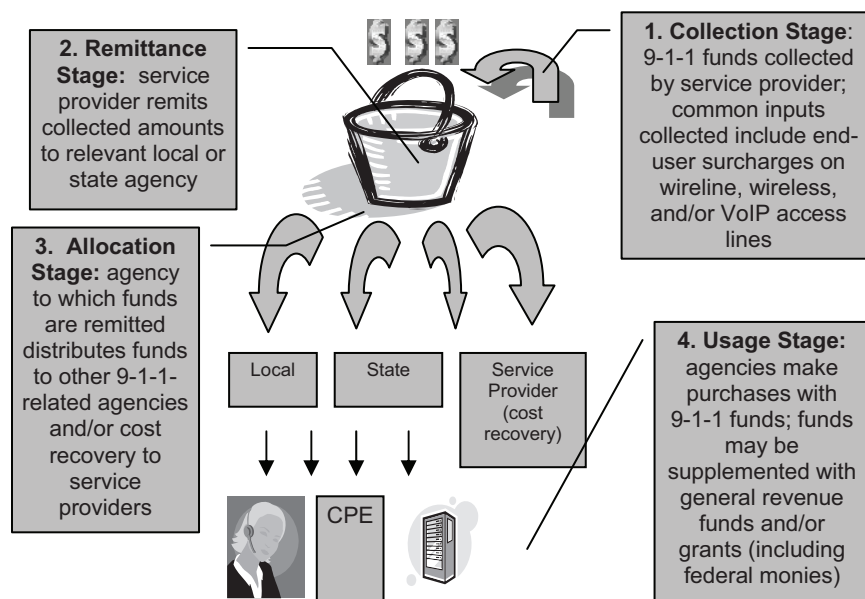
This Section aims to reduce this confusion. To do so, we divide the funding process into four parts: a *collection stage* (what amounts marked for 9-1-1 are collected and from what services?), a *remittance stage* (what agency(ies) do service providers remit amounts collected for 9-1-1?), an *allocation stage* (once 9-1-1-related proceeds have been remitted to an agency, to which entities do collected monies go prior to

93. By "selective router functionality," we mean to distinguish the selective router *function* from the actual devices which we today commonly refer to as "selective routers." In the Internet Protocol world, the functionality of the selective router will not be performed by one of today's selective routers, but instead will be performed by a device that simply accomplishes that function. (The terminology here is somewhat confused by the fact that the original selective router was itself a switch—not a router. In any event, when the *functionality* is moved to an Internet Protocol network, we anticipate that NG9-1-1 networks will actually use a device properly called a router).

94. As a general matter, Harvard's Berkman Center makes a strong case for open systems which facilitate competition and interoperability. Policymakers should consider this broader perspective in adopting NG9-1-1 standards and requirements. See BERKMAN CENTER FOR INTERNET & SOCIETY, ROADMAP FOR OPEN ICT ECOSYSTEMS 9-10 (2005), available at <http://cyber.law.harvard.edu/epolicy/roadmap.pdf>.

being spent?), and a *usage stage* (i.e., once an entity has 9-1-1 funds for expenditure, how are such monies used?). This description is set forth in Figure 9 below.

Figure 9: Four stages of 9-1-1 funding



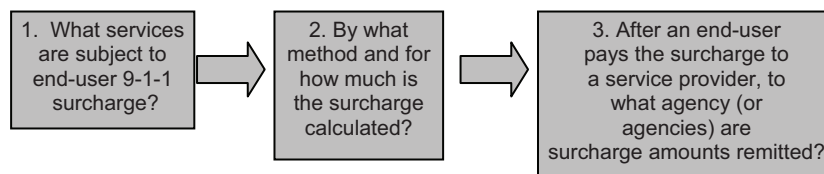
We recognize that this depiction is a simplification and that these four stages are not always present. For example, sometimes a governmental entity to which funds are remitted also determines how such funds will be used. Under these circumstances, the remittance stage is effectively combined with allocation. As we shall see, however, it is often the case that—following remittance to an entity—9-1-1 monies are first routed to a different government entity prior to final usage, making the four stage approach a more effective way to understand 9-1-1 funding.

1. 9-1-1 Fund Collection

Sources for 9-1-1 funding vary along vertical levels of government (e.g., municipality, county, regional, state, and federal). In general, there are four principal funding sources that support 9-1-1: (1) direct end-user surcharges; (2) state-level general funding sources (which ultimately flow from taxes); (3) local, county, or regional-level funding sources (such as proceeds from gross receipts taxes or property taxes); and (4) federal funding sources (especially grant initiatives). Among these sources, the most common and dedicated funding source for 9-1-1 services is end-

user surcharges, where an amount is directly assessed to telephony services to help pay for 9-1-1-related costs. As reflected in Figure 10 below, there are at least three salient dimensions to surcharges.

Figure 10: Important Considerations Concerning 9-1-1 Surcharges



With respect to the first dimension of Figure 10, whether a 9-1-1 surcharge is assessed depends on the communications service involved and the jurisdiction. Not surprisingly, as the legacy model of 9-1-1 funding, end-user surcharges are almost always assessed on wireline telephone connections. Additionally, surcharges on wireless calls are increasingly common: 47 states permit wireless surcharge. Finally, VoIP surcharges are present in 15 states.⁹⁵ Moreover, even for jurisdictions which do not yet mandate that VoIP assess 9-1-1 surcharges, our interviews found that VoIP providers have often reached voluntary agreements with local or regional entities to pay the equivalent of 9-1-1 surcharges.

With respect to the second dimension of Figure 10, two prevailing methods of calculation, flat fee or percentage, are utilized. Most jurisdictions require a flat fee payment into 9-1-1 funds, although at least six states use a percentage formula to determine wireline fees. Under a flat fee method, irrespective of the amount of use, each user of the telephone service in the same jurisdiction pays an equal amount as each other user into the 9-1-1 fund. For example, in Newark, New Jersey, a wireline telephony user pays 90¢ per month. Similarly, a wireless telephony user in Newark also pays 90¢ per month. It is not always the case, however, that wireline and wireless surcharges are uniform in a jurisdiction. In Kentucky, for example, a wireless user pays 70¢ per month while a wireline user pays 25¢ per month. In contrast, other end-user surcharges are assessed on a percentage basis. For example, in Louisiana, wireline users pay up to 5% of tariffed rates for local telephone basic service.

End-user surcharges amounts vary considerably between different

95. Vermont is unique insofar as it uses Universal Service Fund proceeds for E9-1-1 funding. Moreover, all statistics and amounts cited in this Part IV.B are based on research as of October 2007.

jurisdictions. Wireline surcharges range from 25¢ per month to \$3 per month; wireless surcharges range from 20¢ per month to \$3 per month. While this variation between jurisdictions is perhaps surprising on its face, end-user surcharges cannot be examined in isolation. Although the end-user surcharge is significant, it is only one potential input into 9-1-1 funding. Accordingly, an apples-to-apples comparison concerning amounts of 9-1-1 funding between jurisdictions must comprehensively look at end-user surcharges in combination with other categories of funding sources such as state-level general funding sources, local funding, and federal grants.

2. Remittance of 9-1-1 Funds

As to the third dimension of Figure 10 above, monies are usually remitted to a government agency after they are collected by a service provider. In some cases, a service provider is entitled to keep a percentage of the collected funds as an administrative fee, such as in Tennessee where wireless providers retain 3% of collected amounts. As for the remitted funds, they typically go to a local or state-level entity. Notably, local agencies receiving the 9-1-1 monies can vary among government entities lower than the state level (municipal, city, county or regional). Similarly, the state agency to which 9-1-1 monies are remitted vary as well and may include a state-level 9-1-1 board, a treasury office, or a public utilities commission.⁹⁶

The traditional model of 9-1-1 surcharges featured a monopoly local service provider remitting funds into a local agency. This model still remains the prevailing approach today, but the trend is toward greater involvement of state entities in the remittance stage. Indeed, at least 20 states now have a funding scheme which features a significant state role whereby 9-1-1 wireline surcharges are remitted to the state agency. Moreover, all but eleven states have wireline, wireless, or both types of carriers remit funds to a state agency. Finally, several states have a hybrid solution where some amounts are remitted to a state agency while others are paid into local entities.

Consider, for example, Washington State as an illustration of a hybrid approach. In Washington, 25¢ of wireline and wireless fees are paid to a state-level entity while 50¢ of wireline and wireless fees go to county entities. This type of division is hardly unique as our research indicates that 20 states currently have a hybrid approach to collection in place where at least some carriers remit to state entities while the same or other carriers remit to local agencies. As elaborated upon in Section B, we suggest that in order to promote administrative efficiency and

96. See GAO STATES' COLLECTION REPORT, *supra* note 54, at 16.

fairness, states should migrate toward a unified state-level collection process where surcharges are in place.

3. Allocation of 9-1-1 Funds

The allocation stage is a crucial one: once 9-1-1-funds are collected, they are frequently distributed to other governmental entities prior to the point in which monies are used for purchases and expenditures. Sometimes the collecting entity is also the purchasing entity, in which case the allocation stage is effectively combined with the remittance stage. A more common scenario, however, entails shifting around the 9-1-1 related funds prior to usage.

For an example of that scenario, consider the model used by the Tennessee Emergency Communications Board (“TECB”). The TECB was formed in 1998 to promote wireless E9-1-1 services as well as assist local entities known in Tennessee as Emergency Communications Districts (“ECDs”) on management, operations, and accountability matters.⁹⁷ Moreover, it is also empowered to oversee the state’s 9-1-1 Emergency Communications Fund (“9-1-1 ECF”). To support this fund, wireless carriers collect \$1 per month surcharges that are remitted once every two months to the 9-1-1 ECF, subject to 3% which the carrier keeps as an administrative fee.

The TECB allocates the relevant funds through a complex system.⁹⁸ First, 25% of the total fund is distributed to ECDs based on district’s proportion of total population. Second, the TECB uses the fund to pay its own operating costs and expenses. Third, ECDs are reimbursed for expenditures related to implementation, operation, or enhancement of wireless E9-1-1. Fourth, wireless service providers are reimbursed for expenditures related to implementation, operation, or enhancement of wireless E9-1-1. Fifth, if there are still unspent funds, they may be used by the TECB to provide for grants to ECDs related to operating and capital expenditures. Finally, once wireless E9-1-1 is achieved, the TECB must distribute funds back to ECDs if the TECB believes that such distribution will not threaten the solvency of the 9-1-1 ECF.

As suggested by the Tennessee example, an important aspect of the allocation stage concerns the formulas by which funds remitted to an agency are in turn allocated. A variety of methods are used in determining which entity is entitled to a given amount of money,

97. See TENNESSEE ADVISORY COMMISSION ON INTERGOVERNMENTAL RELATIONS, EMERGENCY CHALLENGE: A STUDY OF E-911 TECHNOLOGY AND FUNDING STRUCTURE IN TENNESSEE 72 (2006) [hereinafter TACIR E-911 STUDY], available at http://www.state.tn.us/tacir/PDF_FILES/Other_Issues/E911%20funding.pdf.

98. *Id.* at 67-68.

including the population of an area for which the entity is responsible, an entity's prior expenses, call volume, and an entity's prospective budget requests. For example, Virginia recently changed its Wireless E9-1-1 Fund allocation scheme from one based on projected costs to a formula-based method. Under Virginia's new approach to allocation of its Wireless E9-1-1 Fund, monies are initially provided to the Division of Public Safety Communications and Virginia Geographical Information Network Division, reducing the amount of the Wireless E9-1-1 Fund. Following this, the remaining amount in the Wireless E9-1-1 Fund is allocated as follows: (1) 30% is allocated to wireless service providers for cost recovery related to direct and reasonable costs for wireless E9-1-1 network deployment; (2) 60% is allocated to localities for PSAP's recurring and non-recurring costs; and (3) 10% is allocated to a grant program (to be implemented largely in 2008), whereby monies will be allocated to localities with the most need.⁹⁹

As seen in Tennessee and Virginia, jurisdictions sometimes permit cost recovery of service provider expenses, especially those of wireless carriers, related to providing 9-1-1 services. While some jurisdictions seem to have success with cost recovery programs, the concept of cost recovery has an uneven record at best. Indeed, even where it is available, cost recovery is not always utilized by commercial wireless carriers. While the FCC initially required cost recovery in 1996 to promote wireless E9-1-1 build out, it lifted that requirement in 1999.¹⁰⁰ Nonetheless, many jurisdictions continue cost recovery programs in the absence of the requirement.¹⁰¹ Based on our interviews, however, we concluded that many wireless carriers eschew utilization of the cost recovery mechanisms for at least two reasons. First, as a GAO report noted in 2003, wireless carriers "might not seek to recoup costs incurred with deploying E911 if they plan to use the location technologies for

99. VIRGINIA INFORMATION TECHNOLOGIES AGENCY, DIV. OF PUB. SAFETY COMM'NS, COMMONWEALTH OF VIRGINIA: WIRELESS E9-1-1 SERVICES BOARD FY2006 ANNUAL REPORT 6 (2006) [hereinafter VIRGINIA WIRELESS E9-1-1 2006 ANNUAL REPORT], *available at* http://www.911.virginia.gov/wirelessreports/FY2006_Annual_Report.pdf. As to the grant program, funds are available for "continuity" grants which help maintain existing PSAP services as well as "enhancement" grants focused on improving E9-1-1 services. *Id.*

100. Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Sys., *Second Memorandum Opinion & Order*, 14 FCC Rcd. 20,850, 20,911 (1999).

101. Indeed, as of 2003, the GAO reported that 32 states and the District of Columbia continued to provide some form of cost recovery. U.S. GEN. ACCOUNTING OFFICE, UNEVEN IMPLEMENTATION OF WIRELESS ENHANCED 911 RAISES PROSPECT OF PIECEMEAL AVAILABILITY FOR YEARS TO COME 19-20 (2003), *available at* <http://www.gao.gov/new.items/d0455.pdf>.

commercial purposes.”¹⁰² Second, some wireless carriers find it difficult to recover costs for reasons either related to administrative burden or incomplete recovery and instead elect to directly charge customers a fee to help pay for wireless E9-1-1.

Amounts allocated to state and local agencies for 9-1-1 are supplemented by other funding sources, including state level funds, local sources, and federal grant and matching programs. These sources of funding are further discussed in Part IV(C) below.

4. Usage of 9-1-1 Funds

The fourth and final funding stage, usage, concerns an agency's expenditure of 9-1-1-related funds. Given the critical public function performed by 9-1-1 services with limited resources, care should be given to ensure that 9-1-1-related funds are used for their intended purposes. So long as surcharges continue to play a central role in 9-1-1 funding,¹⁰³ policymakers owe an obligation to consumers to ensure that monies earmarked for 9-1-1 are actually used for 9-1-1.¹⁰⁴ In many cases, the relevant problem is the diversion of 9-1-1 funds to other uses—i.e., the so-called “raiding” of 9-1-1 funds. In some other cases, however, the problem is that even though the 9-1-1 funds are used for legitimate purposes, they are used to support “gold-plated” infrastructure that cannot be justified as a prudent investment.

A well documented parade of horrors underscores that 9-1-1 funds are often seized for purposes that have little or nothing to do with the services which are required to pay into 9-1-1 funds.¹⁰⁵ Indeed, Congress explicitly addressed raiding in passing the 2004 ENHANCE 9-1-1 Act, which tied distribution of federal grants to the requirement that 9-1-1 funds be used only for 9-1-1-related expenditures. Unfortunately, the 2004 Act has not been funded and this carrot has had little effect on states to date. Our research and interviews confirmed that raiding in various forms today remains a pervasive and endemic problem.

102. *Id.* at 20 n.22.

103. Over the long term, a migration to other funding models may be necessary in view of industry trends which render uncertain an enduring reliance on the surcharge funding model. *See, e.g.*, NENA NG9-1-1 FUNDING REPORT, *supra* note 86, at 3. Moreover, since 9-1-1 benefits the general public and far more individuals than just the owners of telephony devices, a greater general funding commitment would reflect sound policy. A challenge, however, is to migrate to new funding models which prove reliable and adequate in amounts. As industry players have opined to us, one salutary effect of the current funding model is that today's system presents dedicated support for 9-1-1 that is at least to some degree reliable.

104. In addition to on-going examination of agencies' use of funds, future attention is warranted concerning use of funds collected by ILECs for provision of E9-1-1 services. Particularly where aged equipment is largely depreciated and cost allocation/auditing studies are lacking, such a study could determine whether such funds are well used.

105. *See* GAO STATES' COLLECTION REPORT, *supra* note 54, at 16-18.

Raiding is not just a problem from the perspective of supporting 9-1-1, but also from a fiscal policy perspective because the bulk of 9-1-1 funding does not come from general public coffers. Significantly, so long as large portions of 9-1-1 services are effectively supported by industry-specific assessments, jurisdictions should be parsimonious concerning the scope of permitted expenditures drawing upon these funds. After all, communications services are valuable social goods that should not be deterred by unnecessary added costs that distort and reduce the use of these services. It is one thing to expect wireless carriers and their customers to pay for elements and costs that they arguably impose upon the 9-1-1 system in order to make Wireless E9-1-1 Phase II possible. It is another matter, however, to use wireless surcharges to fund law enforcement uniforms, which have little or no direct nexus with the wireless services being assessed.¹⁰⁶

Indeed, when monies from surcharges are raided for non-9-1-1 purposes, there are at least four pernicious effects: (1) a weakened 9-1-1 system because dedicated 9-1-1 resources are used elsewhere; (2) compromised government credibility as monies collected under government authority are used for purposes different than stated for collection; (3) an unfairness to providers and their subscribers insofar as they involuntarily pay for public services that have little nexus to the services which are assessed; and (4) unnecessary economic inefficiency because optimal consumer use of the assessed communication services is deterred by higher than necessary surcharges on those services.

It is critical that policymakers become more active in identifying raiding and, once spotted, more vigilant in preventing it. Despite the barbarian overtones of the “raiding” nomenclature, the practice of raiding is not always overt and can be difficult to identify. Nonetheless, our research identified at least three types of raiding that policymakers should guard against: (1) a blatant fund sweep; (2) continued funding of a completed project; and (3) misuse of funds. We address each point below.

First, a blatant fund sweep is the easiest flavor of raiding to identify. 9-1-1 monies in state or local coffers are swept away and put to general uses such as balancing governmental budgets or uses entirely unrelated to public safety. A 2006 GAO report identified four states—Rhode Island (\$9 million), North Carolina (\$25 million), Virginia (\$4.7 million) and

106. Daryl Bassett of the Arkansas Public Service Commission recently echoed this perspective. “If you’re going to tax a consumer for E911, the consumer should have a reasonable expectation that the money is going to be spent on E911. Too many local governments look at that as an income stream” and spend it elsewhere. Panel discussion, CTIA Wireless I.T. & Entertainment (Oct. 2007) (reported by Brian Hammond) (on file with author).

Illinois (\$254,000)—that raided wireless funds for other uses in 2005, and seven states that did not respond to questions concerning raiding.¹⁰⁷ Prior to that, a 2003 report pegged an estimated diversion of 9-1-1 funds between 2001 and 2004 at over \$400 million.¹⁰⁸ In California alone, a 2004 State audit found that from 1981-2002, almost \$177 million had been transferred to the State's general fund but only \$25 million had been transferred back, a net raid of approximately \$152 million.¹⁰⁹ Moreover, a new law in North Carolina appears to virtually legislate raiding.¹¹⁰ Under the law, monies in individual PSAP's Emergency Telephone System Funds as of the effective date, January 1, 2008, will be transferred to the local government's General Fund "to be used for any lawful purpose."¹¹¹ Collectively, the amount involved is estimated to be between \$5.5 and \$6 million.¹¹²

Second, a more subtle version of raiding involves continued funding of a completed project in which a project that begins as an appropriate use of 9-1-1 monies continues past its intended completion. For example, the Virginia State Police originally and properly received allocations from Virginia's Wireless E9-1-1 Fund to compensate for directly taking wireless E9-1-1 calls. It is no longer the case, however, that the Virginia State Police directly takes such calls. Nonetheless, under the State's Appropriations Act for 2006-08, the Virginia State Police continues to receive \$3.7 million despite the fact that the "original justification for providing the funding to the State Police" has been obviated.¹¹³ Not surprisingly, this effectively "reduces the amount of funding available to the PSAPs and wireless service providers."¹¹⁴

And third, another less visible version of raiding involves misuse of funds where, while not blatantly raided, 9-1-1 monies are nonetheless diverted for uses with only a tenuous nexus to the original justification

107. GAO STATES' COLLECTION REPORT, *supra* note 54, at 18. Similarly, a 2005 Congressional Research Service report listed numerous instances of reported diversions cited in a 2003 CTIA report, including a reported \$207 million diverted in New York, \$7 million in Oregon, and \$9.45 million in Washington D.C. See LINDA K. MOORE, CONG. RESEARCH SERV., AN EMERGENCY COMMUNICATIONS SAFETY NET: INTEGRATING 9-1-1 AND OTHER SERVICES (2005), available at <http://www.fas.org/sgp/crs/homsec/RL32939.pdf>.

108. MONITOR GROUP REPORT 1, *supra* note 55, at 11.

109. CALIFORNIA STATE AUDITOR, WIRELESS ENHANCED 911: THE STATE HAS SUCCESSFULLY BEGUN IMPLEMENTATION, BUT BETTER MONITORING OF EXPENDITURES AND WIRELESS 911 WAIT TIMES IS NEEDED 63 (2004), available at <http://www.bsa.ca.gov/pdfs/sr2006/2004-106.pdf>.

110. Glenn Bischoff, *Sadly, It's Still Business As Usual*, MRT BULL., Oct. 5, 2007, http://enews.penton.com/enews/mobileradiotech/mrt_bulletin/2007_10_06_mrt_bulletin_10062007/display.

111. *Id.*

112. *Id.*

113. VIRGINIA WIRELESS E9-1-1 2006 ANNUAL REPORT, *supra* note 99, at 2.

114. *Id.* at 5.

for their collection.¹¹⁵ For example, in Oregon in 2007, an effort was made to use \$9 million of 9-1-1 tax revenue to fund wireless communication interoperability planning and engineering activities. While we agree that public safety interoperability presents an important and laudable objective,¹¹⁶ the Oregon bill (SB 994) presents exactly the type of diversion of 9-1-1 funds to a general public benefit for which there is little direct nexus with the communications services being assessed. Accordingly, Oregon's Governor, Theodore Kulongoski, acted properly in vetoing the bill.¹¹⁷

Another recent instance of misuse is found in Cabell County, West Virginia. In August 2007, that county indicated its intention to move forward with a plan to use money from the County's 9-1-1 and Emergency Medical Service agencies to fund the bulk of a courthouse pay raise. In so doing, it offered a highly tenuous rationale, reporting that the funds would be used to "help the county recoup costs associated with courthouse employees furnishing [public safety] agencies with human resource, legal, purchasing, accounting, and payroll services."¹¹⁸ In this same vein, a North Dakota performance audit reported that a "number of PSAP locations were unable to justify the use of 911 fees for

115. At first, it is tempting to recommend wide-spread use of sunset provisions to guard against continued funding of a completed project. However, caution should be exercised in connection with such legislative provisions. Sunsets can be especially problematic when 9-1-1 goals are unmet at the end of the prescribed period and legislation comes up for renewal. For example, Ohio's HB361 is ready to sunset despite achieving limited success concerning Phase II deployment. In general, a more sound solution to guard against gratuitous funding of a completed project is to require "look back" provisions whereby an audit or report must be issued to the legislature within a prescribed period of time. See NENA OHIO CHAPTER AND APCO OHIO CHAPTER, POSITION PAPER: SUPPORTING THE REMOVAL OF THE "SUNSET" PROVISION CONTAINED IN OHIO HOUSE BILL 361 at 2 (2007), available at <http://www.ohioapco.org/911goestocolumbus/positionpaper.pdf>.

116. See, e.g., DALE N. HATFIELD & PHILIP J. WEISER, A NEW VIEW: DEVELOPING A WORKABLE NEXT-GENERATION NETWORK FOR PUBLIC SAFETY MEANS RETHINKING ENTRENCHED IDEAS AND LOOKING TOWARD A FUTURE ROADMAP (2007), available at <http://www.siliconflatirons.org/documents/publications/policy/HatfieldWeiserPublicSafetyReport.pdf>; BRAD BERNTHAL, STEVE ROBERTSON & JUSTIN TURNER, COLLABORATIVE NETWORKS AND THE ALASKA LAND MOBILE RADIO SYSTEM: A FRAMEWORK FOR ANALYZING INTER-AGENCY PEOPLE PROBLEMS WHICH FRUSTRATE PUBLIC SAFETY INTEROPERABILITY (2007), available at <http://www.siliconflatirons.org/documents/publications/faculty/BernthalRobertsonTurnerCollaborativeNetworks.pdf>.

117. In a statement, Governor Kulongoski explained: "I have vetoed the transfer of \$9 million because it is important that funds collected from telecommunications customers for enhancements to the 9-1-1 emergency response system to be used for the purposes established in the applicable statutes." Press Release, Or. Governor's Office, Governor Kulongoski Issues Vetoes for 2007 Legislative Session (Aug. 9, 2007), available at <http://listsmart.osl.state.or.us/pipermail/comm-council/2007-August/000814.html>.

118. Curtis Johnson, *PSC Attorney Sidesteps Cabell 911 Administrative Fee*, HERALD DISPATCH, Aug. 23, 2007.

PSAP operations,” and that improper uses included placement of Christmas/holiday greeting ads in newspapers and sponsorship of activities such as fire prevention, domestic violence, and farm safety.¹¹⁹

C. Five Policy Recommendations for 9-1-1 Funding Going Forward

This Section distills five recommendations related to 9-1-1 funding based on our interviews, additional research, and analysis. At the outset, we readily acknowledge that one size does not fit all in 9-1-1. For example, a recommendation that fits well in Colorado may be ill-advised, politically untenable, and perhaps contrary to existing law in Kentucky. That said, on balance we envision and encourage increased standardization and adoption of best practices across jurisdictions as 9-1-1 continues its migration from an analog fixed telephone service into a digital world characterized by mobility and diverse types of communication services. The following recommendations related to 9-1-1 funding aim to promote such a development.

1. 9-1-1 Services Must Be Better Aligned with the Expectations and Demands of Consumers and Citizens

The historic success of the 9-1-1 system combined with aspects of current analog infrastructure is the source of a gulf between consumer assumptions about the system’s robust capabilities and the system’s actual limitations. We found this to be a recurring theme acknowledged throughout our interviews and research. In considering 9-1-1 funding, consumer and citizen expectations should drive policymakers to adopt funding models which meet public demands concerning emergency services.

Specifically, there are three respects in which 9-1-1 system performance currently fails to match consumer expectations. First, consumers expect consistent 9-1-1 service across municipal, county, and state jurisdictions. In contrast, the legacy 9-1-1 model yields an erratic patchwork where crossing a county line may mean the difference between Phase II location capability and no 9-1-1 service at all. Consumers that pay the same amount in different parts of a state reasonably expect comparable 9-1-1 service across jurisdictions or at least receive a fair share of 9-1-1 service where their costs of service are higher. Second, consumers expect consistent 9-1-1 service across different communications technologies. “Consumers are generally unaware of the

119. NORTH DAKOTA STATE AUDITOR, PERFORMANCE AUDIT REPORT: 911 FEES — COLLECTION AND USE 12-13 (2005) [hereinafter ND AUDITOR REPORT], available at http://www.nd.gov/auditor/reports/3023-2_05.pdf.

current limitations of 9-1-1 and expect to have the same service no matter what type of telephone service they use, whether it is wireline, wireless, or [VoIP].”¹²⁰ And third, as noted by Ohio’s Bill Hinkle, many consumers assume that virtually any technology that they utilize will allow them to contact 9-1-1.¹²¹ As noted at the outset of the Article, a high profile example of this is that students attempted to text message 9-1-1 following the Virginia Tech shooting tragedy in spring 2007. Largely due to 9-1-1’s success in telephony, there are expectations that emergency services should be able to handle a wide range of communications technologies, including SMS text messaging, sending pictures via cell phones, and the ability to call from behind private branch exchanges. Of course, as explained in Part II, today’s 9-1-1 systems typically do not meet these expectations.

In short, policymakers must make a choice: either disabuse consumers concerning emergency capabilities, which we do not advise, or commit to provide the services that consumers have come to expect from 9-1-1, which we believe to be the better policy course. All too frequently public safety 9-1-1 capabilities are impoverished compared to the commercial communication networks that increasingly inform consumer expectations concerning communications capabilities. Compared to modern commercial networks, the *status quo* for 9-1-1 systems that use analog emergency networks capable of carrying and receiving only voice traffic is unacceptable.¹²² As detailed above in Part III, the path to an NG9-1-1 system is to view the 9-1-1 system as a common enterprise, i.e., a network of networks, rather than local silos making autonomous decisions. To be sure, there will continue to be an important role for local decision-makers in 9-1-1 services. It is imperative, however, that policymakers recognize that new system designs must be designed *and funded* at higher than local levels in order to realize economies of scale, technical expertise, and purchasing power concerning such networks.

2. Responsible Policymakers Must Have a Viable Funding Strategy for Achieving Next Generation 9-1-1

In the near term, a policymaker’s most urgent challenge is to

120. NGA ISSUE BRIEF, *supra* note 82, at 1 .

121. Telephone Interview with Bill Hinkle, Dir. of Commc’ns, Hamilton County Dep’t of Commc’ns, in Cincinnati, Ohio (Aug. 8, 2007).

122. One individual actively involved in state-level 9-1-1 affairs identified a common attitude toward PSAP equipment as “install it and ignore it.” Moreover, the same official noted that networks and equipment are frequently bundled and the 9-1-1 systems provider will use its ownership position to prevent deployment of a rival network. Additionally, equipment may be subject to multi-year lease arrangements preventing upgrades, and legacy systems have not been upgraded for up to 20 years.

evaluate whether existing funding strategies within his/her respective jurisdiction are sufficient to enable build-out and operation of next generation 9-1-1 services. Indeed, as NENA President Jason Barbour has noted, "Perhaps the most important policy issue today and into the next generation is funding."¹²³

To be sure, this is easier said than done. From a national perspective, the diversity of funding models across jurisdictions means that the sufficiency of funds to support 9-1-1 can only be determined on a jurisdiction-by-jurisdiction basis. Notably, starkly different resources are available in different states and, frequently, between localities within a state. This fragmented approach has made some pessimistic about current models. "[R]elying on the current patchwork 9-1-1 funding model is not sufficient to maintain the current 9-1-1 system, let alone provide for the essential evolution to NG9-1-1."¹²⁴ Moreover, there appear to be wildly divergent visions of what functionalities will constitute next generation 9-1-1, ranging from simple e-mail access to a fully IP-based system. Finally, from the perspective of individuals responsible for a jurisdiction's 9-1-1 services, the emergence of new technologies help "make providing the most efficient E-911 services a constantly moving fiscal target."¹²⁵

For many jurisdictions, often overlooked in considering whether 9-1-1 funding is sufficient is a critical predicate: sufficient for what? Prescient states and localities are taking up the task of answering this question. For example, Indiana's Wireless Advisory Board has led the way in planning and achieving a next generation system which permits packet delivery of wireless calls.¹²⁶ Missouri, which has traditionally lagged in many aspects of 9-1-1 service and reportedly has 21 counties still without even basic 9-1-1 recently commissioned an IP-based system study that carefully examines current 9-1-1 infrastructure in Missouri as well as provides recommendations for a statewide IP-Enabled Network.¹²⁷ Developing an analysis of current capabilities, future needs, and strategies to bridge the two is a critical first step for jurisdictions to complete.

In conjunction with future needs and strategy, our second recommendation focuses on the need for a method to evaluate whether

123. NENA NG9-1-1 FUNDING REPORT, *supra* note 86, at 2.

124. *Id.* at 4.

125. TACIR E-911 STUDY, *supra* note 97, at 72.

126. Telephone Interview with Ken Loudon, Executive Dir., Ind. Enhanced Wireless 911 Bd., in Indianapolis, Ind. (Aug. 2, 2007).

127. See L. ROBERT KIMBALL & ASSOCIATES, RECOMMENDATIONS FOR A MISSOURI STATEWIDE IP-ENABLED NETWORK SUBMITTED TO THE STATE OF MISSOURI (2006) [hereinafter L. ROBERT KIMBALL & ASSOC. MISSOURI RECOMMENDATIONS], available at <http://www.911.oa.mo.gov/pdffiles/Report2.pdf>.

9-1-1 funding is sufficient. In this respect, we suggest that policymakers evaluate a series of issues. First, they should consider whether the current funding level is sufficient to achieve and support NG9-1-1 systems—with respect to both recurring and non-recurring costs. Second, they should evaluate whether existing funding mechanisms support 9-1-1 services in a manner that fairly matches the expectations, demands, and communications usage patterns of consumers and citizens. Third, they should assess whether existing funding and cost-recovery policies promote vendor and service-provider competition in 9-1-1 services in both pricing and innovation without compromising safety and while minimizing unnecessary market distortions.

In order to transition effectively to an NG9-1-1 system, policymakers cannot be naïve about funding requirements. To be clear, the NG9-1-1 system must be understood as a value proposition, not a cost savings measure. While there may be efficiencies and cost savings involved in an NG9-1-1 system, it is possible—indeed, in the near term, highly likely—that funding requirements for NG9-1-1 system will be greater than current 9-1-1 system costs. Specifically, at least four different types of costs will be required in connection with the move to an NG9-1-1 system: (1) capital expenditures involved in building out a new system; (2) transitional costs, i.e., expenses involved in using the old 9-1-1 system while the new system is phased in; (3) costs of network security and encryption requirements associated with a competitive, IP-based system; and (4) on-going recurring costs of an NG9-1-1 system, which will likely need to account for shorter lifespan of products than traditional network pieces.

The challenge of analyzing the adequacy of available funding strategies involves three steps. First, states need to develop a baseline of existing funding amounts based on the currently used mechanisms in order to “benchmark the existing structure.”¹²⁸ Notably, this step must consider the various funding sources detailed in Section B above, including surcharges, amounts from state and local general funds, grant programs, and other relevant sources. Second, states need to consider the relevant market trends so that they can evaluate the likely changes in current funding sources. Consider, for example, that consumer behavior such as adoption of VoIP telephony services and wireless substitution for wireline services all impact the viability of current funding sources.

And third, policymakers must identify a desired level of service of performance for a next generation system. For example, Massachusetts’ Statewide Emergency Telecommunications Board established technical and operational requirements for PSAPs which in turn helped the state

128. NENA VOIP OID REPORT, *supra* note 89, at 12.

“establish a baseline to determine where resources are needed.”¹²⁹ As detailed in Part II, we believe that the basic architecture to deliver advanced functionalities should be an IP-based next generation system. Such a vision provides a divining factor in determining the costs which must be incurred by PSAPs and by service providers both on a recurring and non-recurring basis in order to reach the prescribed standard of service.

3. The Public Good Nature of 9-1-1 Today Suggests That 9-1-1 Funding Models Should Be Augmented by Financing That Facilitate Capital Expenditures

Consistent with the perspective that 9-1-1 is a “public good,” policymakers should view an NG9-1-1 system as a critical infrastructure which must be valued by the public and supported as such.¹³⁰ One challenge for funding a next generation network, which is generally not addressed by current funding strategies, is the ability to borrow or save funds for future capital upgrades. Stressing that point, another report recently opined, “funding mechanisms must be crafted that allow 9-1-1 administrators to amass a capital reserve for deployment of a new IP based 9-1-1 infrastructure.”¹³¹ Accordingly, state and federal grants, bonds, lines of credit, and other tools should be appropriately considered to support build-out of NG9-1-1 systems.¹³² State recognition of capital

129. NGA ISSUE BRIEF, *supra* note 82, at 6. Similarly, a recent Tennessee study echoed this theme: the “development of standards should provide a means to determine the costs and necessary revenue to provide a minimum level of service statewide.” TACIR E-911 STUDY, *supra* note 97, at 13.

130. Indeed, Executive Order documents have characterized emergency services as “critical infrastructure.” For example, Executive Order No. 13010, 61 Fed. Reg. 37,347 (July 15, 1996), includes emergency services as among the nation’s critical infrastructure. See JOHN MOTEFF & PAUL PARFOMAK, CONG. RESEARCH SERV., CRITICAL INFRASTRUCTURE AND KEY ASSETS: DEFINITION AND IDENTIFICATION (2004), *available at* <http://www.fas.org/sgp/crs/RL32631.pdf>.

131. NENA VOIP OID REPORT, *supra* note 89, at 18.

132. As discussed above, in addition to general sources, funding for our emergency response network relies heavily on surcharges on telephone bills. We do not see this changing in the near future and recognize that, if nothing else, properly managed surcharges provide a dedicated source of funds for 9-1-1. However, reliance on this model in the long term is problematic. As one report put, it the “current financing paradigm for the 9-1-1 system operations will likely prove inadequate in the future.” RESEARCH & INNOVATIVE TECH. ADMIN., U.S. DEPT OF TRANSP., NEXT GENERATION 9-1-1 SYSTEM: PRELIMINARY CONCEPT OF OPERATIONS 6 (2005), *available at* <http://www.its.dot.gov/ng911/pdf/ConOps.pdf>. For example, as two industry participants separately relayed to us, falling rates for telephone service (which some observers view as inevitable) may well lead states to adopt flat fees. To be sure, flat fees do provide greater predictability in the short term, but it is also quite possible that, over the long term, user behavior will continue to change and move toward applications with lower or non-existent 9-1-1 surcharges (say, instant messaging). Moreover, it is unfortunate that the funding source is,

expenditures necessary to support 9-1-1 is not without precedent. For example, New Jersey in 1991 launched a \$94 million lease-purchase agreement program entitled Certificate of Participation (“COP”). The COP program enabled build-out of the State’s original 9-1-1 infrastructure.¹³³ Six years later, in 1997, New Jersey again recognized the need for upgrades and approved a \$4.7 million line of credit.¹³⁴ In short, as evidenced in New Jersey, the model we recommend is one where the state self-consciously suggests strategies for prudent fiscal management that includes a concept of capital expenditures.

Even though local entities should continue to retain control over their 9-1-1 operations, collection of 9-1-1 monies must increasingly occur at the state level in order to facilitate the funding of capital expenditures and the coordination of system build-outs. As emphasized in Part III, achieving an enterprise approach to next generation 9-1-1 systems will require the ability to collect funds at higher level in order to make coordinated network design decisions, capture economies of scale, and realize purchasing power. Moreover, our research found that at least three further reasons militate in favor of this approach. In particular, higher level collection promotes: (1) administrative efficiency by reducing costs related to jurisdictional patchworks for service providers; (2) equitable standards of 9-1-1 services across jurisdictions; and (3) heightened accountability with respect to service provider contributions as well as usage of 9-1-1-related funds. In an environment where an empowered state agency can collect the funds, support localities who are using them, and oversee those localities who do not play by the rules, the level of confidence and effectiveness of the entire system will rise considerably. Of course, the prevention of raiding is also critical to such a system’s efficacy.

in effect, a tax on communications. In general, society should restrict industry specific taxes to behavior it wishes to discourage—say, smoking—and otherwise rely on general revenues (raised from non-distortionary taxes). Consequently, where possible, policymakers should investigate alternatives to a reliance on general taxes.

133. PROFILE OF THE NEW JERSEY E9-1-1 SYSTEM, *supra* note 71.

A COP is a lease-purchase agreement that provides for the acquisition of equipment, services, and real property to be used by various departments and agencies of the state. A COP represents a proportionate interest of the owner thereof in the lease payments to be made by the state under the terms of the lease-purchase agreement.

Id. at n.6.

134. *Id.* at 3. A line of credit makes an amount of money available to a borrower for a specified duration of time.

4. Greater Oversight Should Be Used to Monitor Fund Collection, Deter 9-1-1 Funding Raids, and Ensure That 9-1-1 Purchases Reflect Sound Judgment

In many cases, the system of 9-1-1 funding has operated on “autopilot” with too little planning and oversight of the relevant players. Raiding continues to be a significant problem for 9-1-1 funding. And either to avoid the blatant fund sweeps or the possible threat of cutting funding levels, some jurisdictions continue to use 9-1-1 funds for other purposes. There is, of course, an irony here: the threat of state raiding 9-1-1 funds encourages unproductive behavior on the local level. And, to top it off, there are incidents where carriers—perhaps believing that the system has sufficient funding, perhaps just on account of sloppy accounting, or even reflecting efforts to cheat the fund—fail to collect and remit the requisite amount.

We found that misallocation and misuse of 9-1-1 funds present important funding challenges for most jurisdictions. Aside from these problems, the majority of individuals interviewed as well as the majority of publicly available state reports suggest that current funding models appear generally sufficient to sustain the *status quo* of their 9-1-1 systems. To be sure, this is very much a case-by-case determination specific to individual jurisdictions and we found several areas in which funding is regularly insufficient to maintain existing levels of 9-1-1 service. In particular, areas which rely heavily on wireline surcharges are experiencing difficulty as wireless and VoIP substitution results in lower wireline revenues. Additionally, rural areas with smaller fee bases commonly struggle and, in the absence of grant programs or outside assistance, rural localities often lag in E9-1-1 service. Finally, high call volume in areas where mobile traffic is frequent—such as along interstates and in tourist destinations populated by out-of-state residents—often burdens a jurisdiction’s 9-1-1 services. This reflects that mobile telephony is problematic for existing surcharge models: mobility partitions the location from which a call is made from the address where a surcharge is collected. This is important for high-mobile call volume jurisdictions because traditional surcharge models do not provide for contributions from 9-1-1 callers who live outside their jurisdiction.

Significantly, we find that more must be done to insert safeguards into the 9-1-1 funding system to improved vigilance against (1) under collection of funds and (2) misuse of funds. We address each issue in turn.

Not surprisingly, administration of surcharge payments into the 9-1-1 system is more complicated today than during the monopoly era when fewer players and technologies were involved. Today, given the

proliferation of telecommunications services and an expanding range of players, tracking collection of 9-1-1 surcharge payments presents a growing challenge. Of course, the fragmented nature of local collection compounds the difficulty of ascertaining the relevant funding levels. For example, in our interviews one state official reported that his state formed a committee which approved a CPA firm to collect information on wireline revenues collected by counties, but only half of the state's counties responded. Overall, jurisdictions must address the challenge of tracking funds in order to ensure a level competitive playing field for providers as well as ensuring that the 9-1-1 system receives the funding which policymakers intended.

A 2007 audit in Oregon underscores the lack of controls currently in place. In that case, the auditors found that revenue officials simply did not have a proper process to verify whether telephone providers paid 9-1-1 amounts due. In particular, the audit estimated that as a consequence Oregon may have failed and continues to fail to collect as much as \$4 million per year in amounts due from telephone carriers.¹³⁵ Notably, the audit indicated that the problem is not limited to Oregon: "The issue of 9-1-1 revenue reporting and remittance is receiving increased attention nationwide. For example, officials from . . . [several states] expressed concern regarding the accuracy and completeness of the 9-1-1 revenue collected in their states."¹³⁶

As the Oregon report suggests, other states have similar problems. In North Dakota, for example, the state has had difficulty monitoring telecommunications providers who withheld excess administrative costs and, as a result, underpaid 9-1-1 fees at the remittance stage.¹³⁷ Moreover, a New Hampshire performance audit determined that the State's Bureau of Emergency Communications ("BEC"), which performs a critical role in the State's 9-1-1 system, is deficient in "collection and tracking of surcharge payments."¹³⁸ In particular, the New Hampshire audit identified three recommendations. First, the State should require that companies use a standardized reporting document to be submitted with monthly surcharge payments. This would allow the State to better identify companies using an improper methodology in calculating surcharge amounts. Second, the State should consistently track payments from companies because, under the BEC's approach, it could

135. *Oregon 9-1-1 Phone Tax Payments Fall Short*, ARGUS OBSERVER, Sept. 27, 2007, available at <http://www.argusobserver.com/articles/2007/09/27/news/07.txt>.

136. OR. SEC'Y OF STATE, OREGON DEPARTMENT OF REVENUE: 9-1-1 TAX REVIEW 4 (2007), available at <http://www.sos.state.or.us/audits/reports/full/2007/2007-23.pdf>. The audit specifically cited similar concerns from officials in Delaware, New York, Minnesota, and Arizona. *Id.* at 4-5.

137. ND AUDITOR REPORT, *supra* note 119, at 18.

138. N.H. PERFORMANCE AUDIT REPORT, *supra* note 43.

“not be certain for which months companies have or have not submitted surcharge payments.”¹³⁹ Third, where companies fail to make proper surcharge contributions, there must be enforcement capabilities. For example, two companies went a year without making payments and, without an enforcement mechanism such as late fees or penalties, this can be seen as a rational strategy because “there is little incentive for companies to submit timely payments.”¹⁴⁰

In addition to ensuring that proper contributions are made in connection with the collection and remittance stages, it is important to guard against misuse of funds at the usage stage. Notably, we found a number of strategies available to policymakers to guard against misuse of funds problems. One strategy involves development of a unified system of reporting and accounting for review of local expenditures. For example, Tennessee has adopted a uniform financial accounting system developed by the Comptroller of the Treasury that local Emergency Communications Districts use in connection with annual reports.¹⁴¹ The accounting system’s review is backed by meaningful consequences: if local districts are found in violation of state law or not acting in good faith, wireless distributions may be withheld.¹⁴²

A second strategy involves providing greater guidance concerning usage of funds. At least in writing, most jurisdictions have criteria setting forth how 9-1-1 funds may be used.¹⁴³ Such guidelines have varying levels of specificity, ranging from the vague to highly prescriptive. Guidelines also vary concerning the scope of what may be used with 9-1-1 funds and some guidelines are clearly wanting. In North Dakota, for example, a state audit found “a lack of adequate guidance provided to political subdivisions on what 911 fees are to be used for or what they should not be used for. Improvements are needed to ensure that the use of 911 fees comply with legislative intent.”¹⁴⁴ In contrast, Montana today sets forth *Basic and Enhanced 9-1-1 Funding Guidelines* that determine budget items eligible for funding.¹⁴⁵

Written guidelines such as Montana’s are valuable insofar as they provide clear guidance and transparency concerning how 9-1-1 funds are

139. *Id.* at 29.

140. *Id.* at 30.

141. TACIRE-911 STUDY, *supra* note 97, at 25.

142. *Id.*

143. GAO STATES’ COLLECTION REPORT, *supra* note 54, at 16 (noting that 35 jurisdictions out of 44 responding claimed to have written policies governing use of 9-1-1 funds).

144. ND AUDITOR REPORT, *supra* note 119, at 11.

145. STATE OF MONTANA, BASIC AND ENHANCED 9-1-1 FUNDING GUIDELINES (2006), *available* at http://itsd.mt.gov/techmt/publicsafety/911_Funding_Guideines_Oct_06.doc.

allocated and used. In Montana's case, they specify a series of categories that are eligible for support through E9-1-1 funds.¹⁴⁶ First, they support PSAP Operation, such the telephone system for the PSAP capable of handling required 9-1-1 trunks and non-emergency lines, the installation and recurring costs for 9-1-1 trunks and non-emergency lines, radio frequency coordination, software and hardware for computer aided dispatch ("CAD"), computer hardware and software used by call takers and/or radio dispatchers, and PSAP's share of records management system ("RMS") software. Second, they call for support for E9-1-1 related budget items for development, installation, and operation of the E9-1-1 system, such as, among other things, telephone equipment which can handle and display E9-1-1 database information, costs to develop and maintain the Master Street Address Guide ("MSAG") and E9-1-1 database, project manager costs, and costs associated with providing wireless E9-1-1 services. Third, they authorize support for dispatch related budget items to enable dispatch, relay, or transfer of calls for emergency service. Finally, they allow the funds to be used for other justifiable costs, including training for PSAP telecommunicators, PSAP building requirements, public education, salaries, and addressing.

In addition to restrictions on permitted uses of funds, another notable type of guidance strategy includes offering assistance concerning what funds should be used for. "Many states and national organizations provide education and outreach to PSAPs to help them identify their equipment upgrade needs."¹⁴⁷ Several jurisdictions offer technical consulting to assist selection of what should be purchased with funds. For example, Washington offers technical assistance concerning equipment and system integration.¹⁴⁸ Virginia supports PSAPs project management, consulting, and training.¹⁴⁹ Overall, such technical assistance which helps train and provide expertise is important. In New Mexico, for example, an after-action report studied lessons learned in connection with achieving state-wide addressing for E9-1-1.¹⁵⁰ Despite a state grant providing for purchase of technology solutions, the report noted the disparity of local project manager skills and determined that geographic information systems "were not solutions. Instead, reliable

146. *Id.*

147. NGA ISSUE BRIEF, *supra* note 82, at 7.

148. *Id.*

149. *Id.*

150. DAVID HANNA, ASSISTANT DIR. LOCAL GOV'T DIV., N.M. DEP'T OF FIN. & ADMIN., STATEWIDE ADDRESSING FOR ENHANCED 9-1-1: LESSONS LEARNED IN NEW MEXICO 3-4 (2003), *available at* <http://spb.nmdfa.state.nm.us/cms/kunde/rts/spbnmdfastatenmus/docs/202744167-06-28-2006-12-36-14.pdf>.

people trained to use the technology were the solution.”¹⁵¹

5. 9-1-1 Surcharges Should Be Assessed in a Principled Manner That Promotes Competition

Irrespective of method of calculation, an additional finding of our research concerns how jurisdictions determine the amount of a surcharge. For example, it is fair to ask why a particular jurisdiction’s VoIP surcharge is \$.75 instead of, say, \$1.25 or just \$.25. Our research indicates that many surcharge amounts, especially relating to wireless and VoIP amounts, are the result of political compromise and wild guesswork. This certainly does not need to be the case. A jurisdiction could instead assess surcharges based on a variety of principles, including how much cost a user or service imposes upon the overall 9-1-1 system, on the basis of technology neutrality (i.e., ensure that wireline, wireless, and VoIP charges are the same), or perhaps on the basis of what is needed in the way of overall 9-1-1 funding.

Our research did not find that these or other principled approaches prevailed in anchoring many 9-1-1 surcharge determinations. Indeed, as one official reported, the relevant charges were often the results of political compromise or just “pulled out of thin air.” Unfortunately, where surcharge amounts reflect guesswork and political compromise, they needlessly distort competitive forces. Accordingly, in connection with the migration to an NG9-1-1 world, we recommend that surcharges be informed by a policy of equity and then parity. That is, to the extent that a particular service—say, wireless phones—imposes unique costs upon the 9-1-1 system, equity dictates that that particular service should pay for the respective cost it imposes on the system. Once a call reaches the part of the 9-1-1 system where unique costs are no longer imposed, however, parity dictates that different services should pay the same amount to fund such common costs. In this manner, we believe that a principled approach to 9-1-1 will reduce unnecessary market distortions and introduce greater fairness into the system.

CONCLUSION

Our current system of emergency communications has failed to keep pace with technology and does little more than its original aspiration—providing a single number to contact emergency services. This is an admittedly valuable service and our 9-1-1 system has most certainly saved lives and protected property using this system for almost forty years. It has not, however, evolved effectively as technological

151. *Id.*

change—particularly related to the transition from analog to digital, fixed to mobile, and narrowband (voice-optimized) to broadband (data-optimized) communications—has transformed our system of telecommunications.

The opportunity to upgrade our system of 9-1-1 communications is not merely a compelling opportunity. It is a national imperative. As we have emphasized, the public generally expects to be able to reach 9-1-1 using an array of modern technologies, from the ability to email pictures using mobile phones to VoIP technologies to text messaging. As a technical matter, it is not difficult to upgrade the 9-1-1 system in such a manner, making it not only more effective but also more efficient and reliable. The key question, therefore, is when policymakers will enact the necessary reforms in governance and funding to make that transition possible. Given the powerful case for this transition, and widespread awareness of the need to make it,¹⁵² there is little reason to delay.

152. As one survey of state administrators reports: "They understand that they must do this now or face the prospect of having a 9-1-1 system that is essentially broken, unable to handle calls from communications technologies that the public is already using, not to mention future technologies." L. ROBERT KIMBALL & ASSOC. MISSOURI RECOMMENDATIONS, *supra* note 127, at 2.

**FEDERALISM AND THE TELEPHONE: THE
CASE FOR PREEMPTIVE FEDERAL
DEREGULATION IN THE NEW WORLD OF
INTERMODAL COMPETITION**

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INTRODUCTION

The Commerce Clause was written into the Constitution in 1787 to address the universally recognized need to rescue “commerce among the several states” from “the embarrassing and destructive consequences, resulting from the legislation of so many different States, and to place it under the protection of a uniform law.”¹ Interstate commerce must be federally regulated, and the most natural subjects for exclusive federal regulation are network industries—trucking, railroads, and airlines—whose operations and markets span multiple state borders. Congress has recognized as much in each such industry by consistently following an evolutionary regulatory path of preempting inefficient state-by-state regulation when the industry’s network became largely interstate in nature, and then deregulating the industry entirely when its network had matured to the point where the forces of competition could be relied upon to operate freely. Deregulation of these interstate network industries invariably lowered prices, improved service, and spurred innovation and competition.

Major segments of the modern telecommunications industry, such as wireless telephony, broadband services, and certain types of Internet telephony, have largely been freed from state-by-state regulation, but there are some notable exceptions where telecommunications regulation has not caught up with the contemporary state of technology and the national regulatory model inherent in the Commerce Clause. Traditional wireline telephone service is the most extreme example: it is the primary vestigial remnant of state regulatory authority over telecommunications. Continuing state-by-state regulation of local wireline, notwithstanding that wireless, long distance, broadband, and Internet-based phone service have not only been taken under preemptive federal regulation, but have been significantly deregulated as well, ignores—and obscures—the fact that all of the various telecommunications media are rapidly converging. The classifications that have underpinned disparate regulatory treatment for different technologies have become irrelevant.

The current model of dual federal-state regulation of local telephone service may have been appropriate in an era when wireline telephony was the only telecommunications technology, when phone companies were local monopoly franchises, and when the distinction between “intrastate” and “interstate” calls was factually meaningful. But that world no longer exists. There is little, if anything, about today’s

1. *Gibbons v. Ogden*, 22 U.S. (9 Wheat.) 1, 11 (1824) (argument of counsel Daniel Webster).

wireline telephone networks that is truly “local” and that could therefore justify the inertial perpetuation of state-by-state regulation. The computer servers, databases, routers, and switches that make up modern telephone networks can serve many millions of callers and can be efficiently located thousands of miles from the customers they serve—and from the multiple state commissions that regulate them. “Local” calls to one’s neighbors or one’s voicemail service are now routinely routed through and processed by such out-of-state facilities.

State public service commissioners are concerned only with the small portion of a vast centralized telephone network that lies within their state’s borders and serves their state’s consumers. The parochial perspective of local regulators is inherently at war with the national perspective necessary to regulate an interstate network. Such a balkanized regulatory regime is particularly hard to justify when Congress and the Federal Communications Commission (“FCC” or “the Commission”) have largely deregulated other competing sectors of the telecommunications industry. Local wireline should now be understood as part of one enormous, national, multimodal telecommunications system that includes not only local and long-distance wireline, but also wireless networks, cable networks, and the Internet. These different modes of telecommunications use many of the same facilities even though they are subjected to different regulatory regimes: a “wireless” call involves wireline transmission via backhaul on a landline from a cell tower to the call’s ultimate destination, be it a wireline phone or another cell phone; “long-distance” calls travel over much of the same physical network as “local” wireline calls; a Voice over Internet Protocol (“VoIP”) call may be transported over the Internet, and VoIP customers may reach the Internet through broadband services that are delivered over the very same copper wires or fiber-optic cables that furnish those same customers’ traditional local wireline telephone service. In this telecommunications menagerie, purebred “local” telephone calls are an endangered species. Hybrids are becoming the norm: local wireline subscribers call out-of-state cell phone subscribers; cell phone subscribers call VoIP subscribers; cable telephony subscribers call local wireline subscribers and get forwarded to a cell phone, which may be traveling with the subscriber thousands of miles from home.

When the Telecommunications Act of 1996 (“1996 Act”) opened up local wireline telephony to competition but perpetuated state-by-state regulatory supervision, neither cellular telephones nor cable telephony nor VoIP constituted genuine competition for traditional local telephone service. That is no longer the case. Preemptive federal deregulation has allowed wireless and broadband to attract the investment and innovation that have fueled explosive growth. Wireline now competes directly with

other modes of telecommunications. This profound shift in the competitive structure of the telecommunications industry warrants similar federal regulatory treatment for local wireline phone companies. Indeed, both wireless telephony and multichannel video services continue to suffer from vestigial state and municipal regulation that is unwarranted in the modern world of national intermodal competition across telecommunications services.

Although these themes may seem familiar enough when considered in isolation, which is the norm, here we will consider them together. Recent telecommunications scholarship is wanting because it treats these economic and legal developments as isolated and unrelated phenomena: for example, articles on issues of federalism in telecommunications regulation ignore the impact of intermodal competition,² while articles discussing the rise of intermodal competition proceed without consideration of the defining importance of federalism.³ Even those

2. See, e.g., Thomas W. Bonnett, *Is ISP-Bound Traffic Local or Interstate?*, 53 FED. COMM. L.J. 239 (2001); Reza Dibadj, *Competitive Debacle in Local Telephony: Is the 1996 Telecommunications Act to Blame?*, 81 WASH. U. L.Q. 1, 16 n.96 (2003) (dismissing intermodal competition); Kyle D. Dixon & Philip J. Weiser, *A Digital Age Communications Act Paradigm for Federal-State Relations*, 4 J. ON TELECOMM. & HIGH TECH. L. 321 (2006); Douglas C. Sicker, *The End of Federalism in Telecommunication Regulations?*, 3 NW. J. TECH. & INTELL. PROP. 130 (2005); Paul Teske, *Digital Age Communications Law Reform: With the States? Comments on the DACA Federal-State Framework*, 4 J. ON TELECOMM. & HIGH TECH. L. 365 (2006); Philip J. Weiser, *Federal Common Law, Cooperative Federalism, and the Enforcement of the Telecom Act*, 76 N.Y.U. L. REV. 1692 (2001); Philip J. Weiser, *Towards a Constitutional Architecture for Cooperative Federalism*, 79 N.C. L. REV. 663 (2001); Philip J. Weiser, *Cooperative Federalism and its Challenges*, 2003 MICH. ST. L. REV. 727 (2003); D. Stan O'Loughlin, Note, *Preemption or Bust: Fear and Loathing in the Battle Over Broadband*, 28 CARDOZO L. REV. 479 (2006); Michelle Reed, Note, *"Arising Under" Jurisdiction in the Federalism Renaissance: Verizon Maryland Inc. v. Public Service Commission of Maryland*, 2002 B.Y.U. L. REV. 717 (2002).

3. See, e.g., Ray G. Besing, *The Telecommunications Act of 1996: A Case of Regulatory Obsolescence*, 13 COMMLAW CONSPECTUS 1 (2005); Jim Chen, *The Echoes of Forgotten Footfalls: Telecommunications Mergers at the Dawn of the Digital Millennium*, 43 HOUS. L. REV. 1311 (2007); David Cohen & Edward D. Kania, *The Future of the Communications Industry: New Products, New Services, The Need for New Regulatory Paradigms*, 13 COMMLAW CONSPECTUS 1 (2005); George S. Ford & Lawrence J. Spiwak, *Set It and Forget It? Market Power and the Consequences of Premature Deregulation in Telecommunications Markets*, 1 N.Y.U. J. L. & BUS. 675 (2005); Rob Frieden, *Adjusting the Horizontal and Vertical in Telecommunications Regulation: A Comparison of the Traditional and a New Layered Approach*, 55 FED. COMM. L.J. 207 (2003); Kenneth Katkin, *Cable Open Access and Direct Access to INTELSAT*, 53 CASE W. RES. L. REV. 77 (2002); J. Steven Rich, *Brand X and the Wireline Broadband Report and Order: The Beginning of the End of the Distinction Between Title I and II Services*, 58 FED. COMM. L.J. 221 (2006); J. Gregory Sidak, *The Failure of Good Intentions: The WorldCom Fraud and the Collapse of American Telecommunications After Deregulation*, 20 YALE J. ON REG. 207 (2003); Daniel F. Spulber & Christopher S. Yoo, *Access to Networks: Economic and Constitutional Connections*, 88 CORNELL L. REV. 885 (2003); Philip J. Weiser, *Toward a Next Generation Regulatory Strategy*, 35 LOY. U. CHI. L.J. 41 (2003); Richard S. Whitt, *A Horizontal Leap Forward: Formulating a New Communications Public Policy Framework Based on the*

commentators who do discuss federalism's role in telecom regulation often offer oversimplified, ahistorical notions of federalism.⁴ "Federalism" cannot be facetly equated with blanket deference to state authority and autonomy. On the contrary, when it comes to the regulation of truly interstate commercial networks—be they networks of transportation (such as steamships and airlines), distribution (such as electricity and natural gas), or communication (such as wireline telephony and the Internet)—the central point of the Constitution, and in particular its Commerce Clause, was to lodge power in the national rather than the several state governments.

In the pages that follow, we present the case for immediate federal preemption of state regulation of local wireline telecommunications services, as well as the case for eliminating the unwarranted vestiges of state and municipal regulation of wireless telephony and multi-channel video services.

In Part I, we turn to the genesis of the Commerce Clause and demonstrate that its very purpose—indeed, the primary moving force behind adoption of the Constitution itself—was to permit the development of a single, national body of regulation to govern interstate

Network Layers Model, 56 FED. COMM. L.J. 587 (2004); Richard E. Wiley, *Current Regulatory Realities: Overcoming the Regulatory Quandary*, 2003 MICH. ST. L. REV. 589; Orian J. Lee, Note, *Broadband Gladiators: Fostering Competition Between DSL and Cable Internet Through Mutual Deregulation*, 3 GEO. J. L. & PUB. POL'Y 663 (2005); see also Howard A. Shelanski, *Adjusting Regulation to Competition: Toward a New Model for U.S. Telecommunications Policy*, 24 YALE J. ON REG. 55 (2007) (proposing an entirely new model for national communications policy without mentioning "federalism"); James B. Speta, *Deregulating Telecommunications in Internet Time*, 61 WASH. & LEE L. REV. 1063, 1110, 1129, nn.215, 306 (2004) (examining intermodal competition and the impact of current federal regulation on facilities-based competition, but relegating federalism as such to the rare footnote); Jared S. Dinkes, Note, *Rethinking the Revolution: Competitive Telephony in a Voice over Internet Protocol Era*, 66 OHIO ST. L.J. 833, 867-70 (2005) (identifying inefficiencies arising from state-by-state regulation, but without discussing principles of federalism or their roots in the Constitution).

4. See, e.g., Barbara A. Cherry & Steven S. Wildman, *Preventing Flawed Communication Policies by Addressing Constitutional Principles*, 2000 MICH. ST. L. REV. 55, 56 (2000) (characterizing the Commerce Clause's conferral of power on the national government as an outdated "governance structure[] . . . intended to serve political objectives," despite the Framers' explicit economic objectives in embracing centralized control of interstate commerce) (the article never mentions the term "federalism"); Dibandj, *supra* note 2, at 50-51 (equating "historical" federalism with deference to state regulatory authority, despite Framers' unambiguous grant of power over truly interstate commerce to the federal government); Dixon & Weiser, *supra* note 2, at 330 (characterizing the "preempti[on] [of] state and local regulation" as subversion of the "values of regulatory federalism," despite Constitution's clear choice of national regulation of interstate networks); Jim Rossi, *Political Bargaining and Judicial Intervention in Constitutional and Antitrust Federalism*, 83 WASH. U. L.Q. 521, 572-73 (2005) (characterizing "federalism" in telecom regulation as "[b]lanket deference to state and local politics"); Sicker, *supra* note 2, at 131 (equating "a traditional style of federalism" with the balkanized regulation of interstate telecom networks by fifty different state regulatory bodies).

commerce.

Part II explains that interstate network industries are the quintessential subjects of preemptive federal regulations because they are inherently national and state-by-state regulation of such networks is simply unworkable. What is more, in network industry after network industry, a consistent historical pattern of regulatory development has evolved, moving from initial local or state regulation, to preemptive federal regulation, to federal deregulation. This regulatory pattern has invariably mirrored the historical development of the networks themselves, as they have grown from largely local facilities serving an intrastate market to vast networks serving regional or national markets.

Part III applies these lessons drawn from other national network industries to telecommunications, in particular to the cases of wireline telephony, wireless telephony, and multi-channel video services. State-by-state regulation of local wireline telephone service is an anachronism. The consistent historical pattern of preemptive federal regulation, followed by deregulation, has been accelerated for recent telecommunications technologies such as cellular telephones and Internet telephony, to the great benefit of consumers, while wireline telephone service remains mired in the regulatory morass of state-by-state regulation. Such disparate treatment of different technologies no longer makes sense because all of these networks—wireline, wireless, cable, and the Internet—now compete with one another as delivery vehicles not just for voice communications, but also for data transmission and video entertainment. In such a world of intermodal competition, state and local regulation of pieces of the telecommunications networks—as if they were separate industries that could actually be considered in isolation—is at war with the unifying imperative of the Commerce Clause.

Part IV offers three illustrations of this phenomenon of regulatory lag. The first, traditional local wireline telephone service, is the most extreme and the most in need of prompt redress. The regulatory history of wireline telephony has long since passed the point in the evolutionary process where exclusive federal regulation, as a prelude to deregulation, is necessary. “Local” telephone service has in fact become increasingly interstate and, driven by the market’s appetite for efficiency, would become far more interstate in nature but for the anachronistic regulatory overlay that arbitrarily deems many calls traveling across state lines as intrastate and thus subject to state-by-state regulation.

The second example is cellular telephones, where Congress has preemptively deregulated pricing and market entry, but left regulation of consumer protection issues to the states. The problem here is that state regulators are not happy with having been displaced so they are using the guise of consumer-protection regulation to reassert power over the terms

and rates of mobile telephone service.

The final case study is another example of local regulatory revanchism—cable television. Congress has eliminated exclusive cable TV franchises and decreed that the market for multichannel video programming distribution must be open to competition, particularly competition from telephone companies providing video entertainment over their new fiber-optic networks. But slogging through the local franchising process in each of the nation's 34,000 municipal jurisdictions is intolerably inefficient. Worse, many local franchising authorities are dragging their feet and in the most egregious cases trying to leverage their franchising power over telephone companies' video services in an attempt to reacquire something approaching the sweeping regulatory authority over local telephone service that they lost in 1996. Although the FCC announced in December 2006 that it would issue an order preempting oppressive and unreasonable local-franchising requirements, the matter will remain contentious because the Commission was narrowly divided and its order is likely to be challenged in court and perhaps in Congress. The various rationales offered for state and local regulators' resistance to preemptive national regulation of national electronic networks are unpersuasive and serve the interests of neither consumers nor the service providers as a whole.

As an FCC Commissioner recently observed, “[t]he United States is ranked number twenty-one in the International Telecommunications Union’s Digital Opportunity Index. It is difficult to take much comfort from being twenty-first in the Twenty-first century.”⁵ Dramatic changes in network technology and intermodal competition have made state-by-state regulation an inefficiency that our national economy can no longer afford to indulge.

I. THE COMMERCE CLAUSE AND THE STATES’ CESSION OF CONTROL OVER INTERSTATE COMMERCE

One does not lightly displace the regulatory powers of sovereign states. The “Constitution, in all its provisions, looks to an indestructible Union, composed of indestructible States.”⁶ The “preservation of the States, and the maintenance of their governments, are as much within

5. Implementation of Section 621(a)(1) of the Cable Commc’ns Policy Act of 1984 as Amended by the Cable Television Consumer Prot. & Competition Act of 1992, *Report & Order & Further Notice of Proposed Rulemaking*, 22 FCC Rcd. 5101, 5192 (2006) [hereinafter *Video Franchising Order*], available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-180A3.pdf (dissenting statement of Michael J. Copps, Comm’r, FCC).

6. *Texas v. White*, 74 U.S. (7 Wall.) 700, 725 (1869), *quoted in* *New York v. United States*, 505 U.S. 144, 162 (1992).

the design and care of the Constitution as the preservation of the Union and the maintenance of the National government.”⁷ Even James Wilson, one of the most influential of the Constitution’s Framers and among the most nationalist in his thinking, insisted that the federal government, “instead of placing the state governments in jeopardy, is founded on their existence. On this principle, its organization depends; it must stand or fall, as the state governments are secured or ruined.”⁸

And yet the states’ act of unification more than two centuries ago—the *very fact of the Union*—necessarily focuses our attention not on some abstract inquiry as to what regulatory powers the states may have theoretically enjoyed when they were independent sovereigns, but rather on which particular powers they retain in the specific federal system that they negotiated and recorded in the Constitution. The Tenth Amendment “expressly declares the constitutional policy that Congress may not exercise power in a fashion that impairs the States’ integrity or their ability to function effectively in a federal system.”⁹ The particular “federal system” into which the states chose to unite themselves divides sovereign power vertically between the federal government and the state governments. The central question at the time of the Constitution’s drafting and adoption was how that power should be divided, and the particular historical genesis of our federal system was the problem of “commerce among the several states.” When the colonies’ victory over Great Britain “relieved the Colonies from the pressure for solidarity that war had exerted, a drift toward anarchy and commercial warfare between states began,” with each state “legislat[ing] according to its estimate of its own interests, the importance of its own products, and the local advantages or disadvantages of its position in a political or commercial view.’ This came ‘to threaten at once the peace and safety of the Union.”¹⁰ Under the Articles of Confederation, the national government was powerless to suppress such internecine economic strife; “the Framers intended the Commerce Clause as a cure for these structural ills.”¹¹

The Constitutional Convention was held in 1787 precisely because the states had shown themselves to be, by their very nature as separate and competing sovereigns, incompetent to regulate interstate and foreign

7. *Id.*

8. James Wilson, Summation and Final Rebuttal, *reprinted in* 1 THE DEBATE ON THE CONSTITUTION 841 (Bernard Bailyn ed., 1993) (speech to the Pennsylvania Ratifying Convention, December 11, 1787).

9. *Fry v. United States*, 421 U.S. 542, 547 n.7 (1975).

10. *H.P. Hood & Sons, Inc. v. Du Mond*, 336 U.S. 525, 533 (1949) (quoting JOSEPH STORY, 1 COMMENTARIES ON THE CONSTITUTION OF THE UNITED STATES §§ 259, 260 (1833)).

11. *Quill Corp. v. North Dakota*, 504 U.S. 298, 312 (1992) (citing THE FEDERALIST Nos. 7, 11 (Alexander Hamilton)).

commerce. Widespread dissatisfaction with the regulation of commerce was not merely *one* cause of the Constitutional Convention—it was *the cause*. The impetus to the gathering of the states, first in Annapolis and then in Philadelphia, was the universally recognized need:

[T]o regulate commerce; to rescue it from the embarrassing and destructive consequences, resulting from the legislation of so many different States, and to place it under the protection of a uniform law. . . [T]he great topic, urged on all occasions, as showing the necessity of a new and different government, was the state of trade and commerce.¹²

The “sole purpose” for which the State of Virginia named commissioners and proposed the meeting among the states which ultimately produced the Constitution was its resolution “to take into consideration the trade of the United States; to examine the relative situations and trade of the said States; to consider how far a uniform system in their commercial regulations may be necessary to their common interest and their permanent harmony.”¹³

As Daniel Webster explained in his argument to the Supreme Court in the seminal case of *Gibbons v. Ogden*, the:

[R]esolutions of Virginia, in January, 1786, which were the immediate cause of the convention, put forth this same great object. *Indeed, it is the only object stated in those resolutions. There is not another idea in the whole document.* The entire purpose for which the delegates assembled at Annapolis, was to devise means for the uniform regulation of trade.¹⁴

However much the Revolution may have been driven by political theory, the replacement of the Articles of Confederation with the Constitution was driven by economic imperatives.

12. *Gibbons*, 22 U.S. at 11 (argument of counsel Daniel Webster).

13. *H.P. Hood & Sons*, 336 U.S. at 533 (quoting Documents Illustrative of the Formation of the Union, H.R. DOC. NO. 69-398, at 38 (1st Sess. 1927)); *see also* Motion of Virginia General Assembly, Jan. 21, 1786, *reprinted in*, 1 THE FOUNDERS' CONSTITUTION 185 (Philip B. Kurland & Ralph Lerner eds., 1987) (“Resolved . . . to examine the relative situations and trade of the said States; to consider how far a uniform system in their commercial regulations may be necessary to their common interest and their permanent harmony”); Report of the Annapolis Convention, Sept. 14, 1786, *reprinted in* 1 THE FOUNDERS' CONSTITUTION 186 (“[T]he States of New York, Pennsylvania, and Virginia had, in substance, and nearly in the same terms, authorized their respective Commissioners . . . to take into consideration the trade and Commerce of the United States, to consider how far an uniform system in their commercial intercourse and regulations might be necessary to their common interest and permanent harmony.”).

14. *Gibbons*, 22 U.S. at 12 (argument of counsel Daniel Webster) (emphasis added).

Over whatever other interests of the country this government may diffuse its benefits, and its blessings, it will always be true, as matter of historical fact, that it had its immediate origin in the necessities of commerce; and, for its immediate object, the relief of those necessities, by removing their causes, and by establishing a uniform and steady system.¹⁵

In response, the Framers drafted the Commerce Clause: “The Congress shall have Power . . . To regulate Commerce . . . among the several states.”¹⁶ The absolute necessity of uniform federal regulation for interstate commerce was the strongest argument in favor of ratification of the proposed Constitution.¹⁷ As Alexander Hamilton declared in Federalist No. 22, “there is no object . . . that more strongly demands a Federal superintendence” than the “want of a power to regulate commerce.”¹⁸ State-by-state regulation of interstate commerce, James Madison warned, “not only proved abortive, but engendered rival,

15. *Id.*; see also *id.* at 224 (Johnson, J., concurring) (the Convention was called because the several States, “finding themselves in the unlimited possession of those powers over their own commerce, which they had so long been deprived of, and so earnestly coveted, that selfish principle which, well controlled, is so salutary, and which, unrestricted, is so unjust and tyrannical, guided by inexperience and jealousy, began to show itself in iniquitous laws and impolitic measures, from which grew up a conflict of commercial regulations, destructive to the harmony of the States”).

16. U.S. CONST. art. I, § 8, cl. 3.

17. The Framers recognized that the broad commerce power delegated to the national government created a risk that the “national government would use its power over commerce to the disadvantage of particular States.” *United States v. Ptasynski*, 462 U.S. 74, 81 (1983). When the constitutional convention’s Committee of Detail released its formulation of the Commerce Clause in the August 6, 1787 draft, delegate John Dickinson noted in the margin, next to the Commerce Clause, “no Preference or Advantage to be given to any persons or place – Laws to be equal.” THE RECORDS OF THE FEDERAL CONVENTION OF 1787 209 (Max Farrand ed., rev. ed. Supp. 1937) [hereinafter RECORDS OF THE FEDERAL CONVENTION]; see also 2 RECORDS OF THE FEDERAL CONVENTION, *supra*, at 211 (James McHenry); *id.* at 637 n.21, 639-40 (George Mason); 3 RECORDS OF THE FEDERAL CONVENTION, *supra*, at 333 (Alexander Hamilton); CHARLES WARREN, THE MAKING OF THE CONSTITUTION 575-76, 588 (1928). These widespread concerns led to the adoption of two constitutional provisions which barred the national government from discriminating against any particular State. The first was the Port Preference Clause, Art. I, § 9, cl. 6, which provides that “[n]o Preference shall be given . . . to the Ports of one State over those of another.” The second was the Uniformity Clause, Art. I, § 8, cl.1, which mandates that “Duties, Imposts and Excises shall be Uniform throughout the United States.” These limitations “were intended to allay . . . the fear that Congress might discriminate against certain of the States.” Warren, *supra*, at 588. “The clear and obvious intention of the articles mentioned was, that Congress might have no power of imposing unequal burdens; that it might not be in their power to gratify one part of the Union by oppressing another.” 3 RECORDS OF THE FEDERAL CONVENTION, *supra*, at 365-66 (Hugh Williamson); see also 2 RECORDS OF THE FEDERAL CONVENTION, *supra*, at 417-18 (James Madison); *id.* at 420 (James McHenry).

18. THE FEDERALIST No. 22, at 135-6 (Alexander Hamilton); see also THE FEDERALIST No. 42, at 283 (James Madison) (“The defect of power in the existing confederacy, to regulate the commerce between its several members, is in the number of those which have been clearly pointed out by experience.”).

conflicting and angry regulations.”¹⁹

Inherently interstate industries were fractured because each state regulated with an eye only to its own citizens and its own parochial interests, oblivious to the interests of and regulations imposed by other states. The practical impact of the Commerce Clause on the economic welfare of the new nation was illustrated by *Gibbons v. Ogden*. The immense commercial possibilities spawned by Robert Fulton’s steamboats were being strangled by conflicting state-by-state regulation from New York, New Jersey, and other states. The Supreme Court’s decision holding that the Commerce Clause made regulation of steamship traffic a federal prerogative was literally greeted with cheers from a grateful public. The first competing steamboats to arrive at the Fulton Street landing in lower Manhattan in the wake of the *Gibbons* decision were met by brass bands and cheering crowds firing cannon salutes. Fares were cut in half and, within a year, the number of steamboats operating out of New York City increased 700 percent.

In short, the regulation of interstate commerce was at once the principal concern that animated creation of the federal Union and the power that the states most unequivocally surrendered. “No other federal power was so universally assumed to be necessary, no other state power was so readily relinquished.”²⁰

II. THE HISTORY OF PREEMPTIVE FEDERAL DEREGULATION OF INTERSTATE-NETWORK INDUSTRIES

As the Supreme Court has observed through the years, some forms of commerce are “inherently interstate.”²¹ This is particularly true with respect to those forms of commerce that depend upon national “networks,” where services or commodities are “constantly moving in interstate commerce.”²² If the interstate network penetrates within the

19. 3 RECORDS OF THE FEDERAL CONVENTION, *supra* note 17, at 547, *quoted in H.P. Hood & Sons*, 336 U.S. at 534.

20. *H.P. Hood & Sons*, 336 U.S. at 534.

21. *New York v. F.E.R.C.*, 535 U.S. 1, 31-32 (2002) (Thomas, J., concurring in part and dissenting in part); *see also id.* at 7 (opinion of the Court); *id.* at 16 (opinion of the Court); *Currin v. Wallace*, 306 U.S. 1, 9 (1939) (tobacco auctioned for foreign and out-of-state delivery is an “inherently interstate commodity”).

22. *F.E.R.C.*, 535 U.S. at 7; *see also id.* at 31-32 (Thomas, J., concurring in part and dissenting in part) (electricity transmission is “inherently interstate” because “[i]t takes place over a network or grid, which consists of a configuration of interconnected transmission lines that cross state lines”); *ACLU v. Johnson*, 194 F.3d 1149, 1160 (10th Cir. 1999) (“[T]he Supreme Court has long recognized that certain types of commerce are uniquely suited to national, as opposed to state, regulation.”) (discussing railroads and citing *Wabash, St. Louis & Pac. Ry. Co. v. Illinois*, 118 U.S. 557 (1886)); *id.* at 1162 (“As we observed, . . . certain types of commerce have been recognized as requiring national regulation. . . . The Internet is surely such a medium.”); *Am. Libraries Ass’n v. Pataki*, 969 F. Supp. 160, 169 (S.D.N.Y.

interior of a state, federal regulatory jurisdiction follows. “Commerce among the States, cannot stop at the external boundary line of each State, but may be introduced into the interior.”²³ And the federal power to regulate such commerce, likewise:

[W]as to be a[] unit; and the system by which it was to exist and be governed, must necessarily be complete, entire, and uniform. Its character was to be described in the flag which waved over it, E PLURIBUS UNUM. Now, how could individual States assert a right of concurrent legislation, in a case of this sort, without manifest encroachment and confusion?²⁴

Nowhere has the wisdom of the Framers been more evident than in industries whose interconnected networks cut across state boundaries, such as the electric power, railroad, trucking, airline, and gas pipeline industries.²⁵ Historically, network industries have followed a consistent pattern of regulatory development, culminating in exclusive federal regulation, followed by deregulation once the forces of competition are sufficient to supplant government intervention in the marketplace. Networks are typically built one route at a time. The early regulatory issues are therefore primarily local, e.g., where to locate tracks, build roads, site airports, erect poles, and lay pipelines. Over time, as the local networks grow and connect to other local networks, they increasingly come to be used for interstate commerce. The need for unified federal regulatory authority—rather than diverse state regulation—grows with them. Absent federal preemption, jurisdictional boundaries will inevitably impose limits and burdens on the expansion and enrichment of services that naturally grow across geographic boundaries. As Justice Felix Frankfurter once wrote, “[t]he imposition upon national systems of transportation of a crazy-quilt of State laws would operate to burden commerce unreasonably.”²⁶ In general, the exercise of federal regulatory jurisdiction over network industries has typically begun with the imposition of a preemptive, uniform regulatory scheme, and ended with a uniform deregulatory mandate. This pattern has been repeated in industry after industry.

Electricity Transmission. Consider the case of commerce in the

1997) (“[S]tate regulation of those aspects of commerce that by their unique nature demand cohesive national treatment is offensive to the Commerce Clause.”).

23. *Gibbons*, 22 U.S. at 194.

24. *Id.* at 14 (argument of counsel Daniel Webster).

25. *See, e.g.*, *Kassel v. Consol. Freightways Corp.*, 450 U.S. 662, 671 (1981) (“[W]here, as here, the State’s . . . regulations impair significantly the federal interest in efficient and safe interstate transportation, the state law cannot be harmonized with the Commerce Clause.”).

26. *Morgan v. Virginia*, 328 U.S. 373, 388 (1946) (Frankfurter, J., concurring).

transmission of electricity. When the Federal Power Act (“FPA”) was enacted in 1935, electricity was a local business. Utility companies were isolated systems usually limited to generating and providing power for single towns.²⁷ They were vertically integrated local companies that had constructed their own power plants, transmission lines, and local delivery systems. Interconnections among utilities were rare, and interstate connections were almost unheard of. They operated as separate, local monopolies subject to state or even local regulation.²⁸ The FPA drew a line between state and interstate power transmission and parceled out regulatory power accordingly. Although the statute reserved jurisdiction over interstate transmission of electricity to the federal government, there was virtually no commerce for it to regulate in 1935.

By the end of the century, things had changed dramatically. While interconnected networks and interstate transmissions were few and far between in 1935, today every high-voltage transmission line in the continental United States (outside Texas) is wired into one of two vast interstate grids. Thus, the electrical transmission system has become inherently interstate; the individual state regulatory territories initially defined by the FPA have been integrated into a unified federal territory.

In 1992 Congress enacted the Energy Policy Act, which expanded the authority of the Federal Energy Regulatory Commission (“FERC”), to allow independent power producers equal access to the utilities’ transmission grid.²⁹ Pursuant to that statute, in 1996 FERC issued Order No. 888, which mandated that, if a public utility “unbundles,” i.e., separates, the cost of transmission from the cost of electrical energy when billing its retail customers, the utility must also transmit competitors’ electricity over its lines on the same terms that the utility applies to its own energy transmissions.³⁰

State public utility commissions (“PUCs”) challenged FERC’s authority to issue the order, emphasizing that most electricity used in the United States is generated in the state where it is used.³¹ The PUCs argued that the federal commerce power could extend to electricity transmission only if FERC could show that essentially every electron used by a retail customer in each state was generated in a different state.³²

27. See J. DUNCAN GLOVER & MULUKUTLA S. SARMA, *POWER SYSTEM ANALYSIS AND DESIGN* 7 (2d ed. 1994); SYED A. NASAR, *ELECTRIC ENERGY SYSTEMS* 319 (1995); WILLIAM D. STEVENSON, *ELEMENTS OF POWER SYSTEM ANALYSIS* 2-3 (4th ed. 1982).

28. *F.E.R.C.*, 535 U.S. at 5.

29. See Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (1992) (codified as amended in scattered sections of 5, 15, 16, 26, 40, and 42 U.S.C.).

30. *F.E.R.C.*, 535 U.S. at 4-5 (upholding the FERC order).

31. Brief of Transmission Access Policy Study Group as Respondent at 5, *F.E.R.C.*, 535 U.S. 1 (No. 00-568).

32. *Id.* at 9 n.27.

A unanimous Supreme Court disagreed, holding that even if the power plant generating the electricity and the customer using it are located in the same state, the transmission of electricity is nevertheless interstate because the *network* that carries it is interstate. As the Court put it:

[U]nlike the local power networks of the past, electricity is now delivered over three major networks, or “grids,” in the continental United States. Two of these grids – the “Eastern Interconnect” and the “Western Interconnect” – are connected to each other. It is only in Hawaii and Alaska and on the “Texas Interconnect” – which covers most of that State – that electricity is distributed entirely within a single State. In the rest of the country, any electricity that enters the grid immediately becomes a part of a vast pool of energy that is constantly moving in interstate commerce.³³

Indeed, even Justice Thomas, perhaps the Court’s most ardent defender of the constitutional prerogatives of the States, recognized that “transmissions on the interconnected national grids constitute transmissions in interstate commerce . . . because of the nature of the national grid” itself.³⁴ Electricity transmission is “inherently interstate” because “[i]t takes place over a network or grid, which consists of a configuration of interconnected transmission lines that cross state lines.”³⁵ Thus, the very nature of the commerce and the network on which it occurred took it outside the state’s borders and thereby subjected it to federal regulatory authority.

Railroads. When first developed early in the nineteenth century, railroads were local lines built for particular uses and sometimes even for particular users, such as the spur lines built to lakes in New England to enable ice merchants to transport their frozen wares to harbors for shipment overseas.

The basic railroad facilities of the United States were constructed under state authorization and restrictions by corporations whose powers and limitations were prescribed by state legislatures, or resulted from limitations on the states themselves. Construction in reference primarily to local or regional transportation needs created duplicating and competing facilities in some areas and provided inadequate ones in others.³⁶

When local lines were eventually stitched together into a national network of growing importance, the railroad was still viewed as a natural

33. *F.E.R.C.*, 535 U.S. at 7.

34. *Id.* at 16-17.

35. *Id.* at 31-32 (Thomas, J., concurring in part and dissenting in part).

36. *Schwabacher v. United States*, 334 U.S. 182, 191 (1948).

monopoly in need of comprehensive regulation.³⁷

By the end of the nineteenth century, the public was growing increasingly dissatisfied with how the industry was being run.³⁸ In response, in 1887 Congress established the Interstate Commerce Commission (“ICC”)—the first federal regulatory commission—to regulate the services of common carriers engaged in interstate transportation.³⁹ The first job of the ICC was to manage competition and stabilize rates.⁴⁰ It was therefore given authority to set guidelines for how railroads could do business, to outlaw discriminatory rate-setting, to require railroads to submit annual reports, and to ban anticompetitive pools and cartels.⁴¹ In 1906 and 1910, Congress extended the ICC’s authority to permit it to set what it considered “just and reasonable rates.”⁴²

“But the stress and strain of World War I” demonstrated that “the railroads of the country did not function as a really national system of transportation. That crisis also made plain the confusions, inefficiencies, inadequacies and dangers to our national defense and economy flowing from the patchwork railroad pattern that local interests under local law had created.”⁴³ The demand for an integrated, efficient, and coordinated system of rail transport, equal to the needs of our national economy and defense, resulted in the Transportation Act of 1920.⁴⁴ A wave of mergers and consolidations in the public interest followed, leading to a national railway structure with regulated rates that endured for half a century.

This regulatory scheme was left in place for a long time—considerably too long, most observers now agree. By the 1970s, “nearly a third of U.S. railroads were in or close to bankruptcy,”⁴⁵ so Congress responded by enacting the Railroad Revitalization and Regulatory Reform Act of 1976⁴⁶ and the Staggers Rail Act of 1980.⁴⁷

37. See KIMBERLY VACHAL, *THE INTERSTATE COMMERCE COMMISSION: PAST AND PRESENT* 1 (1993), available at <http://www.ugpti.org/pubs/pdf/SP111.pdf>.

38. See Peter Ferrara, *Americans for Tax Reform: Policy Briefs, The Folly of Rail Regulation*, <http://www.atr.org/content/html/1999/090199pb.html> (last visited Mar. 20, 2008).

39. See Interstate Commerce Act, 24 Stat. 379 (1887).

40. See W. KIP VISCUSI ET AL., *ECONOMICS OF REGULATION AND ANTITRUST* 592 (4th ed. 2005).

41. See 24 Stat. 379; VACHAL, *supra* note 37, at 2.

42. Hepburn Act, Pub. L. No. 59-337, 34 Stat. 584 (1906); Mann-Elkins Act, Pub. L. No. 61-218, 36 Stat. 539 (1910).

43. *Schwabacher*, 334 U.S. at 191.

44. Esch-Cummings Act of 1920, Pub. L. No. 66-152, 41 Stat. 456 (repealed 1940).

45. Northeast Midwest Institute, *Rail Deregulation*, <http://www.nemw.org/raildereg.htm> (last visited Mar. 20, 2008).

46. Railroad Revitalization and Regulatory Reform Act of 1976, Pub. L. No. 94-210, 90 Stat. 31 (codified as amended in scattered sections of 45 and 49 U.S.C.).

47. Staggers Rail Act of 1980, Pub. L. No. 96-448, 94 Stat. 1895 (codified as amended

Congress expressly found that continuing state regulation would be as harmful as continuing federal regulation,⁴⁸ and therefore “preempt[ed] state authority over rail rates, classifications, rules and practices.”⁴⁹ States were left only with the ability to petition for federal permission to regulate intrastate rail commerce in a manner consistent with federal standards.⁵⁰ Deregulation of the railroad industry is now credited with bringing about increased competition, more efficient routes, increased profits, better service, and an enhanced ability to attract capital investment.⁵¹

Trucking. Between the World Wars, the highway system grew rapidly. Cheap wages, trucks, tires, and fuel facilitated the rise of many new motor carriers.⁵² Many viewed this competition as destructive: the new operators’ rates often were not published, many of them failed and went out of business, rates varied widely and changed frequently, and charges to different shippers using the same carrier often varied.⁵³

Furthermore, each state public utility commission imposed its own regulatory solutions to these problems, creating further disarray that, unsurprisingly, often favored the state’s own local industry. Federal courts struck down state trucking regulations that unreasonably impaired interstate commerce,⁵⁴ but state commissions interpreted such decisions narrowly and tinkered endlessly with their regulations to circumvent federal preemption.⁵⁵ Some of this conflict was resolved by the Motor Carrier Act of 1935, which removed intrastate rate-setting authority from the States and lodged it in the ICC. The 1935 Act further gave the ICC broad power to require motor carriers to obtain certificates before providing service, to require that carriers file tariffs with their rates, to

in scattered sections of 45 and 49 U.S.C.).

48. *Ill. Commerce Comm’n v. Interstate Commerce Comm’n*, 749 F.2d 875, 877-78 (D.C. Cir. 1984) (citing H.R. REP. NO. 96-1035, at 128-30 (1980), as reprinted in 1980 U.S.C.C.A.N. 3978, 4072-74).

49. H.R. REP. NO. 96-1430, at 106 (1980) (Conf. Rep.), as reprinted in 1980 U.S.C.C.A.N. 4110, 4138 (finding preemption necessary to “ensure that the price and service flexibility and revenue adequacy goals of the [Staggers] Act are not undermined by state regulation of rates, practices, etc.”); see 49 U.S.C. § 11501(b) (1) (2000).

50. See 49 U.S.C. § 11501 (b)(3), (c).

51. See, e.g., Michael W. Babcock, *Efficiency and Adjustment: The Impact of Railroad Deregulation*, CATO POLY ANALYSIS, Jan. 31, 1984, available at <http://www.cato.org/pubs/pas/pa033.html>; John Hood, *Blessings of Liberty: John Hood on the Dividends of Deregulation*, POLY REV., July & Aug. 1997, available at <http://www.policyreview.org/jul97/thbless.html>.

52. See VACHAL, *supra* note 37, at 3.

53. ALFRED E. KAHN, *THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS* 178 (1988).

54. See, e.g., *Mich. Pub. Utils. Comm’n v. Duke*, 266 U.S. 570, 577 (1925).

55. See Thomas W. Hazlett, *Is Federal Preemption Efficient in Cellular Phone Regulation?*, 56 FED. COMM. L.J. 155, 187 (2003).

outline employee qualifications, to set the maximum hours they could work, and to establish uniform motor carrier equipment standards.⁵⁶

This federal regulatory regime worked reasonably well for a time, but came under increasing pressure as the national highway network exploded in the 1950s and 1960s with the federal interstate highway system initiative. And all the while, state and federal regulators continued to trip over one another. The federal courts struck down state regulations that were found to burden interstate trucking by invoking the Commerce Clause,⁵⁷ but this *ad hoc*, case-by-case approach failed to comprehensively deal with the problem.

Finally, in 1980, in response to growing opposition to the regulatory scheme, Congress substantially reduced federal regulation of the trucking industry.⁵⁸ By the early 1990s, eight states followed suit and deregulated intrastate trucking.⁵⁹ Yet the remaining states continued to follow their own parochial approaches to trucking regulation, which cost the trucking industry and the economy between \$5 billion and \$12 billion a year.⁶⁰ “[T]he primary liability of state regulation was the inherent inconsistency of disparate rules dotting regional or national truck routes.”⁶¹

Finding “that ‘the regulation of intrastate transportation of property by the States’ unreasonably burdened free trade, interstate commerce, and American consumers,”⁶² Congress moved to preempt state economic regulation of intrastate trucking entirely in 1994.⁶³ Congress attributed

56. See Motor Carrier Act of 1935, Pub. L. No. 74-255, 49 Stat. 543 (1935); see also Thomas Gale Moore, Library of Economics and Liberty, Trucking Deregulation, <http://www.econlib.org/Library/Enc/TruckingDeregulation.html> (last visited Mar. 20, 2008).

57. *E.g.*, *Kassel*, 450 U.S. 662 (invalidating an Iowa restriction on truck length); *Raymond Motor Transp., Inc. v. Rice*, 434 U.S. 429 (1978) (invalidating a Wisconsin regulation barring 65-foot double trucks); *Bibb v. Navajo Freight Lines, Inc.*, 359 U.S. 520 (1959) (invalidating an Illinois mud-guard regulation).

58. Motor Carrier Act of 1980, Pub. L. No. 96-296, 94 Stat. 793 (codified as amended in scattered sections of 49 U.S.C.); see Hazlett, *supra* note 55; Moore, *supra* note 56.

59. John C. Taylor, *Regulation of Trucking by the States*, 17 REG., Spring 1994, available at <http://www.cato.org/pubs/regulation/regv17n2/reg17n2-taylor.html>; Hazlett, *supra* note 55, at 185-86.

60. Thomas Gale Moore, *Unfinished Business in Motor Carrier Deregulation*, 14 REG., Summer 1991, at 55-57, available at <http://www.cato.org/pubs/regulation/regv14n3/reg14n3-moore.html>.

61. Hazlett, *supra* note 55, at 186.

62. *City of Columbus v. Ours Garage and Wrecker Serv., Inc.*, 536 U.S. 424, 440 (2002) (quoting Federal Aviation Administration Authorization Act of 1994, Pub. L. No. 103-305, § 601(a)(1), 108 Stat. 1605); see also H.R. REP. NO. 103-677, at 87 (1994) (Conf. Rep.) (“State economic regulation of motor carrier operations . . . is a huge problem for national and regional carriers attempting to conduct a standard way of doing business.”).

63. The Federal Aviation Administration Authorization Act of 1994, 49 U.S.C. § 40101, preempts states from regulating the rates or services of motor carriers. Safety regulation is still permissible, 49 U.S.C. § 14501(c)(2)(A), but it is also still subject to challenge under the dormant Commerce Clause – a route by which many supposed state safety regulations that disrupted interstate transportation have been invalidated. See, *e.g.*, *Kassel*, 450 U.S. 662

numerous vices to the “patchwork” of intrastate trucking regulations in 41 states, including “significant inefficiencies, increased costs, reduction of competition, inhibition of innovation and technology and curtail[ing] the expansion of markets.”⁶⁴ Economists now credit federal deregulation of the trucking industry with increasing the number of licensed carriers,⁶⁵ improving service to small communities,⁶⁶ decreasing the number of complaints by shippers,⁶⁷ and decreasing trucking rates by billions of dollars a year.⁶⁸

Airlines. The rise and fall of federal airline regulation unfolded in much the same way. Federal regulators entered in 1926,⁶⁹ about twelve years after the first commercial airline service began,⁷⁰ in the wake of heavy losses and failures among the young air carriers.⁷¹ The primary reason for enacting new regulation was to keep the airlines in business—to allow an infant industry to grow and to prosper in an orderly fashion.⁷² The Civil Aeronautics Authority, which later became the Civil Aeronautics Board (“CAB”), was charged with regulating airlines’ entry

(invalidating an Iowa restriction on truck length); *Raymond Motor Transp., Inc.*, 434 U.S. 429 (invalidating a Wisconsin regulation barring 65-foot double trucks).

64. Hazlett, *supra* note 55, at 188.

65. Moore, *supra* note 56.

66. *Id.*

67. *Id.*

68. Studies of interstate trucking deregulation indicate that it has saved shippers and consumers as much as \$20 billion a year. A study by the staff of the Federal Trade Commission concluded that state trucking regulation raised trucking prices by as much as 20-32 percent. See Press Release, Fed. Trade Comm’n, State Trucking Regs Raise Prices Significantly, FTC Staff Study Finds (Nov. 28, 1995), available at <http://www.ftc.gov/opa/1995/11/trur.shtm>. It has been conservatively estimated that federal preemption of state regulation alone has produced efficiency gains of \$4 billion annually. See PAUL TESKE ET AL., DEREGULATING FREIGHT TRANSPORTATION: DELIVERING THE GOODS 74 (1995); see also Cassandra Chrones Moore, *Intrastate Trucking: Stronghold of the Regulators*, CATO POLY ANALYSIS, Feb. 16, 1994, available at http://www.cato.org/pub_display.php?pub_id=1063; Taylor, *supra* note 59.

69. See Air Commerce Act of 1926, Pub. L. No. 69-254, 44 Stat. 568 (repealed 1958).

70. See Bluegrass Airlines, Bill Odell, Florida Airlines History, <http://bluegrassairlines.com/bgas/flair.htm> (last visited Mar. 20, 2008) (the first commercial airline service was between St. Petersburg and Tampa, Fla.).

71. See Hon. Richard D. Cudahy, *The Folklore of Deregulation (With Apologies to Thurman Arnold)*, 15 YALE J. ON REG. 427, 431 (1998); Hon. Richard D. Cudahy, *Full Circle in the Formerly Regulated Industries?*, 33 LOY. U. CHI. L.J. 767, 781 n.76 (2002) (“Before 1938, ‘there was not much of an airline industry. Profitable operation before regulation had been very sporadic. The thought was that regulation could manage competition so as to keep the competitors out of bankruptcy.’”) (quoting Richard D. Cudahy, *The Folklore of Deregulation (with Apologies to Thurman Arnold)*, 15 YALE J. ON REG. 427, 431 (1998)).

72. Hon. Richard D. Cudahy, *The FERC’s Policy on Electric Mergers: A Bit of Perspective*, 18 ENERGY L.J. 113, 125 (1997); see Paul Stephen Dempsey, *Transportation Deregulation - On a Collision Course?*, 13 Transp. L.J. 329, 335 (1984) (regulation of the airline industry was designed “to avoid the deleterious consequences of cutthroat and excessive competition, and thereby enhance economic stability, safety, and the sound growth and development of this young industry”).

into the industry, the routes they could fly, and the fares they could charge passengers.⁷³ By the 1970s, however, soaring fuel costs and other inflationary factors were creating enormous debt for the airline industry.⁷⁴ The CAB granted airlines fare increases to offset higher costs, which set off a wave of protests by consumers.⁷⁵ At the same time, the CAB stultified competition by refusing to permit new major carriers to enter the business and by making it extremely difficult for existing carriers to change their routes.⁷⁶ The CAB was widely criticized for creating large inefficiencies, including overcapitalization, and for unduly favoring incumbents.⁷⁷

In response, Congress deregulated the industry in 1978, concluding that “maximum reliance on competitive market forces’ would best further ‘efficiency, innovation, and low prices’ as well as ‘variety [and] quality . . . of air transportation services.’”⁷⁸ In doing so, Congress expressly preempted state regulation “relating to rates, routes, or services of any air carrier having authority . . . to provide interstate air transportation.”⁷⁹ Economists now estimate that fares under deregulation have been 10 to 18 percent lower than they would have been under regulation, a savings to consumers of \$5 billion to \$10 billion per year.⁸⁰ Deregulation is also credited with increasing efficiency in the industry, increasing the number of airlines per route, and improving airline safety.⁸¹

Gas Pipelines. Natural gas pipelines connected the states early in the twentieth century, yet the states treated this form of commerce as a local fiefdom. For example, West Virginia enacted legislation regulating natural gas pipeline companies that was intended to keep within West

73. See VISCUSI, *supra* note 40, at 610-11.

74. See Christine Chmura, *The Effects of Airline Regulation*, FREEMAN, Aug. 1984, available at <http://www.fee.org/publications/the-freeman/article.asp?aid=1166>.

75. *Id.*

76. See VISCUSI, *supra* note 40, at 612 (the CAB made limited entry into the industry a long and costly process and imposed a route moratorium in the early 1970s).

77. See, e.g., Frank J. Costello, Partner, Zuckert Scoult & Rasenberger, L.L.P., *The Lessons of Airline Deregulation*, <http://www.zsrlaw.com/publications/articles/fjclessons.htm> (last visited Mar. 20, 2008); John W. Barnum, Partner, McGuireWoods LLP, *What Prompted Airline Deregulation 20 Years Ago? What Were the Objectives of that Deregulation and How were They Achieved?*, Presentation to the Aeronautical Law Committee of the Business Law Section of the International Bar Association Presentation to the International Bar Association Aeronautical Law Committee (Sept. 15, 1998), available at <http://library.findlaw.com/1988/Sep/1/129304.html>.

78. *Morales v. Trans World Airlines, Inc.*, 504 U.S. 374, 378 (1992) (quoting Airline Deregulation Act of 1978, 49 U.S.C. §§ 1302(a)(4), 1302(a)(9) (repealed)).

79. 49 U.S.C. § 1305(a)(1) (repealed).

80. Alfred Kahn, Library of Economics and Liberty, *Airline Deregulation*, <http://www.econlib.org/library/Enc/AirlineDeregulation.html> (last visited Mar. 20, 2008).

81. *Id.*

Virginia all natural gas produced there that might be required for local needs; other states could receive exports only after West Virginia's own needs were fully met.⁸² Perceiving a direct threat to their own economies, the neighboring States of Ohio and Pennsylvania sued West Virginia to enjoin enforcement of its protectionist legislation. The Supreme Court noted the irony that West Virginia had encouraged the interstate growth of its local natural gas companies and had profited greatly thereby, yet now purported to wall itself off from other states in the event of a gas shortage.⁸³ The case was so contentious that it was argued before the Court three times over the course of two years. In the end, the interstate nature of the pipeline industry was unavoidable and mandated the suppression of state efforts to dictate the terms of operation of a national network industry: "If one state has [such power], all states have it; embargo may be retaliated by embargo, and commerce will be halted at state lines. And yet . . . in matters of . . . interstate commerce there are no state lines."⁸⁴

Congress asserted federal control over interstate pipelines in 1938.⁸⁵ The National Gas Act assigned regulatory authority to the Federal Power Commission ("FPC"), which had been established nearly 20 years earlier to license hydroelectric projects.⁸⁶ When rapid economic growth in the 1940s and 1950s outpaced pipeline expansion and caused price volatility and shortages in some areas, the FPC held that it did not have the authority to set prices.⁸⁷ But, the Supreme Court concluded in 1954 that the National Gas Act not only gave the FPC the requisite authority to regulate pipeline rates, but also required that it do so.⁸⁸ The Court further held that the FPC was obligated to regulate the prices charged by gas producers (known as wellhead prices),⁸⁹ which expanded the FPC's jurisdiction from a few dozen pipelines to tens of thousands of gas wells.⁹⁰

In 1978, at the peak of the energy crisis, Congress passed the National Energy Act and the Natural Gas Policy Act to reform natural

82. See *Pennsylvania v. West Virginia*, 262 U.S. 553, 597-98 (1923).

83. See *id.* at 597; see also *H.P. Hood & Sons*, 336 U.S. at 536-37 (discussing *Pennsylvania*, 262 U.S. at 597).

84. *Pennsylvania*, 262 U.S. at 599 (citation and internal quotation marks omitted).

85. See Natural Gas Act, Pub. L. No. 75-688, 52 Stat. 821 (1938).

86. *Id.*

87. *Phillips Petroleum Co. v. Wisconsin*, 347 U.S. 672, 677 (1954) (citing *In The Matter of Phillips Petroleum Co.*, 10 F.P.C. 246, 279 (1951)).

88. *Id.*

89. *Id.* at 682.

90. See Robert. J. Michaels, *The New Age of Natural Gas: How the Regulators Brought Competition*, 16 REG., Winter 1993, available at <http://www.cato.org/pubs/regulation/reg16n1e.html>.

gas pricing.⁹¹ Among other things, this legislation gave FERC—which had been created a year earlier to replace the FPC—authority to deregulate wellhead gas prices.⁹² In the mid-1980s, FERC began pipeline reform as well.⁹³ It adopted policies that enabled local gas distribution companies to switch gas suppliers⁹⁴ and then required pipelines to provide open access to transportation services allowing consumers to negotiate directly with producers and contract separately with the pipelines for transportation.⁹⁵ In 1992, FERC instituted a major restructuring of interstate pipeline operations, requiring the separation of sales from transportation services so that customers could select supply and transportation services from any competitor in any quantity or combination.⁹⁶

Competition among national networks employing different technologies that are subject to different regulation is an especially compelling basis for preemptive federal regulation. For example, by the 1970s, intermodal competition—that is, competition from other modes of transportation—had increased to the point where the railroad industry, still stringently regulated, was on the verge of collapse. Congress found that while regulation had been essential to prevent the

91. See Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (codified as amended in scattered sections of 5, 15, 16, 26, 30, 42, and 43 U.S.C.); Energy Tax Act of 1978, Pub. L. No. 95-618, 92 Stat. 3174 (codified as amended in scattered sections of 26 and 42 U.S.C.); National Energy Conservation Policy Act, Pub. L. No. 95-619, 92 Stat. 3206 (1978) (codified as amended in scattered sections of 12, 15, 23, 26, 31, 40 and 42 U.S.C.); Powerplant and Industrial Fuel Use Act of 1978, Pub. L. No. 95-620, 92 Stat. 3289 (codified as amended in scattered sections of 5, 15, 16, 19, 33, 42, and 49 U.S.C.); National Gas Policy Act, Pub. L. No. 95-621, 92 Stat. 3350 (1978) (codified as amended in 5, 16, 15 and 42 U.S.C.).

92. See National Gas Policy Act, Pub. L. No. 95-621, 92 Stat. 3350 (1978); see also Kenneth W. Costello & Daniel J. Duann, *Turning Up the Heat in the Natural Gas Industry*, 19 REG., Winter 1996, at 53, available at <http://www.cato.org/pubs/regulation/reg19n1c.html> (total deregulation of wellhead gas was completed by January 1, 1993).

As a policy, wellhead price control was disastrous. Basing its decisions on historic data, the FPC seriously underestimated the costs of replacing exhausted wells. In every year between 1966 and 1978 proved gas reserves in the lower forty-eight states fell. As production fell and shortages worsened, pipelines often had to curtail supplies to distributors, who in turn curtailed their captive customers.

Michaels, *supra* note 90, at 73.

93. Costello & Duann, *supra* note 92, at 53 (“Pipeline reform started in 1984 when the Federal Energy Regulatory Commission (FERC) issued Order 380.”).

94. *Id.* (citing FERC Order 380).

95. Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 50 Fed. Reg. 42,408 (Oct. 18, 1985) (codified at 18 CFR pts. 2, 157, 250, 284, 375, and 381); Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 52 Fed. Reg. 30,334 (Aug. 14, 1987) (codified at 18 CFR pts. 2 and 284).

96. Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation under Part 284 of the Commission’s Regulations, 59 F.E.R.C. ¶ 61,030 (Apr. 8, 1992).

abuse of monopoly power by railroads earlier in the 20th century, the competition provided by the significant increase in the use of trucks, barges, and aircraft rendered the old railway regulatory framework antiquated and inefficient.⁹⁷ Indeed, Congress determined that a “significant reason” for the decline of the railroad industry was the “inflexibility” of the existing regulatory regime under which it was forced to operate.⁹⁸ Furthermore, regulation, however well intentioned, itself adversely affected the ability of railroads to compete with substantially unregulated or deregulated modes of transportation.⁹⁹

Furthermore, the rise of massive fleets of long-haul trucking operations not only provided significant intermodal competition for the railroads—it also provided the basis for the deregulation of the trucking industry. The same robust intermodal competition from trucks that justified deregulation of the railroads likewise justified deregulation of trucking itself. Although there were some state trucking regulations that seemed transparently designed to discriminate in favor of the railroads,¹⁰⁰ “the primary liability of state regulation was the inherent inconsistency of disparate rules dotting regional or national truck routes.”¹⁰¹ Accordingly, that disruptive and erratic patchwork quilt of state-by-state regulation was finally terminated in 1994, as explained above.

Drawing parallels between different technologies or services and the regulatory models appropriate for them is both sensible and a time-honored tradition. The very first federal regulatory approach to telephony recognized the interstate capability inherent in the then-infant technology and made provisions for eventually recognizing the overriding federal regulatory interest in that technology. The Mann-Elkins Act of 1910 brought interstate telecommunications within the regulatory jurisdiction of the ICC by way of provisions that paralleled (with some omissions) the ICC’s power to regulate the railroads.¹⁰² Under those provisions, the ICC enjoyed sweeping power to preempt state regulation—even when the states regulated only *intrastate* commerce. This power was confirmed by the Supreme Court in *The Shreveport Rate Case*.¹⁰³ The Court recognized that, in a network industry such as

97. See Staggers Rail Act §§ 2(1)-(5).

98. See H.R. REP. NO. 96-1035, at 38 (1980), as reprinted in 1980 U.S.C.C.A.N 3978, 3983.

99. See *id.* at 115, as reprinted in 1980 U.S.C.C.A.N at 4059.

100. Hazlett, *supra* note 55, at 186 & n.99.

101. *Id.* at 186.

102. Mann-Elkins Act, Pub. L. No. 61-218, 36 Stat. 539 (1910); see also PETER W. HUBER, MICHAEL K. KELLOGG & JOHN THORNE, FEDERAL TELECOMMUNICATIONS LAW 214-15 (2d ed. 1999).

103. See *Houston, E. & W. Tex. Ry. Co. v. United States (The Shreveport Rate Case)*, 234 U.S. 342, 351 (1914).

the railroad industry, interstate and intrastate rates “are so related that the government of the one involves the control of the other.”¹⁰⁴ The same situation obtained with respect to the telephone network: the same wires and boxes used for local calls were also, after all, used for interstate calls.¹⁰⁵

Such analogies are equally powerful with contemporary regulatory agencies. The FCC has expressly embraced analogies to deregulation on the basis of intermodal competition among motor carriers as a predicate for similar preemptive federal deregulation of telecommunications networks. In its order deregulating an Internet communications service (that will be more fully discussed below), the FCC pointed to congressional deregulation of trucking as a parallel “network’-based service example[] where, although an intrastate component of such service may exist, this intrastate component must nonetheless yield to exclusive federal jurisdiction in the area of economic or other state regulations affecting entry to advance articulated congressional or federal deregulatory objectives.”¹⁰⁶

III. THE GROWTH OF INTERSTATE TELECOMMUNICATIONS NETWORKS AND THE RISE OF INTERMODAL COMPETITION

A. *The Anachronism of State-by-State Regulation of Wireline Telephony*

State-by-state regulation of wireline telephony made sense at the start of the telephone era in the nineteenth century when local phone systems were small and localized. At the dawn of the telephonic age, telephones were connected only by wire, one to one.¹⁰⁷ There were no local telephone exchanges, let alone a network. An interstate network of telephone service was inconceivable because signal quality deteriorated so

104. *Id.* at 351, 355.

105. *The Shreveport Rate Case*, as indicated in the text, involved railroad rather than telephone rate-setting, but the ICC’s preemptive power was the same in either instance. The regulatory import of that seminal decision is discussed at length in HUBER, KELLOGG & THORNE, *supra* note 102, at 216-18. Although the ICC never sought to exercise preemptive power over intrastate telephone rates, state regulators knew that it could and feared that it would. See, e.g., *Hearings on H.R. 8301 Before the H. Comm. on Interstate and Foreign Commerce*, 73d Cong., 2d Sess. 135-36 (1934) (statement of John E. Benton) (“The Interstate Commerce Commission has the same power now to override State regulation in the telephone field as it has in the railroad field . . .”).

106. Petition for Declaratory Ruling That pulver.com’s Free World Dialup is Neither Telecomms. Nor a Telecomms. Serv., *Memorandum Opinion & Order*, 19 FCC Rcd. 3307, ¶ 25 n.91 (2004) [hereinafter *Pulver*] (citing 49 U.S.C. § 14501 (preempting state economic regulation of motor carriers)).

107. See HUBER, KELLOGG & THORNE, *supra* note 102, at 8.

rapidly that conversations were almost impossible over distances greater than a few miles.¹⁰⁸ By the first decade of the twentieth century, there were thousands of local, isolated telephone companies.

But there still was no telephone *network*. Most early telephone companies, whether Bell affiliate or independent, refused to connect with each other, leaving many telephone customers unable to talk to one another.¹⁰⁹ In fact, in the early years of the 20th century, one often needed *two* telephones—one to speak with those who had Bell service and the other to call those served by an independent phone company.¹¹⁰ In such an atomized, inherently local industry, state-by-state regulation made perfect sense.¹¹¹ Even when this lack of interconnectivity gave the Bell System the leverage to obtain monopoly status in exchange for guaranteeing interconnection among all its affiliated companies,¹¹² state-by-state regulation still made sense because the local affiliates operated under exclusive monopoly franchises granted by those same states. In addition, as with other industries, the most important regulatory issues arose from the development of the on-the-ground infrastructure, and thus were inherently local.

In 1934, when the Federal Communications Act (“1934 Act”) became law,¹¹³ barely two percent of telephone calls crossed state lines,¹¹⁴ and some 45 of the 48 states had regulatory commissions to oversee their local telephone providers. The state regulators lobbied for limits on federal jurisdiction and, in particular, for a repudiation of the preemptive power over telephone regulation held by the ICC under *The Shreveport Rate Case*.¹¹⁵ The result was that the 1934 Act delegated broad power over interstate communication to the new Federal Communications Commission, but also nullified *Shreveport* and explicitly denied the FCC any “jurisdiction with respect to . . . intrastate communication service.”¹¹⁶ The 1934 Act thus embodied the tension between the fundamental

108. *Id.* at 8-9.

109. *Id.* at 213 & n.10.

110. *Id.* at 12.

111. Hazlett, *supra* note 55, at 175 (“State regulation is typically better able to regulate when local markets are relatively idiosyncratic, . . . [and] when the rules adopted in one state are largely contained within that jurisdiction.”).

112. See HUBER, KELLOGG & THORNE, *supra* note 102, at 213-14 & nn.11-12.

113. Communications Act of 1934, Pub. L. No. 73-416, 48 Stat. 1064 (1934) (codified as amended in scattered sections of 47 U.S.C.).

114. See Eli M. Noam, *Federal and State Roles in Telecommunications: The Effects of Deregulation*, 36 VAND. L. REV. 949, 955 (1983).

115. See, e.g., K. A. Cox & W. J. Byrnes, *The Common Carrier Provisions—A Product of Evolutionary Development*, reprinted in A LEGISLATIVE HISTORY OF THE COMMUNICATIONS ACT OF 1934, at 29-30 (M. D. Paglin ed., 1989); Richard McKenna, *Preemption Under the Communications Act*, 37 FED. COMM. L. J. 1, 8-9 (1985).

116. 47 U.S.C. § 152(b) (2006).

unifying impulse of the Commerce Clause and the legacy of state-by-state regulation with which we still contend today.

Continued reliance on state-by-state regulation of wireline telephony is the inertial legacy of this *ancien regime* of dual state-federal jurisdiction that originated at a time when all telephony was wireline and the vast bulk of telephone communications were genuinely intrastate. As the next section demonstrates, that dual regulatory regime has been largely abandoned (with uniformly positive results) with respect to every other major element of the telecommunications industry: wireless phones, cable modems, data services, information services, and the Internet. Therefore, for reasons both regulatory and technological, the constitutional basis of state regulation of wireline telephony—the distinction between “intrastate” and “interstate” telephone calls—grows more illusory every day. The pervasively *interstate nature* of the supposedly “local” phone service that remains subject to state jurisdiction is worth reviewing in some detail because federal jurisdiction over commerce is predicated on its *interstate* nature. In the Commerce Clause, the Constitution has adopted what is in significant part a geographic test for defining federal jurisdiction, and therefore, the geography of the wireline telephone network matters.

To begin with, even “local” calls that are classified as intrastate, and therefore subject to state regulatory jurisdiction under 47 U.S.C. § 221(b) are, in fact, often interstate. The court decree that broke up the old Bell Telephone System created 196 Local Access and Transport Areas (“LATAs”) that geographically defined the service boundaries of the Regional Bell Operating Companies (“RBOCs”) (also known as “Baby Bells,” or Incumbent Local Exchange Carriers (“ILECs”)), into which the Bell System was divided. These LATAs are not drawn along state lines. The LATAs were primarily drawn along the lines of the Standard Metropolitan Statistical Areas delineated by the Census Bureau to identify “communities of interest” in economic terms. It turned out to be impossible to delineate the national telephone network along state lines without fragmenting natural local calling areas that reflected human habitation and economic patterns: cities and their suburbs grow across state boundaries, and many “local” telephone exchanges and “Local” Access and Transport Areas follow suit. Therefore, the LATA map departs from state boundaries in order to accommodate multi-state metropolitan areas, existing economic zones, population patterns, and similar factors. As a result, a significant portion of supposedly “local” intra-LATA calls within a given telephone exchange that are subject to *state* jurisdiction under 47 U.S.C. § 221(b) are in fact *interstate* calls by virtue of the fact that the *local exchanges and LATAs themselves cross*

*state borders.*¹¹⁷

Yet such calls are deemed “intrastate” under Section 221(b), which was enacted “to preserve state regulation of local exchanges that happened to overlap state lines.”¹¹⁸ It makes little sense for a regulatory regime to maintain a fictive legal interstate-intrastate distinction when even the administrative map of the phone network itself disregards state lines and pretends that calls across those state borders are local rather than interstate calls.

Technological developments have made that fiction ever harder to maintain. The facilities that make up the national wireline telephone network are becoming more and more centralized; “local” calling facilities are no longer necessarily located in the same state as the caller and the recipient. Today, many calls that begin and end within a given state—sometimes even calls to a neighbor residing a few blocks away—are in fact interstate calls because the transmission makes use of out-of-state facilities. Such interstate transmissions necessarily constitute interstate commerce.

For example, Verizon, the successor to the Bell System that provides local phone service in the northeastern United States, serves residents of suburban Connecticut with a circuit switch that is located in New York. Therefore, every local call made by a Greenwich resident—even to his or her next-door neighbor—is routed through the New York switch and is consequently an interstate transmission in fact, even though the current regulatory regime blinks reality and deems it intrastate in law. Verizon likewise has tandem circuit switches in the District of Columbia that serve not only D.C. but also northern Virginia. “Local” calls within Virginia may therefore be routed through those switches into D.C. and then back into Virginia.¹¹⁹

117. For example, LATA No. 236 encompasses the entire District of Columbia metropolitan area and therefore includes suburban Maryland and northern Virginia as well as Washington, D.C. The Cincinnati LATA (No. 922) spans three states: Ohio, Kentucky, and Indiana. Some multistate LATAs are the size of states themselves – LATA 636 sweeps in half of North Dakota and most of northern Minnesota; LATA 672 covers southwestern Washington and half of Oregon. Other examples of large, three-state LATAs are the St. Louis LATA (No. 520), which includes parts of Illinois and the eastern third of Missouri; No. 652 (southeastern Oregon, most of Idaho, and parts of Nevada) and No. 650 (northwest Wyoming, half of Montana, and parts of North Dakota). LATA No. 472 spans the borders of Tennessee, Alabama, and Georgia; LATA 960 includes the northern panhandle of Idaho and parts of Montana and Washington; and No. 240 includes parts of Maryland, Pennsylvania, and West Virginia.

118. Nat’l Ass’n of Regulatory Util. Comm’rs v. F.C.C., 746 F.2d 1492, 1500 (D.C. Cir. 1984) (citation and quotation marks omitted); see also HUBER, KELLOGG & THORNE, *supra* note 102, at 222 & n.61.

119. Local wireline service provided by Competitive Local Exchange Carriers (“CLECs”) is even more centralized and inherently interstate than ILEC service; because the CLECs began to build their networks after the 1996 Act opened up local wireline competition, the

The electronic signaling system that is part of every telephone call is even more centralized and more inherently interstate than is the voice transmission system just discussed. The wireline telephone network in fact consists of two distinct networks: a network that carries the actual voice conversation and a separate, out-of-band signaling network that carries everything else. The signaling network controls the set-up, routing, and connection of the phone call between caller and recipient, and is therefore an essential part of every call. The modern system, known as Common Channel Signaling and employing the Signaling System Seven (“SS7”) protocol, carries these processing and routing signals on a dedicated, digital, packet-switched data communications network separate from the transmission path of the caller’s voice.

New technology allows the facilities for this signaling system to be efficiently centralized rather than distributed among the states. For example, Verizon’s Gateway Access Service network consists of regional hubs that process telephone calls for huge, multistate geographic areas. The Gateway in Indiana serves seven states, including cities as far afield as Denver, Cleveland, Chicago, Detroit, and Kansas City, Missouri. The Gateway in New Hampshire provides centralized services for five states: Rhode Island, Maine, Vermont, New Hampshire, and part of Massachusetts. Given that signaling is an essential part of *every* wireline telephone call, *every* supposedly “local” phone call processed on this Gateway system that goes to or from a subscriber in any state without its own Gateway hub is necessarily an *interstate* call that makes use of out-of-state facilities, even if the separate voice path for that call is wholly intrastate.

Centralized computer systems are also an essential (if invisible) part of many popular enhanced phone services provided by local exchange carriers. Network voicemail services employ centralized servers (computers) located far from the states whose residents they serve. For example, the voicemail “mailboxes” for Verizon’s South Carolina and North Carolina customers are actually located in Florida. Every voicemail message left for every Verizon subscriber in the Carolinas—

CLECs were largely free to place their equipment where it was most efficient to do so. Thus, CLECs such as AT&T, Teligent, PaeTec, and Conversent serve Connecticut subscribers with circuit switches located in New York, while AT&T, Allegiance Telecom, Cavalier Telephone, Focal Communications, Global Crossing, Global NAPS, Net2000, PaeTec, US LEC, Winstar, WorldCom and XO route all “local” calls to and from their Maryland subscribers through out-of-state switches located in Virginia or Washington, D.C. See TELCORDIA TECHS., INC., LOCAL EXCHANGE ROUTING GUIDE (2003). All “local” calls to and from AT&T subscribers in the State of Washington are in fact interstate because they are routed through a switch situated in Oregon. *Id.* Adelphia serves its North Carolina customers through a switch in Virginia, and other CLECs serve Delaware residents with switches located in Pennsylvania. *Id.*

even a “local” call made by the subscriber’s next-door neighbor—is routed across multiple state boundaries to Florida. Likewise, every call by a Carolina Verizon subscriber to retrieve his or her voicemail messages is an interstate call to Florida. All the voicemail for Verizon’s “local” phone service customers in Illinois, Michigan, Ohio, and Wisconsin is actually stored on a server in Indiana, and voicemail for Oregon and Idaho is stored in the hub situated in Washington.¹²⁰

A host of other enhanced wireline service features is likewise provided across multiple states by centralized computers operating over this same SS7 signaling system. Telephone companies use the term Advanced Intelligent Network (“AIN”) to describe an upgraded network offering a suite of custom-calling features such as caller ID, call intercept, call blocking, Privacy Director, selective call diversion, network call forwarding, phone number portability, network-based fax applications, and many Centrex services. The broad range of telephone services provided by AIN systems is growing and is virtually infinite in potential.¹²¹ The servers and databases through which these familiar services are provided are centralized and usually far removed from the telephone subscribers they serve.¹²² Therefore, the overwhelming majority of calls that trigger network-based enhanced or custom-calling features, e.g., voicemail, caller ID, and call forwarding, are interstate transmissions that involve out-of-state facilities, even if the voice portion of the call was originally placed by one state resident to his neighbor a block away. For example, Verizon uses just seven regional Integrated Services Control Points to provide advanced network services to all of its customers in 29 noncontiguous states spread across the entire country. Thus, *all such transmissions* for Verizon’s wireline customers in states as far flung as Florida, Texas, and California are routed through and handled by a single computer system located in a town in Washington.

Operator assistance and directory assistance services are now

120. The voicemail operations for CLECs are, unsurprisingly, even more centralized. For example, Z-Tel provides its voicemail product, “Personal Voice Assistant,” to its subscribers nationwide through a single server hub located in Florida.

121. Caller ID and related services require reference to a database that matches telephone line numbers with their subscribers, known as a Line Information Database (“LIDB”). All such databases are centralized. For example, Verizon maintains just four LIDBs, two for the west and two for the east, for all of the dozens of states it serves. A single “local” phone call to (or from) a subscriber might therefore involve multiple interstate transmissions — one or more to a regional SCP server and database in another state, and also one to a separate LIDB in yet another state.

122. The degree of centralization in such systems will very likely increase, because it is far more efficient to store programs and subscriber information in centralized servers and databases that are peripheral to the telephone network. Service upgrades and wholly new services are infinitely easier to implement when one only needs to load new programming and data onto a centralized computer rather than onto every circuit switch in the network.

centralized and are therefore typically handled outside the calling party's state, even for "local" operator-assistance and directory assistance (411) calls. In the past, traditional operator services were normally associated with the local phone company's central office in a community. However, given the enormous advances in technology, a single digital operator host switch can now support over a thousand operator positions. All "local" telephone service providers use this model for operator services. For example, Verizon's operator assistance unit, called LiveSource, has a single Call Completion Assistance team in the northeast which handles all calls from New York, New Jersey, and New England. There is also a centralized Directory Assistance office that serves traffic from ten different states. Verizon also has a centralized billing system that handles collect calls and calling card calls from nearly two dozen states as widely scattered as Texas and Florida. Given the highly centralized nature of these operations, the overwhelming majority of *supposedly intrastate*—and therefore *state-regulated*—calls for operator, directory, or billing assistance *are in fact interstate calls* routed to out-of-state operators. In addition, those operators may in turn transmit the callers' queries for information (such as directory assistance) to a centralized computer database located in yet another state.

Finally, wireline calls to cell phones and cell phone calls to wireline subscribers may cross state borders not only when the cell phone subscriber is actually in a different state, but even when both the wireline subscriber and the cellular subscriber are in the same state. Like packet-switched data transmissions, wireless routing does not respect state boundaries. When setting up wireless networks, the cellular providers did not slavishly and pointlessly duplicate the pattern of equipment placement foisted on wireline providers by decades of state-by-state regulation. Wireless providers instead placed equipment where it could most efficiently serve a particular area. Consequently, the cell antenna tower and the Mobile Telephone Service Office ("MTSO") through which a wireless call is routed may be across the border in a different state from where the cellular customer and the wireline caller are located.¹²³

Further opportunities exist for interstate wireline calls to cell phones to masquerade as intrastate. A "local" wireline call to a cell phone is in

123. For example, Verizon Wireless has a "supersystem" in Philadelphia that also serves cellular markets in New Jersey and Delaware, and another supersystem in Pittsburgh that serves multiple Pennsylvania, Ohio and West Virginia markets. Just as with the previously discussed case of wireline subscribers served by out-of-state circuit switches, in these cellular supersystems, even a "local" wireline call to a cell phone located in the same state would be an interstate call. These calls often make use of out-of-state facilities whenever the call is routed through a cell tower or MTSO located in one of the other states of the supersystem.

fact interstate, even if the wireline caller and the cellular recipient have the same area code, whenever the cell phone is physically out of the state. Conversely, a wireline call to a cell phone with an out-of-state area code (that is, a cell phone with its “home market” in another state) will always be interstate commerce, even if the cell phone is actually only a block away from the wireline caller throughout the time of the call, because that call will be routed by the wireline Public-Switched Telephone Network (“PSTN”) through a circuit switch in the cell phone subscriber’s home market where the call will access the subscriber’s cellular network.

Similarly, wireline calls to satellite telephones, even to those currently in the same neighborhood as the wireline caller, are necessarily interstate. Such calls do not merely leave the state—they leave the planet. A call to a satellite phone subscriber is routed out of the state—indeed, out of the atmosphere—and makes use of facilities (satellites) that cannot be said to be located in-state.

In sum, there is hardly anything “local” about local telephone wireline service anymore. Giving decisive constitutional weight to the geographic reality of a network industry is a very old and well-established Commerce Clause principle. For example, more than a century ago, the Supreme Court considered a case in which the Arkansas railroad commission asserted jurisdiction to enforce rates on train service within Arkansas between Ft. Smith and Grannis, despite the fact that the railway tracks went outside the state for some distance before returning to Arkansas for the stop at Grannis.¹²⁴ Arkansas claimed that the rail route was wholly intrastate, insofar as both the origin and the terminus of the service were within Arkansas. The Supreme Court unanimously rejected this emphasis on end-points as a fiction: “The transportation of these goods certainly went outside of Arkansas.”¹²⁵ The Court, therefore, held that this commerce was under the exclusive regulation of Congress and free from interference by the state.¹²⁶

The same principles were applied a few years later to a case of interstate communication by wire—to wit, a telegram. The case involved a lawsuit brought against the telegraph company to recover damages for mental suffering caused by a mistake in delivering a telegraphic message. If federal law governed, the suit would be disallowed, and therefore the question was whether the telegram was sent in interstate or merely intrastate commerce.¹²⁷ “The message was from Greenville, North Carolina, to Rosemary in the same State, and was transmitted from Greenville through Richmond, Virginia, and Norfolk, to Roanoke

124. *Hanley v. Kansas City So. Ry. Co.*, 187 U.S. 617, 618-19 (1903).

125. *Id.* at 620.

126. *Id.*

127. *Western Union Tel. Co. v. Speight*, 254 U.S. 17, 17-18 (1920).

Rapids, the delivery point for Rosemary.”¹²⁸ The lower court had ruled that “when as here the termini were in the same State the business was intrastate.”¹²⁹ In a unanimous opinion by Justice Oliver Wendell Holmes, the Supreme Court reversed: “The transmission of a message through two States is interstate commerce as a matter of fact.”¹³⁰ Justice Holmes noted that, although “[i]t would have been possible, physically, to send” the message by a route entirely within North Carolina, such a transmission would “have required a rearrangement of the wires and more operators. The course adopted was more convenient and less expensive for the Company. . . . As things were, the message was sent in the quickest way.”¹³¹ It follows, therefore, that telephone transmissions—wireline, wireless, or otherwise—are interstate and therefore within the jurisdiction of Congress, even if the calls begin and end within a single state, if the transmissions cross state borders or otherwise make use of facilities located in more than one state. Even a typical call to one’s next-door neighbor to leave a voicemail message is likely to make use of signaling systems, databases, and computer servers located in other states hundreds or even thousands of miles away.

In short, what was once “intrastate” and therefore reasonably subject to state-by-state regulation is now inherently and undeniably interstate, and state-by-state regulation of interstate wireline networks has no basis in law, logic, or economics. As the next section demonstrates, the other inherently interstate arms of the telecommunications system, such as mobile telephones and aspects of the Internet, have already been preemptively federally regulated and then largely deregulated. Wireline telephony, which competes with wireless and Internet technologies in the provision of “local” voice transmission services, should therefore be subject to similarly uniform and exclusively federal regulation as well.

B. Preemptive Federal Regulation (and Deregulation) of Other Telecommunication Networks and Services.

Outside the context of local wireline telephony, the inherently interstate nature of national telecommunications networks has been recognized by Congress and reserved for regulation at the national level. Exclusive (or nearly exclusive) federal regulatory jurisdiction over such networks and services has historically been followed in relatively short order by preemptive federal *deregulation*. This regulatory treatment is now appropriate for local wireline telephony as well. The problem is not

128. *Id.* at 18.

129. *Id.* at 19.

130. *Id.* at 18 (citing *Hanley*, 187 U.S. 617).

131. *Id.* at 19.

just inequity, but arbitrary and glaring inefficiency.

As explained in detail below, few (if any) aspects of modern telecommunications divide neatly along interstate/intrastate lines, and it is therefore specious to sort telecommunications services into intra- and inter-state baskets in an effort to rationalize continued state-by-state regulation. Those sectors of the telecommunications market that have been preemptively federally regulated—and then deregulated—are operating more efficiently and doing more for consumers, and they therefore provide the proper regulatory model for wireline telephony, which is now equally “interstate” in fact.¹³²

Customer Premises Equipment. The deregulation of telecommunications began in the early 1970s, with customer premises equipment (“CPE”)—telephone handsets, Private Branch Exchanges (“PBX”), and, more recently, modems, routers, desktop computers, Local Area Networks (“LANs”), and other data equipment that is deployed on private premises rather than at a phone company facility. Until 1975, telephone equipment was leased to customers by the local phone company as part of an indivisible package of “local phone service.” The Federal Communications Commission snapped this link by declaring that the CPE markets were, or could be, competitive, and by asserting exclusive jurisdiction over even *local* telephone facilities—such as CPE leased from the local phone company.

The key jurisdictional fact was that the telephone sets used by individual customers within their own homes were physically attached to, and thus part of, an *interstate* network: “[W]hen a local transmission facility is included in an interstate transmission network, the regulation of the interstate uses of that facility lies exclusively with the F.C.C.”¹³³ While acknowledging that CPE was then used 97 percent of the time for intrastate calls, the reviewing court nevertheless affirmed the FCC’s assertion of exclusive jurisdiction not only as to “telephone companies with lines that extend interstate but also those local companies that provide interstate service solely through connection with the lines of telephone companies that are unrelated to them.”¹³⁴ What mattered was that even phone companies with exclusively local operations and services

132. The leading review of this area of the law – indeed, a treatment that may well be indispensable to a working knowledge of the subject – can be found in HUBER, KELLOGG & THORNE, *supra* note 102. The authors of this article are indebted to that treatise.

133. *Telerent Leasing Corp. et al. Petition for Declaratory Rulings on Questions of Federal Preemption on Regulation of Interconnection of Subscriber-Furnished Equipment to the Nationwide Switched Public Telephone Network*, *Memorandum Opinion & Order*, 45 F.C.C.2d 204, ¶ 36 (1974) [hereinafter *Telerent*], *aff’d* *North Carolina Utils. Comm’n v. F.C.C.*, 537 F.2d 787 (4th Cir. 1976).

134. *North Carolina Utils. Comm’n*, 537 F.2d at 792.

were nonetheless “integrated into the national network.”¹³⁵

The Commission established self-certification standards for equipment vendors, and preempted state regulations that either set the prices or prescribed other terms on which CPE was provided. The Commission reasoned that, without federal preemption:

[S]ubscribers can be subjected to a melange of regulations, determined by each of 50 separate jurisdictions, as to the terms and conditions upon which they shall have access to and use of the telephone network for interstate services. If each State were to be free to establish its own rules governing interconnection [of CPE] for the purposes of intrastate services, uniform nondiscriminatory interstate service throughout the country would be rendered difficult if not impossible.¹³⁶

Once again, the FCC recognized “the indivisibility of the network,”¹³⁷ and concluded that perpetuating state-by-state regulation “would frustrate the Congressional purpose in establishing the Commission to ‘make available . . . a rapid, efficient, Nation-wide . . . communication service with adequate facilities at reasonable charges.’”¹³⁸ A few years later, the Commission found that the provision of all CPE was fully competitive and deregulated CPE across the board.¹³⁹

Wireless Telephone Services. When Marconi invented radio—immediately dubbed the “wireless”—the principal use he planned for his new communications technology was as a mobile telephone for ships at sea.¹⁴⁰ Mobile phone service was severely limited until the 1980s because two-way radio voice communication requires a great deal of electromagnetic spectrum, the bandwidth available was only 25 channels, and to avoid interference with one another only half of those could be

135. *Id.*

136. Telerent, *supra* note 133, at ¶ 37.

137. *Id.*

138. *Id.* (quoting § 1 of the 1934 Act).

139. See Amendment of Section 64.702 of the Commission’s Rules & Regulations (Second Computer Inquiry), *Final Decision*, 77 F.C.C.2d 384, ¶ 174 (1980) [hereinafter *Computer II*] (state regulation of CPE could only “thwart the competitive provision of that CPE” and was therefore “not feasible.”), *aff’d* Computer & Commc’ns Indus. Ass’n v. F.C.C., 693 F.2d 198, 214 (D.C. Cir. 1982); see also *Furnishing of Customer Premises Equip.* by the Bell Operating Tel. Cos. & the Independent Tel. Cos., *Report & Order*, 2 FCC Rcd. 143, 160-161 (1987) (preempting the ability of the states to require telephone companies to provide CPE through separate corporate subsidiaries), *on recon.*, 3 FCC Rcd. 22 (1987), *petition for review denied* by Ill. Bell Tel. Co. v. F.C.C., 883 F.2d 104 (D.C. Cir. 1989).

140. See HUBER, KELLOGG & THORNE, *supra* note 102, at 861; see also Radio-Communications Acts, Pub. L. No. 61-262, 36 Stat. 629, 629-30 (1910) (barring any ocean-going vessel licensed to carry fifty or more people from departing from any United States port unless equipped with “wireless” apparatus).

used at any given time.¹⁴¹ For example, of the 23 channels available in the late 1970s for mobile telephone use in New York City, only twelve could be used simultaneously by the six or seven hundred users in the metropolis.¹⁴² Nationwide, this narrowly restricted spectrum could support no more than about 140,000 mobile telephone subscribers, including obvious priority customers as police and fire departments.¹⁴³ Although Bell Laboratories had developed the concept of cellular phone communications in the late 1940s, the technology was not applied and cellular properties were not licensed until the early 1980s, whereupon cellular services exploded exponentially by the early 1990s.¹⁴⁴

Fortuitously, due to its origins in radio technology—whose invisible wavelengths in the air were oblivious to, and certainly could not be constrained by, state political boundaries—wireless telephony was born amidst a decided governmental prejudice in favor of uniform, preemptive federal regulation. The Radio Act of 1927 nationalized the entire radio spectrum and lodged all jurisdiction over radio broadcasting and communications, as well as licensing authority for every single radio transmitter in the nation, under the authority of the Federal Radio Commission, which was then folded into the Federal Communications Commission in the 1934 Act.¹⁴⁵ Consequently, there was minimal state regulation of mobile telephone and other radio communications, even under the states' generally broad legal mandates to regulate common carriers.¹⁴⁶

The 1993 Budget Act eliminated even that modicum of residual state regulatory power by explicitly preempting all state regulation of both mobile phone rates and entry into the cellular market.¹⁴⁷ Congress “intended generally to preempt state and local rate and entry regulation of all commercial mobile radio services to ensure that similar services are accorded similar regulatory treatment and to avoid undue regulatory burdens.”¹⁴⁸ States that wanted to continue regulating wireless rates were told to come forward and explain to the FCC why doing so was necessary to protect consumers.¹⁴⁹ A few states filed such applications,

141. See HUBER, KELLOGG & THORNE, *supra* note 102, at 863-64.

142. *Id.* at 864.

143. *Id.*

144. *Id.* at 864-65.

145. See Radio Act of 1927, Pub. L. No. 69-632, 44 Stat. 1163; see generally National Broadcasting Co. v. United States, 319 U.S. 190, 210-13 (1943) (describing early regulatory history of radio).

146. See HUBER, KELLOGG & THORNE, *supra* note 102, at 869-70 & n.45.

147. 47 U.S.C. § 332(c)(3)(A).

148. Implementation of Sections 3(n) & 332 of the Commc'ns Act, *Second Report & Order*, 9 FCC Rcd. 1411, ¶ 250 (1994) [hereinafter Implementation of Sections 3(n) & 332], *decision quashed* by 10 FCC Rcd. 7824 (1995).

149. See 47 U.S.C. § 332(c)(3)(A).

but the Commission consistently turned them down. For example, in rejecting a petition by Connecticut, the FCC stated:

[W]hile we recognize that states have a legitimate interest in protecting the interests of telecommunications users in their jurisdiction, we also believe that competition is a strong protector of these interests and that state regulation in this context could inadvertently become as a burden to the development of this competition.¹⁵⁰

This preemptive federal deregulation of wireless telephony was driven in part by congressional recognition that “wireless networks increasingly operate on a multistate” basis and that “calls frequently traverse state borders.”¹⁵¹

Information Services. Online “information services”—a capacious, if rather outdated, term that covers everything from online gaming to Internet search engines—were deregulated for the same reason and on the same logic as was Customer Premises Equipment: these services could be provided competitively if the market were deregulated nationwide.¹⁵² The Commission would not permit state preferences for continued regulation to interfere with its “comprehensive [de]regulatory scheme.”¹⁵³ Any lingering state regulation “would limit the kinds of services an unregulated vendor could offer, restricting this fast-moving, competitive market.”¹⁵⁴

The Commission has also preemptively deregulated the provision of “enhanced services”—those information services provided by common carriers that combine the transmission and processing of data, including such familiar services as voicemail, e-mail, and alarm monitoring.¹⁵⁵ The FCC released the Bell Operating Companies (“BOCs”) from a requirement that they offer enhanced services through separate

150. *See, e.g.*, Petition of the Connecticut Dep’t Pub. Util. Control to Retain Regulatory Control of the Rates of Wholesale Cellular Serv. Providers in the State of Connecticut, *Report & Order*, 10 FCC Rcd. 7025, ¶ 4 (1995) [hereinafter Conn. Petition], *aff’d*, Conn. Dep’t of Pub. Util. Control v. F.C.C., 78 F.3d 842 (2d Cir. 1996).

151. Leonard J. Kennedy & Heather A. Purcell, *Section 332 of the Communications Act of 1934: A Federal Regulatory Framework That Is “Hog Tight, Horse High, and Bull Strong”*, 50 FED. COMM. L.J. 547, 550 (1998).

152. *See Computer II*, *supra* note 139, at ¶ 7.

153. *Id.* ¶ 129.

154. *Id.* ¶ 129; *see also* HUBER, KELLOGG & THORNE, *supra* note 102, at 1094 (discussing FCC’s treatment of a petition by enhanced services providers in the District of Columbia).

155. “Enhanced services,” as characterized for many years by the FCC (including during the period when the FCC was deregulating them), were subsequently relabeled “information services” in the 1996 Telecommunications Act such that the two categories are no longer distinct.

subsidiaries and then preempted the states from regulating or imposing tariffs on any such interstate services.¹⁵⁶ The FCC observed that even a voicemail service offered by a purely local phone company to a discrete locale within a state could nonetheless receive and store calls from out of state or be accessed by the service's customer from out of state.¹⁵⁷ Each of the enhanced services had both an intrastate and an interstate component. Although it might be technically feasible for a BOC to comply with state structural separation requirements on just the intrastate portion of these jurisdictionally mixed services, it would not be economically or operationally feasible for them to do so. Accordingly, preemption was required because "a degree of certainty and uniformity may be necessary to enable the enhanced services market to develop in the way that both state commissions and this Commission desire."¹⁵⁸

Finally, the Internet is, of course, "inherently interstate."¹⁵⁹ There are no political borders in cyberspace. This reality will be of growing significance in the regulation not just of the Internet itself but also of *wireline* telephony because the Internet's voice application, VoIP, offers intermodal competition for wireline.¹⁶⁰ This technology, which we more

156. After an initial remand, the FCC's order was upheld on appeal. Amendment of Sections 64.702 of the Commission's Rules & Regulations (Third Computer Inquiry), *Report & Order*, 104 F.C.C.2d 958 (1986), *vacated and remanded*, California v. F.C.C., 905 F.2d 1217 (9th Cir. 1990), *proceedings on remand*, Computer III Remand Proceedings: Bell Operating Co. Safeguards, *Notice of Proposed Rulemaking & Order*, 6 FCC Rcd. 174 (1990) [hereinafter *Computer III*], *rule modification*, 6 FCC Rcd. 7571 (1991), *vacated in part and remanded*, California v. F.C.C., 39 F.3d 919 (9th Cir. 1994), *on remand*, Computer III Further Remand Proceedings: Bell Operating Co. Provision of Enhanced Servs., *Order*, 10 FCC Rcd. 5692 (1995).

157. See Petition for Emergency Relief & Declaratory Ruling Filed by the BellSouth Corp., *Memorandum Opinion & Order*, 7 FCC Rcd. 1619, ¶ 9 (1992):

We conclude, based on the record, that BellSouth's voice mail service is capable of receiving, and does receive, calls from out-of-state as well as in-state locations. These calls can be from persons calling the voice mail customer, or from the customer calling to obtain messages recorded by the voice mail service.

158. *Computer III*, *supra* note 156, at ¶ 47.

159. Implementation of the Local Competition Provisions in the Telecomms. Act of 1996, *Declaratory Ruling & Notice of Proposed Rulemaking*, 14 FCC Rcd. 3689, 3715 (1999) (Comm'r Ness, concurring) ("Switched network telephone calls to Internet service providers are inherently interstate" due to "the interstate and international nature of the Internet."), *vacated and remanded*, Bell Atl. Tel. Cos. v. F.C.C., 206 F.3d 1 (D.C. Cir. 2000), *reinstated on remand*, 16 FCC Rcd. 9151 (2001); see also Pulver, *supra* note 106, at ¶¶ 16, 21 & n.78 (all Free World Dial-Up service on Internet is deemed interstate even if both parties are in same state).

160. VoIP services are generally referred to as static or nomadic. Static providers typically use residential cable or DSL to deploy service for VoIP phones in fixed locations. Nomadic providers utilize technology that allows their subscribers to use their service wherever they have an Internet connection. See, e.g., International Engineering Consortium, *Is VoIP Without E9-1-1 Worth the Risk?: Challenges, Approaches, and Recommendations for VoIP Service Providers - Technical Challenges*, http://www.iec.org/online/tutorials/voip_e911/topic03.html (last visited Mar. 20, 2008).

fully discuss below, must be presumed to carry *all* calls in an interstate fashion. This is the case, even if the calls are from one house to the next-door neighbor, because the Internet stretches across state and national borders and uses packet switches rather than circuit switches. Packet technology slices every transmission, voice or otherwise, into small digital packets that are then dispatched individually to their destination by whichever routes are most efficient based on moment-to-moment circuit availability and congestion, whether those transmission paths to the house next door run only through local ISPs or through France and India.

Although such Internet applications themselves are no longer subject to state-by-state regulation, wireline calls to VoIP subscribers still are—or at least state regulators act as if they are. Yet even a “local” call to a VoIP subscriber down the street will almost always be interstate because VoIP providers employ centralized, high-capacity switches to serve their subscribers. For example, Cox Communications serves all of its VoIP subscribers in the eastern United States (including current customers in, e.g., Virginia) through a single switch located in Atlanta, Georgia.¹⁶¹ Time Warner Cable, which serves customers in at least 33 states¹⁶² and made VoIP available in all of its markets by 2005,¹⁶³ has forecast that it will need only about a dozen or so regional switches to handle its entire national telephony rollout.¹⁶⁴ Thus, the vast majority of

161. See Unidentified Representative of Cox Commc'ns Inc. at the Citigroup Smith Barney Entm't, Media & Telecomm. Conference (Jan. 7, 2004), in FIN. DISCLOSURE WIRE, Jan. 7, 2004, at 10:30:00. The switch used to provide VoIP in Roanoke, Virginia:

[I]s sitting in Atlanta, Georgia . . . connected by our backbone. . . . [This is] how easy it is for us to leverage all of the investment that we have in telephone against other markets. Since we don't have to drop a call center into the market, we don't have to drop a big fat expensive switch into the market. We can do it this way, and that's why we think for smaller markets, the voice over IP technology is a great way to go.

Id.; Jim Robbins, President & CEO of Cox Commc'ns Inc. at the Citigroup Smith Barney Entm't, Media & Telecomm. Conference (Jan. 7, 2004), in FIN. DISCLOSURE WIRE, Jan. 7, 2004, at 10:30:00 (“[When] we launch in another market in the eastern part of U.S., again, the switch will be . . . served out of our switch in Atlanta.”).

162. See Time Warner Cable, Company Highlights, <http://www.timewarnercable.com/corporate/aboutus/companyhighlights.html> (last visited Mar. 20, 2008).
[aboutus/companyhighlights.html](http://www.timewarnercable.com/corporate/aboutus/companyhighlights.html) (last visited Nov. 24, 2007).

163. See *The Current State of Competition in the Communications Marketplace: Hearings Before the Subcomm. on Telecomm. & the Internet of the H. Comm. on Energy & Commerce*, 108th Cong. 18 (2004) [hereinafter, *2004 Competition Hearings*] (statement of Michael J. Balhoff, Managing Dir., Legg Mason Inc.), available at http://frwebgate.access.gpo.gov/cgi-bin/useftp.cgi?IPaddress=162.140.64.183&filename=92536.pdf&directory=/diska/wais/data/108_house_hearings.

164. See Mike Farrell, *All's Quiet on the Cutting Edge*, MULTICHANNEL NEWS, Feb. 23, 2004, available at <http://www.multichannel.com/article/CA382799.html>.

wireline calls to VoIP subscribers and of VoIP calls to wireline subscribers—even “local” calls where both caller and recipient are in the same town—will necessarily make use of out-of-state facilities.

Broadband Data Services. In the late 1990s, the Commission’s priority was to induce the market to provide faster and better Internet access to the nation. But cable companies are selected and franchised by village, town, county, and other local regulators (or, at best, in rare instances, at the state level), and, in 1999, tenacious state and local regulators were still imposing open access rules and other requirements on cable operators.¹⁶⁵ The Commission’s staff concluded that “consumers would be poorly served by a fractured broadband landscape wherein each locality devises its own set of cable Internet access regulations.”¹⁶⁶ This concern dominated the Commission’s 2002 proceeding on whether to classify cable modems as “cable services,” “information services,” or “telecommunications services”:

If cable modems were to be defined as “cable services,” this would expose operators to regulations and taxes imposed by states and/or local franchising authorities; if deemed “telecommunications services,” operators would potentially face federal regulation; if designated “information services,” federal deregulation would preempt state or local rules.¹⁶⁷

Once again, the Commission’s legal classification of an electronic transmission technology was dictated by the consequences for the creation of a nationwide network:

[W]e address potential areas of regulatory uncertainty at the State and local levels that could also discourage . . . investment and innovation. We would be concerned if a patchwork of State and local regulations beyond matters of purely local concern resulted in inconsistent requirements affecting cable modem service, the technical design of the cable modem service facilities, or business arrangements that discouraged cable modem service deployment across political boundaries.¹⁶⁸

165. See Hazlett, *supra* note 55, at 189-90.

166. DEBORAH A. LATHEN, FCC BUREAU CHIEF, BROADBAND TODAY 39 (1999), available at <http://ftp.fcc.gov/Bureaus/Cable/Reports/broadbandtoday.pdf>.

167. Hazlett, *supra* note 55, at 191; see also Barbara S. Espin & Gary S. Lutzker, *Poles, Holes and Cable Open Access: Where the Global Information Superhighway Meets the Local Right-of-Way*, 10 COMMLAW CONSPPECTUS 23, 25-28 (2001).

168. Inquiry Concerning High-Speed Access to the Internet Over Cable & Other Facilities, *Declaratory Ruling & Notice of Proposed Rulemaking*, 17 FCC Rcd. 4798, ¶ 97 (2002) [hereinafter *Declaratory Broadband Ruling*], *aff’d in part, vacated in part sub nom. Brand X Internet Servs. v. F.C.C.*, 345 F.3d 1120 (9th Cir. 2003), *rev’d and remanded sub*

Accordingly, the Commission classified cable modem service—which is still an important form of broadband access to the Internet—as an “information service” in order to ensure that it would be subject exclusively to federal deregulation.¹⁶⁹

The 1996 Telecommunications Act has also resulted in a degree of preemptive deregulation of the high-speed data services provided by local telephone companies, known as Digital Subscriber Lines (“DSL”).¹⁷⁰ After several false starts,¹⁷¹ the FCC concluded that “broadband services should exist in a minimal regulatory environment that promotes investment and innovation in a competitive market. . . . Therefore, our policy and regulatory framework will work to foster investment and innovation in these networks by limiting regulatory uncertainty and unnecessary or unduly burdensome regulatory costs.”¹⁷² Accordingly, in February 2003 the Commission largely exempted telephone-based broadband facilities from federal and state price regulation.¹⁷³ The Commission also ruled that states could not impose any contrary requirements.¹⁷⁴

nom. Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 978, 1000-02 (2005) [hereinafter *Brand X Internet Servs.*] (holding that the 9th Circuit erred in not applying the correct standard to the FCC decision). The FCC declaratory ruling was finally affirmed on remand, *Brand X Internet Servs. v. F.C.C.*, 435 F.3d 1053 (9th Cir. 2006). Even before the final declaratory ruling in that proceeding, the Commission had asserted “jurisdiction over all interstate communications services, including the high-speed services offered by such [broadband] providers.” Inquiry Concerning High-Speed Access to the Internet Over Cable & Other Facilities, *Notice of Inquiry*, 15 FCC Rcd. 19,287, 19,288 ¶ 3 (2000); see also *MediaOne Group v. County of Henrico*, 257 F.3d 356, 365 (4th Cir. 2001) (“The FCC, in its amicus brief, has diplomatically reminded us that it has jurisdiction over all interstate communications services, including high-speed broadband services.”).

169. Declaratory Broadband Ruling, *supra* note 168, at ¶ 97. The FCC’s ruling was upheld by the Supreme Court in *Brand X Internet Servs.*, 545 U.S. at 978, 1000-02.

170. See *WorldCom, Inc. v. F.C.C.*, 246 F.3d 690, 692 (D.C. Cir. 2001) (describing DSL technology).

171. See, e.g., Deployment of Wireline Servs. Offering Advanced Telecomms. Capability, *Memorandum Opinion & Order & Notice of Proposed Rulemaking*, 13 FCC Rcd. 24,012 (1998) [hereinafter *Deployment*] (subsequent negative history exists); Deployment of Wireline Servs. Offering Advanced Telecomms. Capability, *Third Report & Order*, 14 FCC Rcd. 20,912 (1999); Implementation of the Local Competition Provisions of the Telecomms. Act of 1996, *Third Report & Order & Fourth Further Notice of Proposed Rulemaking*, 15 FCC Rcd. 3696, ¶¶ 302-317 (1999), *order modified by* 15 FCC Rcd. 1760 (1999).

172. Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, *Notice of Proposed Rulemaking*, 17 FCC Rcd. 3019, ¶ 5 (2002) [hereinafter *Appropriate Framework for Broadband Access*].

173. See Press Release, FCC, FCC Adopts New Rules for Network Unbundling Obligations of Incumbent Local Phone Carriers (Feb. 20, 2003), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-231344A1.pdf.

174. *Id.* For a brief interval, wireline telephone companies’ broadband product, DSL, remained subject to the FCC’s common carrier requirements while the cable industry’s broadband service suffered no such burden. The Supreme Court upheld the FCC’s decision to

Voice over Internet Protocol. The most important new telephone technology is undoubtedly that which makes use of the Internet. The broad category of “information services” preemptively deregulated by the FCC was extended in 2004 to a service offered by pulver.com that allowed members to call one another over the Internet. Known as Free World Dialup (“FWD”), this voice application makes no use of the traditional public switched telephone network (“PSTN”). Because Pulver does not offer any transmission service of its own, members must have broadband Internet access and must acquire software that enables their personal computers to function as “soft phones.” Once these criteria are met, anyone anywhere in the world can obtain a Pulver-assigned FWD number that enables that member to establish free Voice over Internet Protocol communications with other FWD members over the Internet. Pulver neither knows nor needs to know where its members are geographically located in order for its members to use FWD, and once an FWD member obtains an FWD number, that number is completely portable to any broadband-accessible location in the world to which that member may go.¹⁷⁵

FWD plainly has components that are, in themselves, *wholly intrastate*: the caller’s link to the location of his local ISP, which allows him to access the Internet, is typically intrastate, and the FWD service “connects consumers around the corner” as well as “across the globe.”¹⁷⁶ But the Commission noted “the existence of other ‘network’-based service examples where, although an intrastate component of such service may exist, this intrastate component must nonetheless yield to exclusive federal jurisdiction.”¹⁷⁷ The Commission found that the “nature” of

treat DSL and cable broadband differently in *Brand X Internet Servs.*, 545 U.S. 967. The Court’s decision was predicated on the traditional rule of deference to agency interpretation of congressional delegations of power in technical regulatory fields. *Id.* at 996-97 (citing *Chevron U.S.A., Inc. v. Nat’l Resources Def. Council, Inc.*, 467 U.S. 837 (1984)). The Court acknowledged that the FCC had imposed common carrier obligations on DSL services based not on an analysis of contemporary market conditions, but on the basis of local wireline companies’ historical (and no longer extant) monopoly status, whereas the FCC order under review had analyzed current market conditions in declining to extend common carrier restrictions to cable broadband. *Id.* at 1001-02. The Court declined to address the obvious inconsistency and discrimination in the FCC’s treatment of the two competing modes of broadband access on the grounds that the FCC was already in the midst of reconsidering its regulatory treatment of all information services, and the Court would not interfere mid-stream with respect to subject matter that was so “technical, complex, and dynamic.” *Id.* Not long after the *Brand X Internet Servs.* decision, the FCC indeed reclassified broadband Internet access services offered by wireline companies as information services subject to a “lighter regulatory touch.” *Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, Report & Order & Notice of Proposed Rulemaking*, 20 FCC Rcd. 14,853, ¶ 3 (2005) [hereinafter *Internet Over Wireline Facilities*].

175. Pulver, *supra* note 106, at ¶ 5.

176. *Id.* at 3326 (Chairman Powell, concurring).

177. Pulver, *supra* note 106, at ¶ 25 n.91.

FWD as a service:

[N]ot bound by geography may well render an attempt by a state to regulate any theoretical intrastate FWD component an impermissible extraterritorial reach. . . . Because of the way FWD is offered, one state's regulation of FWD may have the practical effect of requiring those same regulations to be applied to FWD service for all users.¹⁷⁸

“Furthermore, if Pulver were subject to state regulation, it would have to satisfy the requirements of more than 50 state and other jurisdictions with more than 50 different certification, tariffing and other regulatory obligations.”¹⁷⁹

The scenario that would result if FWD were characterized as “telecommunications” caused the FCC to shudder: “state-by-state regulation of a wholly Internet-based service is inconsistent with the controlling federal role over interstate commerce required by the Constitution.”¹⁸⁰ Pulver's FWD was consequently characterized as an

178. *Id.* ¶ 23; see *Cotto Waxo Co. v. Williams*, 46 F.3d 790, 793 (8th Cir. 1995) (“Under the Commerce Clause, a state regulation is per se invalid when it has an ‘extraterritorial reach,’ that is, when the statute has the practical effect of controlling conduct beyond the boundaries of the state. The Commerce Clause precludes application of a state statute to commerce that takes place wholly outside of the state's borders.”)

179. Pulver, *supra* note 106, at ¶ 25.

180. *Id.* ¶ 16. Perhaps the most ominous example of retrograde application of state-by-state regulation to the inherently interstate Internet is the “net neutrality” fight, which concerns the offering by large Internet service providers of priority carriage for an additional fee. Advocates of broadband regulation – some consumer advocates as well as major Website operators such as Google and eBay – have recoiled from the prospect that any transaction on the Internet might be given priority (for a fee) over any other. See Kristina Rasmussen, ‘Net Neutrality’ Fight Moves to States, BUDGET & TAX NEWS, Aug. 1, 2006, available at <http://www.heartland.org/Article.cfm?artId=19415>. Free-market advocates have countered that there is little, if any, evidence of the supposed abuses that net-neutrality activists have been decrying for years. They observe that, on the contrary, the Internet has flourished in the absence of government regulation, and that proposals to regulate broadband would dampen innovation and erode incentives to investment. Congress seemed to hear and to heed that perspective in June 2006, when the House voted 269-152 against adding a net neutrality amendment to a major cable television franchise reform bill. *Id.* With national legislation at least temporarily stymied, activists have taken the campaign for net neutrality to state legislatures and the offices of state attorneys general. *Id.*; see also Mackinac Center for Public Policy, Internet Policy Strictly a Federal Prerogative: Action by Michigan Lawmakers on ‘Net Neutrality’ Would Invite Costly Lawsuit, <http://www.mackinac.org/article.aspx?ID=8103> (last visited Mar. 20, 2008); *Granholt Signs Cable TV Bill - Without Net Neutrality*, MICH. TECH. NEWS, Dec. 21, 2006, <http://mitechnews.com/articles.asp?id=6469> (upon signing Michigan's franchising reform bill, Gov. Granholm urged the Michigan Legislature to enact net neutrality legislation in its next session); Jason Lee Miller, *Net Neutrality Goes Stateside*, WEB PRO NEWS, Nov. 29, 2006, <http://www.webpronews.com/topnews/topnews/wpn-60-20061129NetNeutralityGoesStateside.html>; Jim Puzanghera, *Congress Likely To Hang Up on '06 Telecom Reform*, L.A. TIMES, Dec. 3, 2006, (forecasting problems with efforts by telephone companies to get national legislation through Congress addressing pay-TV over phone lines in wake of Democratic Party victories in mid-term elections); Posting of Josh

unregulated “information service” subject only to federal jurisdiction. The Commission went out of its way to specify that “any state regulations that seek to treat FWD as a telecommunications service or otherwise subject it to public-utility type regulation would almost certainly pose a conflict with our policy of nonregulation.”¹⁸¹ In short, the FCC’s *legal characterization* of FWD was driven by the imperatives of “remov[ing] any regulatory uncertainty” and ensuring that this inherently interstate service “remain insulated from unnecessary and harmful economic regulation at both the federal and state levels. This action is designed to bring a measure of regulatory stability to the marketplace and therefore remove barriers to investment and deployment of Internet applications and services.”¹⁸²

The same circumstances and logic dictated the same result in the more recent battle over state-by-state regulation of a similar (but far more important) VoIP service offered by Vonage. In *In the Matter of Vonage Holdings Corporation*,¹⁸³ the Commission preempted an order of the Minnesota Public Utilities Commission applying its traditional “telephone company” regulations to Vonage’s “DigitalVoice” service, which provides VoIP communication that “resembles the telephone service provided by the circuit-switched network.”¹⁸⁴ Vonage’s customers may use the service anywhere in the world where they can find a broadband connection to the Internet. They “may place or receive calls over the Internet to or from anyone with a telephone number – including another Vonage customer, a customer of another VoIP provider, a customer of a commercial mobile radio service (CMRS) provider, or a user reachable only through the public switched telephone network (PSTN).”¹⁸⁵

Stressing that “the characteristics of DigitalVoice preclude any practical identification of, and separation into, interstate and intrastate communications for purposes of effectuating a dual federal/state

Silver to The Huffington Post Blog, *Battle for Internet Freedom Moves to States*, http://www.huffingtonpost.com/josh-silver/battle-for-internet-freed_b_35144.html (Nov. 29, 2006). Putting aside for the moment the merits of the net neutrality argument, at the very least it is obvious that such a regulatory policy choice for a national – indeed, international – network industry should be made at the national rather than the state or local level. The information superhighway cannot be regulated as if it were fifty discontinuous sets of winding country roads.

181. Pulver, *supra* note 106, at ¶ 15.

182. *Id.* ¶ 1.

183. Vonage Holdings Corp., *Memorandum & Order*, 19 FCC Rcd. 22,404 (2004) [hereinafter *VoIP Order*], *aff’d*, Minn. Pub. Utils. Comm’n v. F.C.C., 483 F.3d 570 (8th Cir. 2007). Jeffrey Pulver, the founder of pulver.com, was also one of the founding investors of Vonage, the leading VoIP provider.

184. *Id.* ¶ 4.

185. *Id.* ¶ 8.

regulatory scheme,¹⁸⁶ the Commission concluded that Minnesota's order regulating Vonage's service should be preempted regardless of whether it was considered a telecommunications service or an information service (an issue that the Commission left unresolved)¹⁸⁷. Although the Commission acknowledged that Vonage's VoIP service enables (and often involves) purely intrastate communications, it found the traditional geographic "end-to-end" analysis for distinguishing between interstate and intrastate communications difficult, if not impossible, to apply, given VoIP's "total lack of dependence on *any* geographically defined location."¹⁸⁸ Nor did the Commission find it feasible to apply familiar proxy or allocation mechanisms to approximate an end-to-end result.¹⁸⁹ In short, because Minnesota's order regulating Vonage's DigitalVoice service could not, under prevailing technological and economic conditions, be "appl[ied] only to intrastate calling functionalities without also reaching the interstate aspects of Digital Voice," the FCC preempted it.¹⁹⁰

Even when evaluated in their incomplete, partially implemented phases, the deregulatory policies for the Internet itself, for voice applications transmitted over the Internet, and for mobile phones have been extraordinarily successful. The argument in favor of these policy reforms was that eliminating state-by-state regulation would achieve greater efficiencies in the provision of regional and national networks, and that such economies would result in benefits for consumers.¹⁹¹ There were, of course, dissenting views. For example, in the legislative and lobbying battles that preceded federal deregulation of wireless service in 1993, state regulators predicted abusive exploitation by cellular providers.¹⁹² That never happened.

Instead, the advent of an unfettered market brought a flood of capital investment and a wave of innovation—and those factors drove down costs even while wireless networks were being expanded regionally and nationally. Lower costs and robust competition led to dramatic increases both in the number of wireless subscribers and in the usage of

186. *Id.* ¶ 14.

187. *Id.* ¶ 14 & n.46.

188. *Id.* ¶ 25 (emphasis in original).

189. VoIP Order, *supra* note 183, at ¶¶ 26-29.

190. *Id.* ¶ 31; *see also* Madison River Commc'ns, LLC & Affiliated Cos., *Order*, 20 FCC Rcd 4295, ¶¶ 3-5 (2005) (company and FCC agreed upon consent decree terminating FCC's investigation into "allegations that Madison River was blocking ports used for VoIP applications, thereby affecting customers' ability to use VoIP through one or more VoIP service providers"; Madison River paid a \$15,000 fine and agreed to "not block ports used for VoIP applications or otherwise prevent customers from using VoIP applications").

191. Hazlett, *supra* note 55, at 219.

192. Robert W. Hahn et al., *Federalism & Regulation*, 26 REG., Winter 2003-2004, at 49 [hereinafter *Federalism & Regulation*].

wireless phones; prices plummeted even while new services proliferated and the quality of service rose steadily.¹⁹³ In 1995, there were just 34 million cell phone subscribers; a decade later there were 204 million subscribers to wireless networks covering 95 percent of the U.S. population.¹⁹⁴ Wireless phone usage (as measured in minutes) increased—exploded would be a more accurate term—more than 450 percent from 2000 through 2004, while use of wireline telephony decreased.¹⁹⁵ Consumers have responded with this surge of demand primarily because the price per minute for cell calls dropped 75 percent between 1994 and 2001.¹⁹⁶ The United States now has the lowest average wireless price among developed countries—8.1¢ effective price per minute as of 2005—and that rate continues to fall at almost 20 percent per year.¹⁹⁷

The figures tell a similar story of success for preemptive federal deregulation of broadband data services. Broadband Internet access is now available to 99 percent of the U.S. population.¹⁹⁸ From 2000 to 2004, the number of broadband Internet access lines rose from 4.4 million to 32.5 million; by 2005 the figure was over 50 million.¹⁹⁹ Use of dial-up Internet access has shrunk dramatically in the same period, to the point that three out of four Americans who have Internet access use broadband.²⁰⁰ Data traffic surpassed voice traffic in 1998, and now

193. Comprehensive econometric study of preemptive federal wireless regulation and deregulation confirms that it has been better both for the industry and for consumers. See, e.g., Hazlett, *supra* note 55, at 193-237. Indeed, it is touted as a rare and valuable “natural experiment” in the virtues of federal over state-by-state regulation – the perfect case study. *Id.* at 205-06.

194. See KEITH MALLINSON, YANKEE GROUP REPORT, WIRELESS SUBSTITUTION OF WIRELINE INCREASES CHOICE AND COMPETITION IN VOICE SERVICES 1 (2005) [hereinafter WIRELESS SUBSTITUTION]. The most current figures may be found in the FCC’s annual wireless report. Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, *Eleventh Report*, 21 FCC Rcd. 10,947 (2005), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-142A1.

195. WIRELESS SUBSTITUTION, *supra* note 194, at 1; see also *2004 Competition Hearings*, *supra* note 163, at 29-50 (statement of Ned P. Zachar, Dir. of Telecom Servs. Research, Lever House).

196. *Federalism & Regulation*, *supra* note 192, at 49; see also Hazlett, *supra* note 55, at 157 n.1.

197. WIRELESS SUBSTITUTION, *supra* note 194, at 4; *2004 Competition Hearings*, *supra* note 163, at 24 (statement of Adam Quinton, Managing Dir. & First Vice President, Merrill Lynch & Co., Inc.).

198. FCC, INDUSTRY ANALYSIS AND TECHNOLOGY DEVISION, HIGH-SPEED SERVICES FOR INTERNET ACCESS: STATUS AS OF DECEMBER 31, 2005 1 & tbl.1 (2006), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-266596A1.pdf (99% of U.S. population lives in the 98% of zip codes that have at least one broadband provider).

199. *Id.* at tbl.1.

200. Carol Wilson, *Nielson: Broadband Use Nears 75% in U.S.*, TELEPHONY ONLINE, June 22, 2006, http://telephonyonline.com/broadband/news/Nielsen_broadband_Internet_062206/index.htm

exceeds voice traffic by an eleven-to-one margin worldwide.²⁰¹ Wireless and data services combined now account for well over half of the industry's revenues. In contrast, wireline local voice revenues continue to decline and to be offset by increasing growth in wireline data revenues.²⁰²

The message is clear and the confirmation of the wisdom of the Commerce Clause's Framers—and of their contemporary, Adam Smith—is undeniable: preemptive federal regulation, followed by deregulation once competition is sufficient, unleashes market forces that expand and improve interstate communications networks.

C. All Three Major Network Technologies—Wireline, Wireless, and Cable—Now Compete to Provide Voice, Internet, and Video Services

The most important ramification of this explosive growth in deregulated wireless and VoIP services is that both of these technologies now provide intermodal competition for traditional local wireline telephony, thus substantially strengthening the rationale for similar preemptive federal regulation (and ultimate deregulation) of wireline telephony as well. Sauce for the goose is sauce for the gander—deregulation of wireline will unleash the same market forces that have multiplied service options and driven prices down in the wireless and cable markets.

Telecommunications can no longer be divided into a neat taxonomy of distinct species—wireline, wireless, cable, VoIP—occupying separate, noncompeting niches. Wireline telephony is not an isolated, discrete business anymore. It is part of a much larger, more diverse, and more complicated telecommunications market. “[P]olicymakers, understandably, work within legacy constructs – including statutes and case law – that define wireless and other intermodal services as different from traditional telephony”²⁰³ But inquiries into the proper locus of jurisdiction over, and the state of competition in, the local wireline segment of the market must take into account the “fundamental intermodal shift” created by the rise of new telephone technologies such as cell phones, cable telephony, and VoIP.²⁰⁴ Indeed, the Commission's

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201. Paul Andrews, *A Tech Rebirth?*, U.S. NEWS & WORLD REP., Jan. 13, 2003, at 28.

202. See RAINA SMYTH ET AL., MORGAN STANLEY RESEARCH, TELECOM SERVICES: INITIATION OF COVERAGE 4 (2006). It has been estimated that data revenue now accounts for approximately 10% of average revenues per user among the national wireline carriers. *Id.*

203. *2004 Competition Hearings*, *supra* note 163, at 15 (statement of Michael J. Balhoff, Managing Dir., Legg Mason Inc.).

204. *Id.* at 15; *see also id.* at 24-29 (statement of Adam Quinton, Managing Dir. & First Vice President, Merrill Lynch & Co., Inc.); *id.* at 29-50 (statement of Ned P. Zachar, Dir. of

implementation of the 1996 Act has already been reversed by the courts in at least one instance for “fail[ing] to consider adequately [the impact of] intermodal competition.”²⁰⁵ Continued state-by-state regulation of one telecommunications medium—wireline—but not those with which it competes—wireless and VoIP—distorts consumer choice, forcing decisions to be based not on free-market competition but on regulatory classification.

Inherent mobility and bulk-minute plans that do not distinguish between local and long-distance calling have made cell phones attractive to a growing throng of consumers as a substitute for, not merely a supplement to, traditional wireline telephone service. Despite the precipitous drop in cellular service prices, wireless voice revenues surpassed wireline voice revenues in 2001,²⁰⁶ largely because wireless subscribers now outnumber wireline switched access lines.²⁰⁷ Furthermore, even when wireline service is retained by customers, a greater portion of their usage is being shifted to their cell phones. The availability and quality of service of cellular communications now displace 60 percent of long distance calling and 36 percent of local calling from landlines to wireless phones.²⁰⁸ Indeed, a growing portion of telephone consumers are canceling their landlines altogether and relying entirely on their cell phones. Approximately 10 percent of the total consumer market has already gone wireless-only,²⁰⁹ and that figure could triple within the next few years.²¹⁰ In metropolitan markets, 15 percent of the population is exclusively wireless, and among young adults aged 18-24 nearly a third (31 percent) have cut the landline telephone cord.²¹¹ Consequently, changing demographic patterns—young, single people have more mobile lifestyles—will inevitably accelerate the substitution of cell phones for wireline service, both local and long-distance.²¹² These

Telecom Servs. Research, Lever House).

205. United States Telecom Ass’n v. F.C.C., 359 F.3d 554, 563 (D.C. Cir. 2004) [hereinafter *USTA II*]; United States Telecom Ass’n v. F.C.C., 290 F.3d 415, 428-29 (D.C. Cir. 2002) [hereinafter *USTA I*]. The Court of Appeals was referring specifically to intermodal competition in the broadband market.

206. T.A. JACOBS, ET AL., JP MORGAN, TELECOMMUNICATIONS SERVICES 2001 1 (2001).

207. WIRELESS SUBSTITUTION, *supra* note 194, at 4 (noting that by year-end 2004, U.S. wireless subscribers outnumbered the nation’s 178 million switched access lines).

208. *Id.* at 1.

209. *Id.*

210. 2004 Competition Hearings, *supra* note 163, at 32 (statement of Ned P. Zachar, Dir. of Telecom Servs. Research, Lever House) (“[W]ith roughly 5 million [wireline customers] having already ‘cut the cord’ it’s reasonable to believe that number could be 2-3x as high in 2008.”).

211. WIRELESS SUBSTITUTION, *supra* note 194, at 1.

212. See 2004 Competition Hearings, *supra* note 163, at 32 (statement of Ned P. Zachar, Dir. of Telecom Servs. Research, Lever House); see also *id.* at 23 (statement of Frank

figures “can be fully explained only by the reality of competitive choice”; in particular by “an acceleration in the movement toward wireless services and away from wireline telephony.”²¹³

There has also been accelerating migration from wireline to various types of VoIP service. Just a few years ago, VoIP was described as “the thunder in the distance before the most formidable storm of intermodal competition is upon us.”²¹⁴ Those storm clouds have gathered and the current drizzle of competition will quickly become a monsoon. The major cable operators that currently provide the lion’s share of broadband Internet access could well prove to be the heavy-hitters in this segment of the market. To take just one example, Cablevision made VoIP service available in all of its markets in 2003²¹⁵ and the other major cable companies scrambled to catch up. Time Warner rolled out its VoIP service and overtook Cablevision by December of 2005, with twice the number of subscribers.²¹⁶ Insofar as the prerequisite for nomadic VoIP service is merely a high-speed, broadband Internet connection, VoIP competition for wireline telephony could also be presented by satellite Internet providers, ILECs offering DSL connections, wireless Web providers (known as WiFi or WISPs—Wireless Internet Service Providers), and even electric utility companies through the Broadband Over Powerline (“BPL”) technology.²¹⁷ Of course, there are also the companies, such as Vonage, that do not deliver the underlying broadband connectivity, but instead offer VoIP simply as another application of a customer’s existing Internet access—these are the “bring your own access” providers.²¹⁸

Louthan, Vice President, Raymond James Financial, Inc.).

213. *Id.* at 15-16 (statement of Michael J. Balhoff, Managing Dir., Legg Mason Inc.); *see also id.* at 26 (statement of Adam Quinton, Managing Dir. & First Vice President, Merrill Lynch & Co., Inc.); *id.* at 32 (statement of Ned P. Zachar, Dir. of Telecom Servs. Research, Lever House).

214. *Id.* at 18 (statement of Michael J. Balhoff, Managing Dir., Legg Mason Inc.).

215. *Id.* at 26 (statement of Adam Quinton, Managing Dir. & First Vice President, Merrill Lynch & Co., Inc.).

216. *See* MICHAEL PAXTON, IN-STAT REED ELEC. GROUP, CABLE TELEPHONY SERVICE: VOIP DRIVES SUBSCRIBER GROWTH 24 (2006) (in December 2005 Time Warner had more than a million VoIP subscribers to Cablevision’s 600,000). By the end of the first quarter of 2006, Time Warner had 1.4 million subscribers. *See* KATE GRIFFIN, YANKEE GROUP, THE VOIP EVOLUTION CONTINUES: FORECASTING BROADBAND VOIP AND CABLE TELEPHONY 11 (2006).

217. This technology employs the untapped transmission potential of the nation’s massive electrical power grid. The FCC has adopted changes to its rules to promote BPL broadband service. *See* Press Release, FCC, FCC Adopts Rules For Broadband Over Power Lines To Increase Competition And Promote Broadband Service To All Americans (Oct. 14, 2004), *available at* <http://www.atcb.com/publicdocs/FCC-NEWS-DOC-253125A1final-101404.pdf> (discussing Carrier Current Sys., Including Broadband Over Power Line Sys., *Report & Order*, 19 FCC Rcd. 21,265 (2004)).

218. *See* GRIFFIN, *supra* note 216, at 8. In 2005, Vonage’s subscribership grew a

The implications of VoIP for wireline telephony are profound:

[T]he introduction of VoIP services will move residential competition to a place that legislators and regulators could not have expected realistically under the copper-based telephony model. In this new intermodal competitive landscape, consumers will be able to choose from asset-based competitors whose services are differentiated from, and more convenient than, circuit-switched telephony. Further, the pricing for services will almost certainly, in my view, be more attractive than rates possible using legacy telephony, because of the underlying economics of Internet-based technologies.²¹⁹

Indeed, many analysts anticipate that VoIP will quickly bypass wireline CLECs and circuit-switched cable telephony as competition for ILECs in the residential telephone market.²²⁰ From December 2004 to December 2005, the number of VoIP-enabled cable telephony subscriber households in North America quadrupled.²²¹ Some analysts forecast that there will be more than 26 million residential broadband VoIP customers by 2010.²²²

The three major technology platforms, i.e., wireline, wireless, and cable, are now competing not just with respect to the provision of voice services, but also in broadband Internet access and video programming services. Cable companies no longer provide merely subscription television entertainment; they are now the principal providers of broadband Internet access and, as one application of that broadband service, they also provide voice service either by circuit-switched telephony or by VoIP.

Similarly, most U.S. providers of traditional voice service provide wireless services through an affiliate or subsidiary. These affiliates also provide broadband Internet access through highspeed DSL service whose signal is carried on the same ILEC copper or fiber-optic network that carries wireline phone service. And, as described more fully below, having invested billions to build the fiber-optic networks necessary to support broadband Internet access, telephone companies are now in a position to offer high-definition, digital video programming and therefore to offer genuine competition to cable systems for the first time.

Finally, wireless providers have likewise begun to compete in both

remarkable 250%; as of March 2006, Vonage reported 1.5 million customers. *Id.* at 9.

219. *2004 Competition Hearings*, *supra* note 163, at 18-19 (statement of Michael J. Balhoff, Managing Dir., Legg Mason Inc.).

220. *Id.*

221. *See* PAXTON, *supra* note 216, at 24; *see also* GRIFFIN, *supra* note 216, at 8-9 (reporting that in 2005 the U.S. residential market grew from 1.1 million to 4 million consumer broadband VoIP subscribers).

222. *See* GRIFFIN, *supra* note 216, at 8-9.

the Internet and video entertainment markets. Wireless broadband Internet access for laptop computers and hand-held Personal Data Appliances (“PDAs”) is now widely available on cellular networks, not just at the 40,000 “wi-fi hot spots” in Internet cafes, airports, hotels, and other locations.²²³ Wireless companies have also entered the video entertainment broadcasting market. Sprint PCS got the ball rolling with its MobiTV service, which streams programs onto wireless phones via the Internet, allowing customers to watch news, sports, and other video programming.²²⁴ AT&T Wireless included MobiTV as part of its mMode data service in 2004, and it is now part of Cingular’s Media Net service (after the merger of the Cingular and AT&T networks).²²⁵ Verizon Wireless launched its EV-DO network to provide wireless Internet access for business customers in 2003.²²⁶ In 2005 it added V CAST—the nation’s first wireless multimedia service, providing mobile subscribers with news programming, music videos, sports clips, video games, and even episodes of television programs.²²⁷ Verizon took the next step in the first quarter of 2007 when it launched V CAST Mobile TV, offering television on wireless phones at 30 frames per second, which is twice the speed of prior wireless networks and comparable to broadcast TV.²²⁸ The debut offering included a number of popular networks, including CBS, NBC, Fox, Comedy Central, MTV, and Nickelodeon.²²⁹

Plainly, we are no longer living in a world of one segregated technology for each separate telecommunications, information, or entertainment service. The overwhelming and undeniable trend is convergence and intermodal competition. In general, the phenomenon of service convergence described above with respect to wireline telephony replicates the experience in wireless communications that began a decade ago, when the lines between pagers, cell phones and e-mail devices began

223. Intel estimated this figure as of July 2006. See JiWire, WiFi Finder & Hotspot Directory, <http://www.jiwire.com/search-hotspot-locations.htm> (last visited Mar. 20, 2008).

224. Walter S. Mossberg, *Watching TV on Your Cellphone*, WALL ST. J., Sept. 1, 2004, at D7.

225. Press Release, MobiTV, Inc., Cingular Goes Live With MobiTV (Jan. 25, 2005), available at http://www.mobitv.com/press/press.php?i=press/release_012505.

226. Walter S. Mossberg, *Verizon Devices Use High-Speed Network for Voice, Web, E-Mail*, WALL ST. J., Dec. 16, 2004, at B1.

227. Press Release, FCC, FCC Issues 12th Annual Report to Congress on Video Competition (February 10, 2006) [hereinafter FCC Issues 12th Annual Report], available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-263763A1.pdf; Press Release, Verizon Wireless, Now Playing On a Cell Phone Near You: Video Clips, Music Videos and 3D Games (Jan. 31, 2005), available at <http://news.vzw.com/news/2005/01/pr2005-01-31.html>.

228. See Ben Patterson, *Verizon Wireless Unleashes MediaFlo Mobile TV*, INFOSYNC WORLD, Jan. 7, 2007, www.infosyncworld.com/news/n/7345.html.

229. Parental controls are available on this mobile phone television service. *Id.*

to disappear. At that time the FCC found that “the direction is away from a ‘balkanized view’ that sees cellular, SMRs, paging, *etc.*, competing in separate markets.”²³⁰

[G]rowth in the wireless marketplace is bringing with it an increasing degree of service convergence. Technology and consumer demand, facilitated by our general policy not to restrict the services that can be provided over any particular band, are prompting commercial service providers to follow marketing strategies that blur the differences between the various services comprising the wireless marketplace.²³¹

The “principal force driving [that] convergence . . . was the desire of carriers to meet the demand of their customers for ‘one-stop shopping,’ the ability to buy at one place a mixture of different mobile services.”²³² This blurring of providers and market niches is accelerating:

The industry is offering consumers the opportunity to “bundle” services at attractive price points in a way unheard of even just a year ago. For example, all of the major ILECs will launch packages of telephony, data and video services (by working with satellite providers Echostar and DirecTV) this year [2004]. Better rates are available from cable providers if you take their “triple play.” Wireless can be bundled with wireline in some areas with the added benefit of a single bill.²³³

The convergence of telecommunications platforms and providers makes continued state-by-state regulation of just one of those merging modes—traditional wireline—ever harder to justify. Again, the objection is not merely inequity, but *inefficiency*: disparate regulatory treatment of competitive modes of communication distorts the choices that consumers make in the marketplace. The persistence of state regulation of local wireline cannot be justified by mere reference to a tradition of such regulation in the face of the uniform *deregulation* of the intermodal substitutes for local wireline. The Commission itself has counseled that regulators must “avoid simply extending existing rules that were crafted to govern legacy services provided over legacy networks.”²³⁴ “[D]ifferent regulatory treatment of similarly situated infrastructures

230. Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, *First Report*, 10 FCC Rcd. 8844, 8864 (1995).

231. *Id.* (citation and quotation marks omitted).

232. *Id.*

233. *2004 Competition Hearings*, *supra* note 163, at 27 (statement of Adam Quinton, Managing Dir. & First Vice President, Merrill Lynch & Co., Inc.).

234. *Appropriate Framework for Broadband Access*, *supra* note 172, at ¶ 6.

distorts the evolution of those markets.”²³⁵ The nation needs federal “regulatory parity” across competing modes of telephony to “promote investment” and “prevent[] burdensome and unnecessary state regulatory practices.”²³⁶ Otherwise, regulation will impede investment and innovation in those technologies that do not fit FCC categories as neatly.

With wireline telephony, as with wireless and broadband, the government can and should promote competition “[b]y establishing like regulation of substitutable services.”²³⁷ The regulatory objective should not be to promote wireline CLECs as competitors for wireline ILECs, but to encourage *all modes* of telecommunications that can compete with local wireline, even if they partake of different technologies, and similarly to encourage *all modes* of competition for broadband Internet access and video-entertainment services. In telecommunications regulation, as in antitrust law, the guiding principle is “to promote and protect competition, not specific competitors.”²³⁸

IV. THE TENSION BETWEEN THE COMMERCE CLAUSE AND CONTINUED STATE REGULATION OF INTERSTATE WIRELINE, WIRELESS, AND CABLE NETWORKS

It is beyond cavil that the constitutional policy of the Commerce Clause has been a stunning success. “The material success that has come to inhabitants of the states which make up this federal free trade unit has been the most impressive in the history of commerce”²³⁹ If the United States is to maintain (or, in some respects, regain) its preeminence as the world’s most important and most rationally integrated free-trade zone, the implications of the Framers’ deliberate choice of nationalism over parochialism must be carried to their logical conclusion in the regulation of telecommunications. We will examine three aspects of modern telecommunications and entertainment networks that now compete intermodally with one another yet are in different

235. *Powell Stresses Need For Regulatory Restraint at FCC*, WARREN’S CABLE REG. MONITOR, Feb.12, 2001, available at 2001 WLNR 5648168 (quoting FCC Chairman Michael K. Powell).

236. Implementation of Sections 3(n) & 332, *supra* note 148, at 1421.

237. *Id.* at 1509 n.532 (citation omitted). The Commission has recognized that the goal should be to “create a rational framework for the regulation of competing services that are provided via different technologies and network architectures,” and to apply “an analytical approach that is, to the extent possible, consistent across multiple platforms.” Declaratory Broadband Ruling, *supra* note 168, at 4802; *see also* Appropriate Framework for Broadband Access, *supra* note 172, at 3023 (“[T]he Commission will strive to develop an analytical framework that is consistent, to the extent possible, across multiple platforms.”) (“a functional approach, focusing on the nature of the service provided to consumers, rather than one that focuses on the technical attributes of the underlying architecture”).

238. Implementation of Sections 3(n) & 332, *supra* note 148, at 1455.

239. *H.P. Hood & Sons*, 336 U.S. at 538.

evolutionary stages of deregulation. The principal justifications for continued state-by-state—or worse, town-by-town—regulation in these areas are in fundamental conflict with the principles that animate the Commerce Clause.

First, we will examine traditional local wireline telephony, where the federal government has terminated local monopolies but which otherwise remains subject to significant (and inefficient) state-by-state regulation. Second, we will look at certain aspects of wireless cell phone networks, where there has been federal preemptive price deregulation but which is still plagued by recalcitrant state regulation in the form of purported consumer-protection regimes that trench upon federal prerogatives and interfere with market forces. Finally, we will examine the video programming market, where Congress has outlawed cable monopoly franchises but has left the implementation of this supposedly more competitive regime to local franchising authorities (“LFAs”) that are not the most enthusiastic partners in the federal deregulatory process, and whose continued role suppresses intermodal competition to the detriment of consumers.

Both of the latter two situations are examples of the natural hydraulic pressure of state and local governments to resist federal deregulation. State regulatory power, like water, is not compressible: if the state authorities are not entirely displaced by preemptive federal deregulation, their natural tendency is to reassert their lost regulatory power over rate-setting and market entry in other ways, such as under the guise of consumer protection or through the assertion of local control over rights-of-way.

A. The Case for Exclusive Federal Regulation (and Then Deregulation) of Local Wireline Telephony

The Telecommunications Act of 1996 fatally undermined any remaining rationale for continued state regulation of wireline telephony by terminating the states’ exclusive jurisdiction over intrastate telephony and eliminating the monopoly franchises conferred by states on local carriers.²⁴⁰ The 1996 Act’s division of regulatory authority constituted a shift of seismic magnitude in the balance of power between state and federal regulators. The FCC’s Chairman at the time put it bluntly, remarking that the 1996 Act threw the states’ traditional intrastate authority into “the trash can of history.”²⁴¹ Thus it is undeniable that

240. See 47 U.S.C. §§ 251-252. These sections require incumbent local exchange carriers (“ILECs”)—the old local telephone monopolies—to interconnect with and to assist new competitive entrants to the market.

241. *Hundt Looks Toward ‘Radical’ Overhaul of Regulatory Regimes*, TELECOMM.

“[t]he 1996 Act move[d] beyond the distinction between interstate and intrastate matters that was established in the 1934 Act.”²⁴² In the 1996 Act, Congress not only ratified and extended federal deregulation of wireless and data services,²⁴³ it also preempted state laws that had imposed exclusive local telephone franchises.²⁴⁴ That single change made possible the rapid rise in facilities-based *wireline* competition in the market for local telephone service in the decade since.

This is confirmed by the dramatic results that accompanied preemptive federal regulation of wireline entry: Competing wireline carriers deployed local networks that quickly grew to serve more than 20 million customer lines throughout the country. Total CLEC market share had grown to 15 percent as early as June 2003.²⁴⁵ Competing carriers deployed more than 200,000 route miles of fiber optic cable and have installed more than 3,000 switches (1,300 circuit switches and 1,700 packet switches).²⁴⁶ Competitors operate at least 1,800 networks in more than 900 U.S. cities.²⁴⁷ The CLEC presence in the market for business telephony became especially strong: FCC surveys as long ago as June 2003 revealed that CLECs had already captured 23 percent of U.S. business lines and more than 40 percent in denser business centers.²⁴⁸

REP., July 15, 1996, available at 1996 WLNR 6141663; see also Implementation of the Local Competition Provisions in the Telecomms. Act of 1996, *First Report & Order*, 11 FCC Rcd. 15,499, 15,559-60 (1996) [hereinafter *Local Competition Order*], modified on recon., 11 FCC Rcd. 13,042 (1996), vacated in part, *Iowa Utils. Bd. v. F.C.C.*, 120 F.3d 753 (8th Cir. 1997), rev'd sub nom. *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366 (1999).

242. *Local Competition Order*, supra note 241, at ¶ 24. The FCC's sweeping new authority was confirmed in *AT&T Corp.*, 525 U.S. at 378 n.6, decision on remand, *Iowa Utils. Bd. v. F.C.C.*, 219 F.3d 744 (8th Cir. 2000), aff'd in part, rev'd in part sub nom. *Verizon Commc'ns, Inc. v. F.C.C.*, 535 U.S. 467 (2002).

243. See 47 U.S.C. § 271(b)(3), (g)(3) (permitting Bell operating companies to provide “incidental interLATA services” which includes “commercial mobile services”); § 230(a)(4), (b)(2) (the Internet and like services “have flourished, to the benefit of all Americans, with a minimum of government regulation;” vowing to uphold the competitive free-market for such services “unfettered by Federal or State regulation”); § 157 (the FCC and the state commissions are required to “encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans”); § 160 (granting forbearance to enhance competition among providers of telecommunications services).

244. See § 253. Some state regulation of entry into the wireline market remains; for example, a CLEC must still obtain a certificate from the state public utility commission before it can provide service.

245. *2004 Competition Hearings*, supra note 163, at 14 (statement of Michael J. Balhoff, Managing Dir., Legg Mason Inc.).

246. NEW PARADIGM RESOURCES GROUP, CLEC REPORT 2003 Ch. 2, tbl. 6 (17th ed. 2003), available at http://newparadigmresourcesgroup.ecnext.com/coms2/gi_0267-821/CLEC-Report-2003-17th-Edition.html; TELCORDIA TECHS., LOCAL EXCHANGE ROUTING GUIDE (2002).

247. See NEW PARADIGM RESOURCES GROUP, CLEC REPORT 2002 Ch. 6 (15th ed. 2001).

248. *2004 Competition Hearings*, supra note 163, at 11 (statement of Michael J. Balhoff, Managing Dir., Legg Mason Inc.).

They had established direct connections to more than 30,000 of the largest commercial office buildings.²⁴⁹

None of this would have happened if total state-by-state regulation of wireline competition had continued. Congress federalized this area of the law for the same reasons it federalized regulation of the wireless industry: because it was inherently a national network industry, and because the states were imposing rate regulation that was unwise and counterproductive.

Moreover, any attempt to justify continued state-by-state wireline regulation in today's "rapidly evolving market structure"²⁵⁰ must also consider the increasingly intense competition from other technologies such as wireless telephony and VoIP. The Commission concluded that even *impending* competition dramatically reduces the risk of abuse of market power by incumbent players.²⁵¹ The 1996 Act has put enormous pressure on the established incumbent companies and the interexchange companies.²⁵² Putting aside the issue of whether the unbundling requirements ushered in by the 1996 Act ever promoted genuine facilities-based wireline competition by CLECs, rather than mere regulatory arbitrage, there is a growing consensus that the 1996 Act is deterring investment by ILECs in the broadband sector that is the wave of the future.²⁵³

Although the 1996 Act commenced federal regulation of local wireline telephony by preempting state regulation of entry into the local market, it left the interpretation and implementation of that new policy to the myriad idiosyncratic, parochial judgments of the states. The market structure and technological environment on which the regulatory model of the 1996 Act was predicated is now a decade out of date. As previously noted, the number of cell phone subscribers has multiplied five-fold in the last decade, and wireless voice revenues have surpassed

249. See Joint Comments of Allegiance Telecom, Inc. & Focal Commc'ns Corp. in Implementation of the Local Competition Provisions of the Telecomm. Act of 1996, CC Dkt. No. 96-98, at 25 (June 11, 2001), available at http://fallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6512569121; Comments of WorldCom, Inc., in Implementation of the Local Competition Provisions of the Telecomm. Act of 1996, CC Dkt. No. 96-98, at 7 (June 11, 2001), available at http://fallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6512660123.

250. *Conn. Dep't of Pub. Util. Control*, 78 F.3d at 850 & n.7 (citation and quotation marks omitted) (upholding FCC decision refusing to let state regulate cellular phones and ruling that FCC was correct to consider the alleged need for state regulation in the context of a "forward looking perspective" and the state of "imminent future competition" in the market).

251. Implementation of Sections 3(n) & 332, *supra* note 148, at ¶¶ 148, 174-75.

252. *2004 Competition Hearings*, *supra* note 163, at 32 (statement of Ned P. Zachar, Dir. of Telecom Servs. Research, Lever House).

253. See, e.g., *2004 Competition Hearings*, *supra* note 163, at 12-13 (statement of Michael J. Balhoff, Managing Dir., Legg Mason Inc.).

wireline voice revenues. High-speed data access was in its infancy in 1996. Today, however, broadband is available in all fifty states, the District of Columbia, and Puerto Rico, as well as in Guam, American Samoa, and other Pacific islands.²⁵⁴ Neither wireless nor VoIP was even a prospect for intermodal competition for wireline when the 1996 Act was drafted.²⁵⁵

The profoundly intermodal nature of competition within the contemporary telecommunications market confirms the case for preemptive federal regulation of wireline. When the Commission preempted state regulation of Vonage's DigitalVoice service in late 2004,²⁵⁶ it did so despite its concession that DigitalVoice, with such familiar enhancements as voicemail and three-way calling, undeniably "resembles the [wireline] telephone service provided by the circuit-switched network" that the states were still permitted to regulate.²⁵⁷ Yet, the Commission reasoned, there remained several "fundamental differences" between traditional circuit-switched wireline service and packet-switched VoIP that justified continued state-by-state regulation of the former but preemptive federal regulation of the latter.²⁵⁸ The first difference noted by the Commission was that VoIP telephone service "is fully portable; customers may use the service anywhere in the world where they can find a broadband connection to the Internet."²⁵⁹ Unlike wireline service, where the phone number that one dials directs one's call exclusively to a particular geographic location from another specific and identifiable location, a VoIP subscriber can be anywhere on the planet when he makes or receives a call.²⁶⁰

Yet much of the same geographic indeterminacy exists with respect to wireline telephony: a wireline call made to a mobile telephone subscriber does not terminate at any predetermined location—it terminates wherever the mobile phone subscriber happens to be at that moment. Even a wireline call made to a wireline number does not terminate at a point certain, insofar as: (1) the recipient may have the incoming call set up to be forwarded to another wireline number located

254. See FCC, WIRELINE COMPETITION BUREAU, HIGH-SPEED SERVICES FOR INTERNET ACCESS: STATUS AS OF DECEMBER 31, 2005 3 (2006), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-266596A1.pdf.

255. WARREN'S CABLE REGULATION MONITOR, *supra* note 235 ("We increasingly are stretched by the fact that our statute and our regulatory structure are balkanized, built upon technological assumptions and the underlying technologies that form them as well as the business models that were originally generated.") (quoting FCC Chairman Powell).

256. VoIP Order, *supra* note 183.

257. *Id.* ¶ 4.

258. *Id.*

259. *Id.* ¶ 5; see also *id.* ¶ 9.

260. The FCC found the same significance in portability in its ruling preemptively deregulating FWD service in its *Pulver* decision. See *Pulver*, *supra* note 106.

anywhere in the world, or even to a cellular number then in motion somewhere; or (2) the wireline call may terminate at a call-announcement or voicemail server located far from the wireline number's assigned geographic location, and then be answered, retrieved, or returned from a different, remote, and possibly mobile location.²⁶¹ It appears that the Commission made its comparisons to traditional wireline telephony without focusing on the fact—unnecessary to the inquiry in which it was engaged—that “traditional” wireline has long since been augmented by a wealth of enhanced features interconnected with other modes of telecommunications.

It therefore comes as little surprise that, elsewhere in its VoIP Order, the FCC disavowed reliance on VoIP's “portability” to jurisdictionally distinguish it from wireline. The “geographical location of the end user at any particular time is only one clue to a jurisdictional finding” of whether the telephone communication in question is inter- or intrastate.²⁶² Even if Vonage could identify the geographic location of a VoIP subscriber, the suite of telecommunications services provided by Vonage “is far too multifaceted for simple identification of the user's location to indicate [federal or state] jurisdiction.”²⁶³ Much the same can be said for modern wireline telephony.

Rather than focusing on VoIP's portability, the FCC squarely predicated its holding of exclusive federal regulatory jurisdiction on two characteristics of VoIP that are also exhibited by modern wireline telephony. First, the centralized nature of the VoIP network and its facilities “preclude any practical identification of, and separation into, interstate and intrastate communications for purposes of effectuating a dual federal/state regulatory scheme.”²⁶⁴ State-by-state regulation of an

261. Thus much of the geographic indeterminacy and fluidity that the FCC perceives in VoIP, VoIP Order, *supra* note 183, at ¶ 27, likewise exists with respect to modern wireline, especially when wireline is properly understood as merely one component of a seamless national network employing multiple modes of telecommunications and driven by intermodal competition. The FCC also distinguished VoIP from wireline by emphasizing that the former offers a “suite of integrated capabilities and features that allows the user to manage personal communications dynamically,” including such features as “voicemail, three-way calling, online account and voicemail management,” and similar “integrated features and capabilities [that] allow customers to control their communications needs by determining for themselves how, when, and where communications will be sent, received, saved, stored, forwarded and organized.” *Id.* ¶¶ 7-8. As explained above, a number of similar features are available in some form under the AIN services now offered by wireline providers.

262. *Id.* ¶ 25.

263. *Id.* ¶ 23.

264. *Id.* ¶ 14. Ultimately, the immateriality of the “portability” feature and the independent decisiveness of the inherently interstate nature of the VoIP network were confirmed by the fact that the Commission concluded that, to decide between state and federal jurisdiction for VoIP, it did not even have to determine whether VoIP was an “information service” or a “telecommunications service.” *Id.* ¶ 14 & n.46. The irrelevance of that once-vital

inherently national network would simply “thwart federal law and policy.”²⁶⁵ The Commission accepted that the centralized VoIP:

[N]etwork design . . . permits providers to offer a single, integrated service that includes both local and long distance calling and a host of other features that can be supported from national or regional data centers and accessed by users across state lines. . . . In addition to call setup, these functions include generation of call announcements, record-keeping, CALEA, voicemail and other features such as *67, conferencing and call waiting. . . . [T]here are no facilities at the local level of a managed voice over IP network that can perform these functions.²⁶⁶

As demonstrated above, the facilities used to provide modern, feature-laden wireline services are also centralized and multi-state in nature.

With respect to VoIP, the Commission ruled that the inherently interstate, centralized network could not be dissected into separate regulatory jurisdictions along state lines because it “form[ed] an integrated communications service *designed to overcome geography, not track it.*”²⁶⁷ Indeed, even with respect to wireline telephony and its traditional “end-to-end” jurisdictional analysis, the Commission noted that its purported segregation of “jurisdictionally mixed” telephone facilities into discrete interstate and intrastate “components” and “services” was becoming more and more arbitrary—if not wholly illusory.²⁶⁸ The mere “fact that a particular service enables communication within a state does not necessarily subject it to state economic regulation,”²⁶⁹ “because the points among which” the cable modem traffic “travel[s] are often in different states and countries.”²⁷⁰ Such communications are inherently interstate and therefore subject to exclusive federal jurisdiction. That reasoning applies no less to wireline than to VoIP.

The second feature of VoIP that required preemptive federal

issue of statutory classification reflects the disintegration of the traditional taxonomy of telecommunications and the convergence of telephony with all other forms of data transmission. Voice is now but one application of data transmission, and regardless of how one classifies VoIP, the problem is that state-by-state regulation of it would conflict with the Commission’s “pro-competitive deregulatory rules and policies.” *Id.* ¶ 20 & n.69; *see also id.* ¶¶ 20-21 & n.78.

265. *Id.* ¶ 14.

266. *Id.* ¶ 32 n.113 (citation omitted).

267. VoIP Order, *supra* note 183, at ¶ 25 (emphasis added).

268. *See id.* ¶¶ 17-19 & n.65.

269. *Id.* ¶ 22.

270. *Id.* n.85 (citing Declaratory Broadband Ruling, *supra* note 168, at ¶ 59); *see also id.* ¶ 22.

regulation was the Commission's concern that "multiple state regulatory regimes would likely violate the Commerce Clause because of the unavoidable effect that regulation on an intrastate component would have on interstate use of this service . . . within other states."²⁷¹ A state law that "has the 'practical effect' of regulating commerce occurring wholly outside that [s]tate's borders" is a violation of the Commerce Clause.²⁷² When a telecommunications network's facilities serve multiple states—as do both Internet-based VoIP and, as explained above, modern wireline networks—a given state's regulation of facilities used moment-to-moment for both *intrastate* (to whatever extent the term retains semantic content) and *interstate* communications necessarily has extraterritorial effect. When a key wireline hub is located in Rhode Island, for example, an attempt by Massachusetts to regulate that facility's operational role in intrastate Massachusetts telephony would violate the Commerce Clause.

As the FCC noted in *Vonage*, "state regulation of those aspects of commerce that by their unique nature demand cohesive national treatment is offensive to the Commerce Clause."²⁷³

[And] while states can and should serve as laboratories for different regulatory approaches, we have here a very different situation because of the nature of the service – our federal system does not allow the strictest regulatory predilections of a single state to crowd out the policies of all others for a service that unavoidably reaches all of them.²⁷⁴

As explained above, this is the rationale for exclusive federal regulation of national network industries, and it is noteworthy that the Commission relied upon the highly successful, preemptive federal regulation of both trucking and railroads in support of its decision to displace state-by-state regulation of VoIP.²⁷⁵

The Constitution's Framers adopted the Commerce Clause precisely because they recognized the hydraulic political pressure on state regulators to promote local interests at the expense of the nation as a whole. It therefore should come as no surprise that state regulators often chafe under even the 1996 Act's limited restriction on their authority. Some state and local authorities have threatened to regulate service quality or even to require wireline carriers to obtain a local franchise in order to provide broadband service. For example, California regulators

271. *Id.* ¶ 14.

272. *Healy v. Beer Inst.*, 491 U.S. 324, 332 (1989).

273. VoIP Order, *supra* note 183, at ¶ 38 (citations omitted).

274. *Id.* ¶ 39.

275. *Id.* ¶ 41 n.144 (discussing "network-based industries").

ruled in 2004 that the high-frequency portion of the loop must be offered to competitors by ILECs on an unbundled basis, despite the FCC's contrary determination in the *Triennial Review Order*.²⁷⁶ Yet in 2006, the same state regulators relaxed pricing restrictions on the basis of their newfound faith in “market forces”; the pricing power of ILECs:

[I]s sufficiently checked by . . . the realistic threat of entry by carriers in any market using [unbundled loops] and the widespread competition offered by wireless, cable, and VoIP providers. These market conditions lead us to conclude that we should rely on market forces. . . .

In a fast-moving technology space like telecommunications, there is no public interest in maintaining an outmoded tariffing procedure that requires the burdensome regulatory review of cost data and delays the provision of services (particularly new or less expensive ones) to customers.²⁷⁷

Some state and local authorities also continue to retard the deployment of broadband transmission facilities by their imposition of onerous information collection requirements, ponderous processing routines, and unreasonable fees on ILECs seeking access to public rights-of-way to lay new wire and fiber-optic cables. The issue of local control over access to, and construction on or under, rights of way is naturally among the local authorities' favorite objections to preemptive federal regulation of wireline. Of course, states and municipalities of course have an essential role in regulating access to, and construction on and under, their own streets and sidewalks. Nobody has suggested otherwise, and nothing in the preemptive federalization of wireline regulation would impair that important local responsibility any more than federal preemption of broadband regulation by state or local authorities has given cable companies or other Internet service providers carte blanche to dig up streets as they wish. However, local control over such access cannot be allowed to become a burdensome chokehold on the deployment of the next generation of broadband networks that holds such promise for all Americans. “[T]he state may not use its admitted

276. See Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Servs. & Establish a Framework for Network Architecture Dev. of Dominant Carrier Network, *Opinion Granting Motion to Vacate Stay in Decision*, Cal. PUC D. 04-05-022 (2004), available at http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/36390.pdf.

277. Order Instituting Rulemaking on the Commission's Own Motion to Assess & Revise the Regulation of Telecomms. Utils., *Opinion on Rulemaking*, Cal. PUC D. 06-08-030, at 182-183 (2006), available at http://docs.cpuc.ca.gov/word_pdf/Final_decision/59388.pdf.

powers to protect the health and safety of its people as a basis for suppressing competition.”²⁷⁸

The remaining rationale for state-by-state regulation of wireline is the need to guarantee universal 9-1-1 emergency service. But that consideration cuts in favor of *federal*, not state, regulation. Universal 9-1-1 service—the assurance that dialing those three digits anywhere in the nation, by any form of telephony, will summon emergency help—is best promoted by *uniform national* regulation. The FCC is best situated—with respect both to its national jurisdiction and its superior staff resources and technical expertise—to regulate 9-1-1 service provided not only by wireless and VoIP technologies, but by wireline as well.

In short, there is simply no good reason for the nation to stumble on with the legacy of state-by-state regulation of wireline telephony. In contrast, the rationales—legal, economic, and practical—favoring preemptive federal regulation (and eventual deregulation) of wireline are compelling. State-by-state regulation imposes unnecessary costs that stifle innovation and growth.

First, lack of regulatory uniformity in a market where capital investment is intensive and costs are high “reduces product experimentation, restricts investment, and raises costs.”²⁷⁹ When the FCC deregulated cable modem service, it found that “a patchwork of State and local regulations beyond matters of purely local concern” would “result[] in inconsistent requirements” affecting “service” and “technical design” of facilities, and in “business arrangements that discouraged” deployment of service “across political boundaries.”²⁸⁰ Precisely the same is true with respect to local telephony.

Second, state-by-state regulation fosters uncertainty and instability. Regulated companies have not one but 50 different regulatory bodies to anticipate and work with. In preemptively deregulating other telecommunications markets, the Commission has stressed the importance of “remov[ing] regulatory uncertainty that may discourage investment and innovation,”²⁸¹ and of “establishing a stable, predictable regulatory environment that facilitates prudent business planning.”²⁸² In addition, these state regulatory bodies are rarely as well-funded and as

278. *H.P. Hood & Sons*, 336 U.S. at 538.

279. Hazlett, *supra* note 55, at 192.

280. Declaratory Broadband Ruling, *supra* note 168, at ¶ 97.

281. *Id.* ¶ 97 (deregulating cable modem service); *see also id.* ¶ 99 (declaring aversion to an “unpredictable regulatory environment”).

282. Conn. Petition, *supra* note 150, at ¶ 10 (refusing state petition to regulate cellular telephones); *see also* Pulver, *supra* note 106, at ¶ 1 (preemptively deregulating Free World Dialup Internet telephony in order to “remove any regulatory uncertainty” and to “bring a measure of regulatory stability to the marketplace”).

technically knowledgeable as federal regulators.²⁸³ They are, more importantly, *institutionally* incompetent to regulate a *national* communications network simply because they will never have the necessary national perspective. Indeed, in a recent decision in which the D.C. Circuit overturned an FCC decision delegating to state regulators discretion under the 1996 Act to define geographic markets for “unbundling” purposes, the court observed that state regulators could not be entrusted with implementing federal telecommunications policy because they lacked the necessary “national vision and perspective.”²⁸⁴ Like the fabled “blind men of Indostan,” who offered conflicting descriptions of an elephant after individually feeling different parts of the animal, state regulators in touch with only those parts of the interstate telephone network that are within their reach are doomed to reach incomplete and often inconsistent conclusions based on their own parochial interests.²⁸⁵

State regulators answer only to local constituencies, but when they regulate national networks, their regulations affect network users and providers in other states. This is unavoidable, because modern interstate telephone networks involve “economies of scale [that] extend across states.”²⁸⁶ As previously discussed, each of the three remaining ILECs defies state boundaries in three respects: (1) their facilities are centralized and serve multiple states; (2) none has operations confined to a single state; and (3) each has an operational “footprint” that bears no resemblance to political boundaries.

Perhaps the most fundamental problem with continued state regulation of wireline is the familiar phenomenon of externalities. Judge McConnell has noted, with respect to both political and economic theory, such “[e]xternalities present the principal countervailing consideration in favor of centralized government.”²⁸⁷ When they impose regulatory burdens on their own local portion of a national telephone

283. Hazlett, *supra* note 55, at 175.

284. *United States Telecomm. Ass’n*, 359 F.3d at 566 (citation and quotation marks omitted).

285. See John Godfrey Saxe, *The Blind Men and the Elephant*, in 1 THE HOME BOOK OF VERSE 1877-79 (Burton E. Stevenson ed., 9th ed. 1953). In the poem, six blind men, each examining a different part of an elephant such as its ear, trunk, flank, tusk, leg or tail, variously concluded that the elephant was like a fan, a snake, a wall, a spear, a tree, or a rope.

286. Hazlett, *supra* note 55, at 176 (when “economies of scale stretch beyond state borders . . . decentralized regulations lack effective feedback”); *id.* (“[W]hen economies of scale extend across states . . . the highly complementary nature of supplying consumers in multiple political jurisdictions produces costs and benefits which may largely go unnoticed by regulatory authorities.”).

287. Michael W. McConnell, *Federalism: Evaluating the Founders’ Design*, 54 U. CHI. L. REV. 1484, 1495 (1987).

network that is a sprawling, indivisible, “single integrated system,”²⁸⁸ state regulators are in no position even to see, much less to weigh, the competing costs and benefits that their acts generate throughout that integrated system. As the FCC’s former Chief Economist, Thomas Hazlett, has noted: “The problem is not that ripple effects occur, but that state regulators have no reason to take into account what ripples across state borders. States can overconsume regulation by dumping costs on others, or they can underconsume because benefits are too widely distributed.”²⁸⁹ Hazlett further explains:

[B]ecause the cost of rules falls, at least in part, on consumers [i]n other states, regulators will tend to ignore some of the costs they impose. The latter effect allows regulators to free-ride; indeed, political constraints push them to do so, as electoral power is undermined by focusing on outside interests at the expense of constituents.²⁹⁰

In sum, state-by-state regulation is fundamentally incompatible with modern wireline telephony because wireline providers are not organized or operated state-by-state. They are national businesses employing centralized network facilities and operating on multi-state economies of scale. When a dozen or more states all impose requirements on the operation of such centralized network facilities, all the vices associated with externalities—regulatory spillovers, free-rider problems, conflicting rules, and grotesque inefficiencies—are assured. This is why the Framers of the Constitution provided a Commerce Clause and a predicate for uniform, preemptive federal regulation of

288. *La. Pub. Serv. Comm’n v. F.C.C.*, 476 U.S. 355, 375 (1986).

289. Hazlett, *supra* note 55, at 181.

290. *Id.* at 205.

In markets where economies of scale or scope are important, it is possible for decentralized policy makers to effectively free-ride on investments undertaken by consumers in other jurisdictions. This occurs when a system is built to serve a large regional or national market, and state or local policy makers impose expensive regulations over a subset of that system. These regulations impose a tax, which may or may not be efficient for local consumers. Given that costs and/or benefits spill over to other jurisdictions, effects of local regulatory decisions will likely escape the attention of policymakers. The pressing issue in considering optimal jurisdiction is that with decentralized authority there will be important implications for consumers in other jurisdictions, and that these costs and benefits are not likely to be accounted for by policymakers. Analogous to a ‘race to the bottom,’ state regulators search for rules that will bestow benefits locally while shifting costs to network investments that enable local benefits to be subsidized by users elsewhere.

Id. at 180; *see also id.* at 205 (“Where large interstate networks are involved, however, spillovers occur and regulations are easier to harmonize at the federal, rather than at the state, level.”).

interstate commerce. The time is now ripe for preemptive federal regulation of wireline telephony.

B. The Problems Created by Vestigial State-by-State Regulation of Wireless Communications

As discussed above, mobile phone service has been primarily subject to federal regulation since its inception due to the nationalization of the radio spectrum in 1927 and the 1982 and 1993 amendments to the 1934 Act that expressly preserved exclusive federal authority over the two most important features of wireless regulation—rate-setting and market entry.²⁹¹ Within these two sub-divisions of the regulatory landscape, Congress has essentially occupied the field and displaced state authority.²⁹² Yet, the same 1993 amendment nevertheless failed to expressly preempt power over “other terms and conditions” of wireless phone service,²⁹³ which a House Report elaborated as including “such matters as customer billing information and practices and billing disputes and other consumer protection matters; facilities siting issues (e.g., zoning); transfers of control; [and] the bundling of services and equipment.”²⁹⁴

Unsurprisingly, state regulators have resisted these limits on their power and have pushed back with sometimes aggressive assertions (and expansive interpretations) of their traditional police powers over consumer protection.²⁹⁵ That is unproblematic and entirely consistent with the 1993 Act—so long as the state’s efforts, however they are labeled, do not amount to regulation of rates or of the terms of market entry. Consider the Eighth Circuit’s recent decision in *Cellco P’ship v. Hatch*.²⁹⁶ Minnesota enacted a “Wireless Consumer Protection” statute that required cell phone companies to obtain affirmative consent from their subscribers prior to any proposed change in rates, with a 60-day notice requirement, even if the subscriber’s current contract provided for rate increases to take effect unless the subscriber, after due notice,

291. See Communications Act of 1934 § 332 (codified as amended at 47 U.S.C. § 332(c)(3)(A)).

292. See *Cellco P’ship v. Hatch*, 431 F.3d 1077, 1081-82 (8th Cir. 2005); *Fedor v. Cingular Wireless Corp.*, 355 F.3d 1069, 1072-73 (7th Cir. 2004); *Bastien v. AT&T Wireless Servs., Inc.*, 205 F.3d 983, 987 (7th Cir. 2000).

293. See Omnibus Reconciliation Act of 1993 § 6002, Pub. L. No. 103-66, 107 Stat. 312, 394 (codified as amended at 47 U.S.C. § 332).

294. H.R. REP. NO. 103-111, at 261 (1993), as reprinted in 1993 U.S.C.C.A.N. 378, 588.

295. See, e.g., *Cellco P’ship*, 431 F.3d at 1082-83. States may also, of course, regulate wireless consumer protection issues not just by administrative action by state utility or public service commissions but also by way of state law contract, fraud, consumer protection, and deceptive trade practice claims brought in state courts. See, e.g., *Fedor*, 355 F.3d at 1072-73.

296. 431 F.3d 1077.

affirmatively objected. The Court of Appeals ruled that the statute was impermissible state regulation of mobile phone rates:

This statute effectively voids the terms of contracts currently used by providers in one industry and substitutes by statute a different contractual arrangement. The existing contracts exemplify an “opt-out” structure – that is, they permit the providers to effect rate increases upon reasonable notice to the customer, whose continued use of the service binds him to the new rate unless he affirmatively declines to accept the changes. [Whereas the new law] mandates an “opt-in” contract structure: the provider cannot increase rates unless the customer affirmatively accepts the changes.²⁹⁷

The notification period thus effectively froze rates for two months, and fixed rates for any customer who declined to opt-in to a provider’s proposed rate increase for the remaining term of that customer’s “existing contract, often one or two years.”²⁹⁸

The State of Minnesota, as might be expected, claimed that this regulatory power over the other “terms of and conditions” of cellular service contracts had been preserved by Congress with its express enumeration of continued state authority in “consumer protection matters.”²⁹⁹ The Court of Appeals correctly recognized that this argument proved too much:

We find this argument overbroad, and we are not persuaded. Any measure that benefits consumers, including legislation that restricts rate increases, can be said in some sense to serve as a “consumer protection measure,” but a benefit to consumers, standing alone, is plainly not sufficient to place a state regulation on the permissible side of the federal/state regulatory line drawn by § 332(c)(3)(A). To avoid subsuming the regulation of rates within the governance of “terms and conditions,” the meaning of “consumer protection” in this context must exclude regulatory measures, such as [Minnesota’s], that directly impact the rates charged by providers.³⁰⁰

297. *Id.* at 1083.

298. *Id.* at 1082.

299. *Id.* (quoting the House Budget Committee Report).

300. *Id.* at 1082-83 (emphasis added). In contrast, consider *Nat’l Ass’n of State Util. Consumer Advocates v. F.C.C.*, 457 F.3d 1238 (11th Cir. 2006), where the Eleventh Circuit overturned a Commission order “that preempted the states from requiring or prohibiting the use of line items in customer billing for cellular wireless services.” *Nat’l Ass’n of State Util. Consumer Advocates*, 457 F.3d at 1241. The FCC argued that “[e]fforts by individual states to regulate [wireless services providers’] rates through line item requirements . . . would be inconsistent with the federal policy of a uniform, national and deregulatory framework of the Communications Act.” *Id.* at 1253 (brackets and ellipsis by the court) (quoting the FCC order). “According to the Commission, section 332(c)(3)(A) prohibits the state regulation of

Given that state regulators can be expected to wave the “consumer protection” flag in defense of any proposal to regain jurisdiction over the cell phone industry, it is worth remembering that consumer protection is by no means an exclusively state responsibility—it becomes more properly a federal concern when the industry being regulated operates across state lines. The production and transportation of meat, milk and poultry were, once upon a time, regulated only by the states and even by local health inspection boards. However, when refrigeration and more rapid transport transformed those industries into national operations, much, if not all, of the regulatory responsibility shifted to the federal Department of Agriculture and the Food and Drug Administration. And both consumers and the industry were undeniably the better for it.

The same jurisdictional shift is even more pronounced—and even more appropriate—when the object of regulation is consumer protection within a network industry whose network has expanded across state boundaries, as discussed above. Only the federal government, not the multitude of states, could effectively and efficiently protect consumers from the predations of providers of interstate bus, rail and airline services. Telephony is likewise an interstate network phenomenon and consumer protection on a state-by-state basis may be both wholly inadequate for consumers and unduly burdensome for providers. The success of the “National Do Not Call” list (rather than 50 different state lists) to spare telephone subscribers irritation from intrusive telemarketers provides a perfect example of how national regulation often benefits both industry and consumers. The FCC is fully aware of its consumer protection responsibilities and is even now in the midst of a rulemaking process designed to generate regulations protecting cell phone subscribers from billing abuses.³⁰¹ Furthermore, the 1934 Act itself imposes a substantive duty on providers to charge reasonable rates and specifically

‘rate structures’ and ‘rate levels,’” yet state regulation of billing formats “directly intrudes upon the carrier’s ability to set rates and establish rate structures.” *Id.* at 1254 (quoting the FCC order). The Court of Appeals rejected this argument out of hand: “The prohibition or requirement of a line item affects the presentation of the charge on the user’s bill, but it does not affect the amount that a user is charged for service.” *Id.*

301. See Truth-in-Billing & Billing Format, *Second Report & Order, Declaratory Ruling, and Second Further Notice of Proposed Rulemaking*, 20 FCC Rcd. 6448, 6475-76 (2005) (“[W]e tentatively conclude that the line between the Commission’s jurisdiction and states’ jurisdiction over carriers’ billing practices is properly drawn to where states only may enforce their own generally applicable contractual and consumer protection laws, albeit as they apply to carriers’ billing practices.”). The Eighth Circuit took the same approach in its decision in *Cellco P’ship*, 431 F.3d at 1080-82 & n.2. But see *Nat’l Ass’n of State Util. Consumer Advocates*, 457 F.3d at 1254 (vacating FCC order that had preempted states from requiring or prohibiting use of line items in customer billing for cellular phone service and holding that the “prohibition or requirement of a line item affects the presentation of the charge on the user’s bill, but it does not affect the amount that a user is charged for service”).

provides aggrieved customers with a right either to apply to the FCC to investigate or to bring a claim in federal court.³⁰²

States can also be expected to assert their traditional state (and even local) zoning prerogatives to control the location of wireless telephone towers and other facilities. But again, great care must be taken to scrutinize the state claim of jurisdiction carefully, both to ferret out subterfuges by state regulators annoyed by their loss of authority and trying to regulate rates or competition indirectly, and to fend off even well-intended state zoning regulations that would intrude on the federal government's exclusive authority over rates and market entry. For example, no federal preemption was found in *MetroPCS, Inc. v. San Francisco*,³⁰³ because the zoning board's denial of a cell provider's application to locate cell towers in a particular area was non-discriminatory and did not effectively prohibit wireless service. And the House Report, after all, included "facilities siting issues (e.g., zoning)" on its list of "terms and conditions" that the states may continue to regulate.³⁰⁴

But in *Bastien v. AT&T Wireless Serv., Inc.*,³⁰⁵ the Seventh Circuit correctly recognized that the private plaintiff's state law breach-of-contract and consumer fraud claims against AT&T, which alleged that the provider had signed up customers without first building an adequate number of towers to provide reliable service, were preempted because they would impermissibly "tread directly on the very areas reserved to the FCC: the modes and conditions under which AT&T Wireless may begin offering services in the Chicago market."³⁰⁶ The FCC, not state courts or regulators, "is responsible for determining the number, placement and operation of cellular towers and other infrastructure [required for market entry], as well as the rates and conditions that could be offered for the new service."³⁰⁷

The lesson is that neither state public service commissions nor state courts should be allowed to employ either "consumer protection" or "zoning" considerations as a shield against the federal government's preemptive regulation—and, in significant part, its preemptive *deregulation*—of wireless telephony. Nor does the risk to exclusive federal regulation of mobile telephones lie only in the machinations of

302. See Communications Act of 1934 §§ 201(b), 207 (codified as amended at 47 U.S.C. §§ 201, 207).

303. 400 F.3d 715, 735 (9th Cir. 2005).

304. H.R. REP. NO. 103-111, at 261 (1993), as reprinted in 1993 U.S.C.C.A.N. 378, 588.

305. 205 F.3d 983.

306. *Id.* at 989 (plaintiff's claims "would directly alter the federal regulation of tower construction, location and coverage, and quality of service and hence rates for service").

307. *Fedor*, 355 F.3d at 1072 (reaffirming *Bastien*).

state regulators who continue to regard with a jealous eye the powers they once held. Illegitimate state encroachment on federal jurisdictional turf need not be nefarious or even intentional. State disruption of unitary federal regulation of national networks is just as harmful when it is well-intended or even unintentional. Nor should the courts or the FCC be beguiled by the defense that a state regulation challenged on preemption grounds is only a trifling incursion on uniform federal regulation. The government officials charged with responsibility for choices must recognize that even small jurisdictional encroachments are important because the cumulative result of small incremental changes—the “tyranny of small decisions”—might well be wholly alien, and profoundly objectionable, to those who acquiesce in just one small step after another.³⁰⁸ To avoid such nibbling away at the federal jurisdiction necessary for interstate network industries, the remnants of state regulatory authority over wireless telephony must be carefully policed by the FCC and the federal courts, and Congress should seriously consider further limits on state regulatory power.

C. Implementation of Federal Standards for Cable Television Competition by Local Franchising Authorities Impedes Intermodal Competition and Frustrates Deployment of Next-Generation Telecommunications Networks

Section 621(a) of the 1984 Cable Act, which generally required cable operators to obtain a franchise, was amended by Congress in the 1992 Cable Act to limit the authority of local franchising authorities (“LFAs”) by outlawing monopoly cable-TV franchises. Congress provided that “a franchising authority may not grant an exclusive franchise and may not unreasonably refuse to award an additional competitive franchise.”³⁰⁹ At least, that was what was supposed to happen. In point of fact, the Multichannel Video Programming Distribution (“MVPD”) market is still largely in the grip of the original monopoly cable companies and the marketplace continues to suffer from grossly inadequate competition. As FCC Chairman Kevin Martin recently noted, “from 1995 to 2005, cable rates have risen 93% . . . [while] [s]ince 1996 the prices of every other communications service have declined.”³¹⁰ Although cable has lost some market share to Direct Broadcast Satellite (“DBS”),³¹¹ the first stirrings of genuine competition

308. See Alfred E. Kahn, *The Tyranny of Small Decisions*, in *ECONOMIC THEORIES OF INTERNATIONAL POLITICS* 537 (Bruce M. Russett ed., 1968).

309. 47 U.S.C. § 541(a)(1).

310. Video Franchising Order, *supra* note 5, at 92 (statement of Chairman Kevin J. Martin), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-180A1.pdf.

311. “[F]rom 2001 to 2005, the number of cable subscribers, as a share of total MVPD

in delivery of video programming in the form of DBS television providers have done nothing to constrain cable rates,³¹² and the MVPD marketplace is actually becoming *more* concentrated: “[T]he top four MVPDs serve 63 percent of all MVPD subscribers, up five percent from 2004.”³¹³

Intermodal competition is once again the answer, and the future. As Commissioner Robert McDowell has put it, “[m]ore delivery platforms mean more competition.”³¹⁴ This time, the new market entry is by an established player in a different field—wireline telephone companies (the ILECs). The FCC observed in a 2006 report that:

[W]e are seeing wired competitors to cable trying to enter the market. The Commission should facilitate this entry, not only because it furthers video competition, but also because it promotes the deployment of the broadband networks over which the video services are provided. The widespread deployment of these networks is critical to the United States’ international competitiveness. Further, it will improve Americans’ lives through applications such as distance learning and remote medical diagnosis.³¹⁵

The new fiber-optic networks being built by ILECs will substantially or completely overlay the existing circuit-switched feeder and distribution networks. For example, AT&T is building a Fiber-to-the-Node (“FTTN”) system and Verizon is building a Fiber-to-the-

subscribers, has decreased from 77 percent to 69 percent. Commensurately, DBS subscribership has increased from 18 percent to 27 percent.” Jonathan S. Adelstein, Comm’r, FCC, Statement at FCC Open Meeting in Keller, Texas on the Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, at 1 (Feb. 10, 2006) [hereinafter Keller Hearing], available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-263763A4.pdf.

312. See Implementation of Section 3 of the Cable Television Consumer Prot. & Competition Act of 1992, *Report*, 21 FCC Red. 15087, ¶ 2 (2006) (“DBS competition, however, does not appear to constrain cable prices – average prices are the same as or slightly higher in communities where DBS was the basis for a finding of effective competition than in noncompetitive communities.”).

313. Jonathan S. Adelstein, Comm’r, FCC, Statement, Keller Hearing, *supra* note 311, at 2; FCC Issues 12th Annual Report, *supra* note 227, at 3. Following the purchase of the Adelphia cable systems by Comcast and Time Warner in July 2006, the market share for the largest MVPDs has risen even further. See Applications for Consent to the Assignment and/or Transfer of Control of Licenses, *Memorandum Opinion & Order*, 21 FCC Red. 8203, ¶ 2 (2006).

314. Video Franchising Order, *supra* note 5, at 108 (statement of Comm’r Robert M. McDowell).

315. Kevin J. Martin, Chairman, FCC, Statement at Keller Hearing, *supra* note 311, at 1, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-263763A2.pdf; see also Michael J. Copps, Comm’r, FCC, Statement at Keller Hearing, *supra* note 311, at 1, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-263763A3.pdf; Jonathan S. Adelstein, Comm’r, FCC, Statement, Keller Hearing, *supra* note 311, at 1.

Premises (“FTTP”) network. The improvement in broadband speed that fiber-optic technology offers is staggering. Although the service parameters are still being worked out, ILECs have already begun rolling out this service. Verizon’s FTTP customers, for example, now enjoy Internet access and data transmission speeds that are *ten to twenty times faster than anything currently available* through DSL or cable modem service.³¹⁶ Such lightening speed will allow FTTP customers to use a host of new real-time applications and data-rich services, including video telephony and telecommuting, HDTV-quality video, interactive video, network-based personal video recording, remote medical monitoring, and premises surveillance.

The value and promise of preemptive federal deregulation were dramatically confirmed when the FCC announced on October 22, 2004 that it would deregulate fiber-optic networks.³¹⁷ Specifically, the FCC ruled that the unbundling obligations of Section 271 of the 1996 Act would not be applied to fiber-to-the-home loops, to fiber-to-the-curb loops, to the packetized functionality of hybrid copper-fiber loops, or to packet switching.³¹⁸ The Commission noted the “presence of robust intermodal competition from cable operators”³¹⁹ and the need to alleviate the stifling “investment disincentives” created by the unbundling requirements.³²⁰ The Commission concluded that “forbearance from these requirements will provide an increased incentive for the [ILECs] to deploy broadband services and compete with cable providers, which will in turn increase competition and benefit consumers.”³²¹ That insight was immediately borne out: as soon as the FCC voted on the unbundling petitions—indeed, even before its decision was formally released—the phone companies announced that they were dramatically accelerating their construction of all-digital, high-speed fiber-optic networks and that

316. See Verizon, The Technology: Fiber to the Premises (FTTP), <http://newscenter.verizon.com/kit/fiber/fttp102104.html> (last visited Mar. 20, 2008)

317. See Press Release, FCC, Federal Communications Commission Further Spurs Advanced Fiber Network Deployment (Oct. 22, 2004), available at http://fallfoss.fcc.gov/edocs_public/attachmatch/DOC-253492A1.pdf; see also Anne Marie Squeo, *Regional Bells Get Broadband Win*, WALL ST. J., Oct. 15, 2004, at B8.

318. See Petition for Forbearance of the Verizon Tel. Cos. Pursuant to 47 U.S.C. §160(c), *Memorandum Opinion & Order*, 19 FCC Rcd. 21,496 (2004) [hereinafter Petition for Forbearance]. The FCC’s order was upheld on appeal. See *Earthlink, Inc. v. F.C.C.*, 462 F.3d 1, 7 (D.C. Cir. 2006):

Ultimately, the FCC concluded that any short-term effects on competition are offset by the prospect of additional intermodal competition and the benefits that forbearance will provide: incentives for both ILECs and CLECs to invest in and deploy broadband facilities, which will increase competition going forward and thereby keep rates reasonable, benefit consumers, and serve the public interest.

319. Petition for Forbearance, *supra* note 318, at ¶ 23.

320. *Id.* ¶ 25.

321. *Id.* ¶ 31.

they anticipated that the number of consumers being offered such service would increase by more than 500 percent in the next year.³²²

The FCC quickly followed suit in 2005 with an order deregulating the more traditional wireline broadband services.³²³ Again, the Commission stressed the arrival of vigorous intermodal competition,³²⁴ the need to eliminate regulations that deter both investment and the deployment of new technologies,³²⁵ and the wisdom of imposing “a consistent regulatory framework across platforms by regulating like services in a similar functional manner.”³²⁶

The Commission’s decision to free both traditional wireline broadband and the new fiber-optic broadband services from inefficient regulatory hobbles was premised on the realities of a dynamic telecommunications market permeated by intermodal competition—realities that likewise support preemptive federal deregulation of local wireline telephony:

[W]e specifically reject the assertions of competitive carriers that forbearance should be denied because the [ILECs] either are not subject to competition with respect to their broadband offerings, or are constrained only by a duopolistic relationship with cable operators. Again, we refuse to take the static view suggested by some competitors of this dynamic broadband market, thus leveling the terms of competition, providing real competitive choice, and furthering the goal of ensuring just, reasonable and nondiscriminatory rates, terms and conditions for these services. . . . [B]roadband technologies are developing and we expect intermodal competition to become increasingly robust, including providers using platforms such as satellite, power lines and fixed and mobile wireless in addition to the cable providers and [ILECs].³²⁷

In 2006, to symbolize the importance of ILEC fiber-optic video

322. See, e.g., Squeo, *supra* note 317, at B8 (“SBC yesterday said it would accelerate its plan to build an all-digital, high-speed network that reaches 18 million homes by 2007, two years earlier than planned. ‘This is the latest in a series of broadband rulings that demonstrate [that] this administration and the FCC understand that keeping outdated regulation off of tomorrow’s technology will boost jobs, investment and innovation,’ said SBC Chairman and Chief Executive Edward Whiteacre.”); Petition for Forbearance, *supra* note 318, at 21515 (statement of then-FCC Chairman Michael K. Powell) (“[C]ompanies are responding to the Commission’s efforts to create a stable regulatory environment for new investment. For example, just this week Verizon announced its plans to double its fiber-to-the-premises (FTTP) deployment rate next year, bringing FTTP to 2 million additional locations. This represents a 566 percent increase over the number of existing FTTP subscribers.”).

323. Internet Over Wireline Facilities, *supra* note 174.

324. *Id.* at *passim*.

325. *Id.* at *passim*.

326. *Id.* ¶ 1; see also *id.* ¶¶ 17, 39, 45, 79.

327. Petition for Forbearance, *supra* note 318, at ¶ 29.

services, the FCC convened a public hearing on its annual MVPD report in the town of Keller, Texas. Keller is the town where Verizon first rolled out its Fiber Optic Service (“FiOS”) in 2004-05 that ultimately provided both broadband Internet access and television programming. In the first three months FiOS was available, 20 percent of eligible households in Keller, Texas signed up.³²⁸ Verizon is building this FTTP network in 16 states; by the end of 2006 the FTTP network passed six million premises in ten states.³²⁹ Other phone companies are in the process of deploying their own competing fiber-optic products: AT&T is planning an Internet-Protocol-enabled FTTN network called Project Lightspeed³³⁰ and Qwest is preparing to offer MVPD services over existing phone lines using DSL technology.³³¹ Nationally, in the few places where cable has competition from another wireline video provider, both the Commission and the Government Accountability Office (“GAO”) have found that the total price for cable TV is over 15 percent lower, and the price per channel is more than 27 percent lower.³³²

Unsurprisingly, the FCC has recognized that the ILECs’ investment in fiber-optic technology “could bring the most substantial new competition into the video marketplace that this country has ever seen,” and is therefore an effort “to provide a competitive alternative for video services . . . that deserves our attention and encouragement.”³³³ Intermodal competition must become the nation’s telecommunications

328. Keller Hearing, *supra* note 311, at 3 (testimony of Marilyn O’Connell, Sr. Vice President, Verizon Commc’ns), *available at* <http://www.fcc.gov/realaudio/presentations/2006/021006/oconnell.pdf>.

329. Verizon Commc’ns Inc., Current Report (Form 8-K) (Sept. 27, 2006), *available at* http://forbes.brand.edgar-online.com/EFX_dll/EDGARpro.dll?FetchFilingHTML1?SessionID=qXMAWLubcdS-pxB&ID=4673880. By the end of 2006, FiOS TV had been deployed in California, Delaware, Florida, Massachusetts, Maryland, New Jersey, New York, Pennsylvania, Texas and Virginia. *Id.* Verizon has announced that in 2007 FiOS TV will also become available in Indiana, Oregon and Rhode Island. *Id.*

330. In 2005, SBC Communications acquired AT&T Corp. and the combined entity took the AT&T brandname. *See Earthlink*, 462 F.3d at 6 n.5.

331. FCC Issues 12th Annual Report, *supra* note 227, at 3.

332. BANK OF AMERICA EQUITY RESEARCH, BATTLE FOR THE BUNDLE: CONSUMER WIRELINE SERVICES PRICING 4 (2006); *see also Telecommunications: Subscriber Rates and Competition in the Cable Television Industry: Testimony Before the S. Comm. on Commerce, Sci. & Transp.*, 108th Cong. 6 (2004) (statement of Mark Goldstein, Dir., U.S. Gen. Accounting Office), *available at* <http://www.gao.gov/new.items/d04262t.pdf>; *Telecommunications: Issues Related to Competition and Subscriber Rates in the Cable Television Industry: Report to the Chairman, S. Comm. on Commerce, Sci. & Transp.*, 108th Cong. 3-4 (2003), *available at* <http://www.gao.gov/new.items/d048.pdf>. The name of the GAO changed from General Accounting Office to Government Accountability Office on July 7, 2004, pursuant to the GAO Human Capital Reform Act of 2004, Pub. L. 108-271, 118 Stat. 811 (2004) (codified as amended in scattered sections of 5 and 31 U.S.C.).

333. Jonathan S. Adelstein, Comm’r, FCC, Statement, Keller Hearing, *supra* note 311, at 1.

mantra so that the “erosion of old industry boundaries can give way to a more consumer-friendly future.”³³⁴

Unfortunately, growth of this vital intermodal competition for broadband video programming has been stymied by local franchising authorities. Regulation of a national network industry by fifty state regulatory bodies is bad enough; regulation by tens of thousands of city, county, and village franchising authorities is two orders of magnitude more suffocating. And the problem is not merely one of numbers—this is worse than a simple case of way too many cooks spoiling the broth. The Supreme Court has observed that, by its very nature, the “parochial favoritism” of local government authorities is even more inimical to the unifying principle of the Commerce Clause—and therefore even more suspect—than that of state regulators.³³⁵ “[M]unicipalities are more apt to promote their narrow parochial interests ‘without regard to extraterritorial impact and regional efficiency.’”³³⁶ James Madison warned of this danger in THE FEDERALIST PAPERS,³³⁷ and the Supreme Court has recognized “the serious economic dislocation which could result if cities were free to place their own parochial interests above the Nation’s economic goals.”³³⁸ Indeed, the Court has noted the particular significance of this problem in the context of local franchising of cable television services.³³⁹ Accordingly, the recent adoption by a handful of states—California, Texas, Virginia, New Jersey, North Carolina, South Carolina, Kansas, Missouri, and Michigan—of state-wide video-

334. Michael J. Copps, Comm’r, FCC, Statement at Keller Hearing, *supra* note 311, at 1 (discussing offerings of bundled voice, video and broadband Internet services by both wireline telephone companies and cable operators).

335. *White v. Mass. Council of Constr. Employers*, 460 U.S. 204, 213 (1983); *see also id.* at 215 (Blackmun, J., concurring in part and dissenting in part) (discussing “local discrimination against interstate commerce”).

336. *City of Columbia v. Omni Outdoor Adver., Inc.*, 499 U.S. 365, 389 (1991) (Stevens, J., dissenting) (quoting *City of Lafayette v. La. Power & Light Co.*, 435 U.S. 389, 404 (1978)).

337. *See* THE FEDERALIST NO. 10 (James Madison) (describing the greater tendency of smaller polities to promote oppressive and narrow interests above the common good).

338. *City of Lafayette*, 435 U.S. at 412-13 (holding that cities, unlike states, are not immune from liability under federal antitrust laws); *see also* *Town of Hallie v. City of Eau Claire*, 471 U.S. 34, 38 (1985) (city’s actions are immune from antitrust laws only if city acts pursuant to an articulated state regulatory policy).

339. *See* *Cnty. Commc’ns Co. v. City of Boulder*, 455 U.S. 40, 51 (1982) (quoting *City of Lafayette*, 435 U.S. at 412-13). The decisions in *Boulder* and *Lafayette* were superseded insofar as they exposed cities to damages under federal antitrust laws by the Local Government Antitrust Act of 1984, 15 U.S.C. §§ 34-36 (1984), which established the general rule that antitrust damages are not recoverable from local governments. *See* *Opdyke Inv. Co. v. City of Detroit*, 883 F.2d 1265, 1266 (6th Cir. 1989). However, the Act does not bar injunctive relief against cities for violations of the Sherman Antitrust Act. *See* 15 U.S.C. § 35; *Montauk-Caribbean Airways, Inc. v. Hope*, 784 F.2d 91, 95 (2d Cir. 1986).

franchising reform statutes is a very welcome development.³⁴⁰

Equally welcome are the FCC's new rules implementing Section 621 of the 1984 Cable Act.³⁴¹ The 1992 Cable Act amendments were intended to remove the barriers to entry into the MVPD market, but, as the market-concentration statistics reviewed above reveal, that legislation has yet to generate much improvement. The Act provided a list of factors that cabins the discretion of local franchising authorities in awarding a competing MVPD franchise,³⁴² and Section 621(a)(1) mandated that "[a] franchising authority may not . . . unreasonably refuse to award an additional competitive franchise."³⁴³ However, in the absence of firm substantive guidance from the FCC, the courts have been relatively inactive in enforcing the 1992 Act. But the entire point of national regulation of interstate networks under the Commerce Clause is to avoid the balkanizing and parochialism of local regulation.

In issuing its Notice of Proposed Rulemaking in 2005 to explore rules to implement Section 621, the Commission observed that the Act "prohibits not only the ultimate refusal to award a competitive franchise, but also the establishment of procedures and other requirements that have the effect of unreasonably interfering with the ability of a would-be competitor to obtain a competitive franchise, either by (1) creating

340. The statewide franchising bill passed in the California legislature on August 31, 2006, and was subsequently signed by the governor. See James K. Glassman, *Cable Guys*, WALL ST. J., Sept. 28, 2006, at A16. The states that have enacted these statewide video franchise laws are home to about one-third of the nation's population. *Id.*; see also TEX. UTIL. CODE ANN. § 66.003 (Vernon 2005); Keller Hearing, *supra* note 311, at 7 (testimony of Marilyn O'Connell, Sr. Vice President, Verizon Commc'ns) (within weeks of enactment of the Texas statewide franchise law, Verizon applied for and was granted a state franchise for an additional 21 cities beyond the four Verizon had already negotiated individually); Keller Hearing, *supra* note 311, at 2-3 (statement of Mike Moncrief, Mayor, Fort Worth), available at <http://www.fcc.gov/realaudio/presentations/2006/021006/moncrief.pdf> (discussing Texas Senate Bill 5 and describing how the new state-wide franchising law protects local interests in revenue, community programming obligations, and control over rights of way); *Granholm Signs Cable TV Bill - Without Net Neutrality*, *supra* note 180 (upon Michigan Governor's signing of the video-franchising reform legislation, AT&T announced it would invest \$620 million and add 2,000 full-time jobs).

341. See Implementation of Section 621(a)(1) of the Cable Commc'ns Policy Act of 1984 as Amended by the Cable Television Consumer Prot. & Competition Act of 1992, *Notice of Proposed Rulemaking*, 20 FCC Rcd. 18,581 (2005) [hereinafter Cable Proposed Rulemaking]; Video Franchising Order, *supra* note 5.

342. The first paragraph of new Section 621(a)(4) imposed an affirmative duty on local franchising authorities to give franchise applicants "a reasonable period of time to become capable of providing cable service to all households in the franchise area." 47 U.S.C. § 541(a)(4)(A). The second and third paragraphs delineated "adequate assurances" that local franchising authorities "may require" of a franchise applicant – namely, that the MVPD operator "provide adequate public, educational, and governmental access channel capacity, facilities, or financial support," *id.* § 541(a)(4)(B), and that it have "the financial, technical, or legal qualifications to provide cable service," *id.* § 541(a)(4)(C).

343. *Id.* § 541(a)(1).

unreasonable delays in the process, or (2) imposing unreasonable regulatory roadblocks.”³⁴⁴ That analysis hews closely to the statutory text which, as Chairman Martin reminded us, provides that “[a] franchising authority . . . *may not unreasonably refuse to award an additional competitive franchise.*”³⁴⁵ In its order, the FCC concluded that “the current operation of the franchising process constitutes an unreasonable barrier to entry that impedes the achievement of the interrelated federal goals of enhanced cable competition and accelerated broadband development.”³⁴⁶ Specifically, the Commission found that “an LFA is unreasonably refusing to grant a competitive franchise when [1] it does not act on an application within a reasonable time period, [2] imposes taxes on non-cable services such as broadband, [3] requires a new entrant to provide unrelated services or imposes unreasonable build-out requirements.”³⁴⁷

These problems are very real. Federal intervention was needed because LFAs have been preventing effective competition in the provision of video programming services to consumers. The Commission’s first finding was that LFAs are unreasonably refusing to award a competitive video franchise when they drag out the franchising

344. Cable Proposed Rulemaking, *supra* note 341, at ¶ 19.

345. Video Franchising Order, *supra* note 5, at 5189 (statement of Kevin J. Martin, Chairman, FCC) (emphasis in original) (quoting 47 U.S.C. § 541(a)(1)). One dissenting commissioner complained that this passage of the statute is too small to bear the regulatory weight of the FCC’s new franchising rules. *See id.* at 5193-94 (dissenting statement of Jonathan S. Adelstein, Comm’r, FCC). But it cannot be disputed that Section 621(a)(1)’s terms go beyond outright denial of a franchise and expressly encompass LFA actions that merely “unreasonably refuse to award” a franchise. Surely that additional language is not to be dismissed as meaningless surplusage. As Commissioner Tate noted, “[i]n amending Section 621(a)(1) to include the phrase ‘unreasonably refuse to award,’ Congress explicitly limited the authority of LFAs. . . . It is nonsensical to contend that, despite the limitations on LFA authority in the Act, LFAs remain the sole arbiters of whether their actions in the franchise approval process are reasonable.” *Id.* at 5204 (statement of Deborah Taylor Tate, Comm’r, FCC). The Commission has undoubted authority to issue rules to enforce the entirety of the Communications Act, the Cable Act included. *See AT&T Corp.*, 525 U.S. at 380; *City of Chicago v. F.C.C.*, 199 F.3d 424, 428 (7th Cir. 1999); *Nat’l Cable Television Ass’n v. F.C.C.*, 33 F.3d 66, 70 (D.C. Cir. 1994). And the enforcement of a statutory “reasonableness” requirement or “unreasonableness” standard is no novelty to the FCC. *See, e.g.*, Implementation of Section of the Cable Television Consumer Prot. & Competition Act of 1992, *Report & Order & Further Notice of Proposed Rulemaking*, 8 FCC Rcd. 5631, ¶ 1 (1993) (setting rules to ensure reasonable rates for basic cable); *Star Lambert & Satellite Broad. and Commc’ns Ass’n of Am., Petition for Declaratory Ruling*, 12 FCC Rcd. 10,455, ¶¶ 2-3 (1997) (holding that local ordinances violated FCC rules prohibiting unreasonable delays and unreasonable increases in costs for satellite providers).

346. Press Release, FCC, FCC Adopts Rules to Ensure Reasonable Franchising Process for New Video Market Entrants (Dec. 20, 2006), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-269111A1.pdf.

347. Video Franchising Order, *supra* note 5, at 5189 (statement of Kevin J. Martin, Chairman, FCC).

process. “The record collected by the Commission in this proceeding cited instances where LFAs sat on applications for more than a year”³⁴⁸ For example, it routinely takes Verizon fifteen months or more to obtain a video franchise. Outside the few states that have enacted statewide franchising reform laws, 74 percent of Verizon’s applications have been pending for fifteen months or more, and 56 percent for eighteen months or more. Fully 83 percent of Verizon’s applications have been pending before LFAs for more than a year. This local foot-dragging is what prompted the Commission to act.³⁴⁹

The FCC’s second finding was that LFAs unreasonably deny competitive franchises when they impose taxes on non-cable services such as broadband Internet access or telephone services. This pertains to the first justification usually offered in defense of a continued primary role for local franchising: the fact that local governments have become dependent upon, and are entitled by statute, to a five percent franchise fee from all MVPD providers.³⁵⁰ This is a red herring (indeed, the justifications for local franchising of video services constitute an entire school of red herring). The telephone companies that seek to enter the video market generally do not contest that they are subject to, as are the original cable-TV franchisees, a maximum fee (payable to the local government) of five percent of their annual gross video service revenues. The problem is that some local franchising authorities, eagerly eyeing a new source of revenue for local government, have tried to bootstrap this fee for a *video* service franchise into a demand that ILECs entering the video market also remit five percent of the revenues derived from the ILEC’s *pre-existing telephone and broadband* services provided over the same fiber network. The Commission made clear that this is unacceptable.³⁵¹

348. *Id.*

349. See Reply Comments of Verizon on Video Franchising to the *Report & Order & Further Notice of Proposed Rulemaking* in Implementation of Section 621(a)(1) of the Cable Comm’n’s Policy Act of 1984 as Amended by the Cable Television Consumer Prot. & Competition Act of 1992, MB Dkt. No. 05-311, at 34-37 (Mar. 28, 2006), available at http://fallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518332224 (reply to Video Franchising Order, *supra* note 5); see also Letter from Leora Hochstein, Executive Dir., Verizon, to Marlene Dortch, Sec’y, FCC (Dec. 13, 2006), available at http://fallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518332192.

350. See 47 U.S.C. § 542(b).

351. The Commission was not plowing new ground here. Both the FCC and the courts have held that broadband Internet service is not subject to the 5 percent franchise fee for video services. See, e.g., Declaratory Broadband Ruling, *supra* note 168, at ¶ 105 (because “cable modem service [is] an information service, revenue from cable modem service would not be included in the calculation of gross revenues from which the franchise fee ceiling is determined”); *City of Minneapolis v. Time Warner Cable*, No. 05-994 ADM/AJB, 2005 U.S. Dist. LEXIS 27743, *17-20 (D. Minn. Nov. 10, 2005); *Time Warner Cable-Rochester v. City of Rochester*, 342 F. Supp. 2d 143 (W.D.N.Y. 2004); 129 CONG. REC. 15,461 (1983)

The Commission's third finding was that some local governments have used their leverage over franchise applications to extort in-kind benefits from ILECs that likewise exceed the 5 percent statutory cap and often have nothing to do with the provision of video services to the town's consumers. Chairman Martin noted that some LFAs have "required extraordinary in kind contributions such as the building of public swimming pools and recreation centers."³⁵² One town in the northeast conditioned a franchise on an ILEC's willingness to buy the town new streetlights, give free cell phones to all town employees, and provide free parking spaces for the town at the ILEC's local facility. A town in the south demanded that the franchise applicant hook up hundreds of town traffic signals with fiber connections, furnish free cell service to a thousand city employees, and provide free fiber services to some sixty organizations with whom the city did business.

Other local franchising authorities are refreshingly candid in their extortion: they simply demand fees of hundreds of thousands of dollars for an ILEC to apply for an MVPD franchise, or insist that the ILEC pay equally outrageous sums for the town to hire attorneys to negotiate and contest the ILEC's application. The Commission was on familiar territory in rejecting such overreaching.³⁵³ Even though such abuses have often been struck down by the courts, LFAs have persisted nonetheless and compelled ILECs that wish to break cable TV's virtual monopoly to jump through the same illegal hoops and contest the same abuses in court on a town-by-town, village-by-village basis. This is not the unified national marketplace that the Commerce Clause was adopted to engender.³⁵⁴

(remarks of Sen. Goldwater) ("[T]he overriding purpose of the 5% fee cap was to prevent local governments from taxing private operators to death as a means of raising revenues for other concerns."); 47 U.S.C. § 541(b)(3)(B) (local franchising authorities specifically prohibited from "impos[ing] any requirement . . . that has the purpose or effect of prohibiting, limiting, restricting, or conditioning the provision of a telecommunications service by a cable operator or affiliate thereof").

352. Video Franchising Order, *supra* note 5, at 5189 (statement of Kevin J. Martin, Chairman, FCC).

353. The Cable Act authorizes local franchising authorities to seek reimbursement only for "charges incidental to the awarding or enforcing of the franchise," such as "payments for bonds, security funds, [or] insurance." 47 U.S.C. § 542(g)(2)(D). The courts have consistently held that LFAs' consultants and attorneys' fees are not recoverable "incidental charges." *See, e.g.,* Charter Commc'ns, Inc. v. County of Santa Cruz, 133 F. Supp. 2d 1184, 1212-14 (N.D. Cal. 2001), *rev'd on other grounds*, 304 F.3d 927 (9th Cir. 2002) (rejecting consulting local franchising authorities' claim for consulting fees that exceeded the 5 percent fee cap); Time Warner Entm't, Co. v. Briggs, No. 92-40177-GN, 1993 U.S. Dist. LEXIS 1196, *16-18 (D. Mass. Jan. 14, 1993) (local franchising authorities' attempt to charge their consulting and attorney fees imposed "franchise fees" in excess of statutory cap).

354. This is a complete answer to the dissenting Commissioners' argument that rulemaking action by the FCC was not needed because the phone companies have generally been successful in *eventually* obtaining video franchises on a town-by-town basis. *See* Video

It is essential to recognize intermodal competition's unique ability to promote expansion of networks and enhancement of telecommunications services. Chairman Martin has made widespread deployment of broadband his top priority, and in the Commission's 2006 *Video Franchising Order* he accurately observed that the "ability to deploy broadband networks rapidly . . . is intrinsically linked to the ability to offer video to consumers."³⁵⁵ In a policy paper issued in 2005, the Phoenix Center:

[F]ound that video 'is now the key driver for new fiber deployment in the residential market. . . . Quite simply, the ability to sell video services over these fiber networks may be a crucial factor in getting those fiber networks deployed.' By enhancing the ability of new entrants to provide video services then we are advancing our goal of universal affordable broadband access for Americans, as well as our goal of increased video competition.³⁵⁶

Therefore, the Commission's new Section 621 rules are not an isolated tweaking of the regulatory apparatus, but part of a unified national strategy to rationalize telecommunications regulation through preemptive federal regulation and, ultimately, deregulation. As Commissioner McDowell put it, "creating a deregulatory environment where competition is given the chance to flourish kicks off a virtuous cycle of hope, investment, growth and opportunity."³⁵⁷

The final justification trotted out by LFAs for retaining local control over video franchising is the need for towns and counties to control access to, and the digging up of, their streets and other rights of way. Considered in the abstract, that rationale is both sensible and unquestioned. The Cable Act itself requires video providers using public rights of way to ensure "that the safety, functioning and appearance of the property and the convenience and the safety of other persons not be adversely affected by the installation or construction of facilities necessary

Franchising Order, *supra* note 5, at 5194 n.6 (dissenting statement of Jonathan S. Adelstein, Comm'r, FCC). Regulation of a *national* network is not supposed to be carved up into myriad local franchising fiefdoms. Eliminating such inefficiencies is what the Commerce Clause is all about, and the Cable Act imposed federal limits to avoid just such problems.

355. *Id.* at 5189 (statement of Kevin J. Martin, Chairman, FCC).

356. *Id.* at 5189-90 (statement of Kevin J. Martin, Chairman, FCC) (quoting the Phoenix Center report); *see also id.* at 5204 (statement of Deborah Taylor Tate, Comm'r, FCC) ("[T]he development of competition in the video marketplace . . . speeds the deployment of broadband across the country in a platform-neutral manner.").

357. *Id.* at 5205 (statement of Robert M. McDowell, Comm'r, FCC); *see also id.* at 5204 (statement of Deborah Taylor Tate, Comm'r, FCC) ("At a high level, however, I view this as a continuation down a path of deregulatory policies designed to encourage new market entry, innovation, and investment.").

for a cable system.”³⁵⁸ However, local governments must not be permitted to leverage authority over rights of way to extort discriminatory, burdensome, and redundant concessions from new competitors wishing to enter the MVPD market.

A telephone company is already subject to local control in digging up rights of way because those operations take place to install and maintain the wireline and fiber-optic cables that carry the ILEC’s telephone services. The fact that the same network is now to be used to provide video services does not grant local franchising authorities the authority to impose additional requirements or, indeed, *any* regulation on the telephone or broadband network that is not otherwise sanctioned by federal law. This applies with particular force to Internet access which, as an “information service,” has already been preemptively deregulated by Congress and the FCC. The *content* of the electronic signal carried on fiber-optic cables buried beneath or strung above a city’s streets—whether voice communication, broadband Internet access, or television entertainment—has no impact on the safety of, or the city’s authority over, those public rights of way. Wireline telephony is already locally regulated insofar as necessary to ensure the safety and utility of public streets. Therefore, forcing a phone company to submit to another round of scrutiny when the very same cables are used to provide a different service is a prime example of irrational, transparently extortionate piling-on. Demanding that a telephone company subject the entirety of its integrated telecommunications-data-cable network to municipal jurisdiction as a condition for getting a video franchise would likewise be abusive overreaching and a violation of federal statutes.³⁵⁹ If the nation truly wants the competitive video services market that Congress tried to

358. 47 U.S.C. § 541(a)(2)(A).

359. Section 522(7) of Title 47 provides that a common carrier’s mixed-use network is a cable system subject to municipal jurisdiction *only* “to the extent” that it is used to transmit video programming directly to subscribers. Section 541(b)(3)(A) provides that, if “a cable operator . . . is engaged in the provision of telecommunications services,” “such cable operator . . . shall not be required to obtain a franchise . . . for the provision of telecommunications services,” and the cable provisions of the Act “shall not apply to such cable operator or affiliate for the provision of telecommunications services.” The following section, 541(b)(3)(B), states that a “franchising authority may not impose any requirement under this subchapter that has the purpose or effect of prohibiting, limiting, restricting, or conditioning the provision of a telecommunications service by a cable operator.” Section 541(b)(3)(C) provides that a local franchising authority may not order a cable operator to “discontinue the operation of a cable system, to the extent such cable system is used for the provision of a telecommunications service, by reason of the failure of such cable operator . . . to obtain a franchise or franchise renewal under this title with respect to the provision of such telecommunications service.” Finally, attempting to assert jurisdiction over a telecommunications provider’s mixed-use network impermissibly has the effect of requiring the provision of telecommunications facilities, in violation of Section 541(b)(3)(D). *See also id.* § 253(a).

create in the 1992 Cable Act, the myriad barriers to entry erected by local franchising authorities cannot be tolerated.

Nevertheless, two members dissented from the Commission's decision to enforce Section 621 and did so principally on grounds that the FCC's order policing local video regulation supposedly upends "long-standing principles of federalism,"³⁶⁰ and "turns federalism on its head" by indulging "arrogant . . . federal power riding roughshod over local governments."³⁶¹ This position totally misconceives the Constitution's federal structure. The Commission did not "go[] out on a limb in asserting federal authority to preempt local governments"³⁶²—the whole point of the Commerce Clause was to authorize federal preemption of parochial, atomizing, inefficient state-by-state regulation of genuinely interstate commerce. The propriety of federal preemption of *local* regulation of interstate network industries is a logically compelled corollary.

CONCLUSION

If the current state of the Internet and contemporary wireline, wireless, and cable networks demonstrates nothing else, it decisively confirms that these services are inherently interstate, that they engage in ever-increasing intermodal competition to provide the full range of voice, data, and video services, and that they therefore should be subject to a single, uniform set of federal regulations. As Justice Jackson noted long ago, the Constitution itself, not just its Commerce Clause, was engendered by the Framers' recognition that "[n]o other federal power was so universally assumed to be necessary, no other state power was so readily relinquished," as the power over interstate network industries.³⁶³ It follows *a fortiori* that the regulatory power of local governments must bow along with that of the States to the supervening needs of the Nation.

360. Video Franchising Order, *supra* note 5, at 5191 (dissenting statement of Michael J. Copps, Comm'r, FCC). Ironically, Commissioner Copps simultaneously argued that "we need the certainty of a national strategy to get the job done" in fostering "ubiquitous high-speed broadband to all our citizens." *Id.* at 5192.

361. *Id.* at 5203 (dissenting statement of Jonathan S. Adelstein, Comm'r, FCC); *see also id.* at 5193-96.

362. *Id.* at 5193 (dissenting statement of Jonathan S. Adelstein, Comm'r, FCC).

363. *H.P. Hood & Sons*, 336 U.S. at 534.

NEITHER FISH NOR FOWL: NEW STRATEGIES FOR SELECTIVE REGULATION OF INFORMATION SERVICES

ROB FRIEDEN*

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INTRODUCTION

The Federal Communications Commission (“FCC” or “Commission”), with subsequent Congressional¹ and judicial validation,² has created a dichotomy between telecommunications³ and information services⁴ with an eye toward pursuing a deregulatory agenda and removing any disincentives for investing in next generation network infrastructure. The Commission seeks to apply traditional common carrier regulation⁵ only to telecommunications service providers and to reduce the applicable regulatory requirements even for most of these carriers.⁶ The FCC considers the information service provider status a

1. 47 U.S.C. § 151 (2006).

2. Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967 (2005).

3. Telecommunications is defined as “the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent and received.” 47 U.S.C. § 153(43). Telecommunications service “means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.” *Id.* § 153(46). The Communications Act defines telecommunications carrier as:

[A]ny provider of telecommunications services, except that such term does not include aggregators of telecommunications services (as defined in section 226 of this title). A telecommunications carrier shall be treated as a common carrier under this chapter only to the extent that it is engaged in providing telecommunications services, except that the Commission shall determine whether the provision of fixed and mobile satellite service shall be treated as common carriage.

Id. § 153(44).

4. Information service is defined as:

[T]he offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.

Id. § 153(20). “The language and legislative history of . . . [the Communications Act of 1996] indicate that the drafters . . . regarded telecommunications services and information services as mutually exclusive categories.” Fed.-State Joint Bd. on Universal Serv., *Report to Congress*, 13 FCC Rcd. 11,501, 11,522-23 (1998); *see also* Vonage Holdings Corp. v. Minn. Pub. Utils. Comm’n, 290 F. Supp. 2d 993, 1000 (2003) (applying the FCC’s dichotomy). While information service providers use telecommunications to transmit bitstreams, the FCC has chosen not to separate this functionality from the information processing that also occurs. In other words the FCC considers telecommunications to be subordinate to and fully integrated with the predominant information service.

5. Title II of the Communications Act, as amended, requires providers of basic telecommunications services to operate on a nondiscriminatory basis, providing services on just and reasonable charges and also subject to numerous entry regulations, tariffing, interconnection, and operating requirements. 47 U.S.C. §§ 201-02.

6. For example, Section 10 of the Telecommunications Act (codified at 47 U.S.C. §§ 160(a)(1)-(3)) authorizes the FCC to forbear from applying specific aspects of Title II regulation if enforcement of such regulation is no longer necessary to ensure just and reasonable charges, is not necessary for protecting consumers and forbearance would serve the public interest.

deregulatory “safe harbor”⁷ and the Commission aggressively seeks to make it available to both new and existing services.⁸

However, the FCC may have overreached with its deregulatory campaign because the Commission has overestimated the scope of actual and potential competition⁹ and because on several occasions the Commission has had to impose new regulatory requirements on ventures that otherwise qualify for the information service deregulatory safe harbor, such as Internet¹⁰ access. The need to impose new regulatory burdens, even for information service providers, has forced the FCC to devise several strategies that remarkably have passed judicial review by demonstrating plausible compliance with applicable statutes or a reasonable use of the broad, “ancillary” regulatory authority¹¹ to further the goals contained in Title I of the Communications Act.¹²

7. A safe harbor constitutes “1. An area or means of protection [or] 2. A provision (as in a statute or regulation) that affords protection from liability or penalty.” BLACK’S LAW DICTIONARY 1363 (8th ed. 2004). The DMCA provides qualified immunity from liability for direct or secondary infringement of copyrighted material that traverses an ISP’s network. “Congress enacted the safe harbors in response to concerns expressed by online service providers about their potentially overwhelming liability for copyright infringement committed by their users.” Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 STAN. L. REV. 1345, 1369 (2004).

8. See, e.g., Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks, *Declaratory Ruling*, 22 FCC Rcd. 5901 (2007) [hereinafter *Wireless Treatment*].

9. See FCC, WIRELINE COMPETITION BUREAU, HIGH-SPEED SERVICES FOR INTERNET ACCESS: STATUS AS OF JUNE 30, 2006 3 (2007) [hereinafter *WCB REPORT*], available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf (“The Commission’s data collection program requires providers to list the Zip Codes in which the provider has at least one high-speed connection in service to an end user”); S. DEREK TURNER, FREE PRESS, BROADBAND REALITY CHECK: THE FCC IGNORES AMERICA’S DIGITAL DIVIDE 2 (2005), available at http://www.freepress.net/docs/broadband_report.pdf (“No consideration is given to the price, speed or availability of connections across the ZIP code.”).

10. See generally James B. Speta, *FCC Authority to Regulate the Internet: Creating It and Limiting It*, 35 LOY. U. CHI. L.J. 15, 31 (2003) (“The Internet is a network of networks, and its utility largely depends on the principle of universal interconnectivity. This is true both as a technical and as an economic matter.”); Susan Landau, *National Security on the Line*, 4 J. ON TELECOMM. & HIGH TECH. L. 409, 424 (2006) (“In particular, the routes packets traverse [are] dynamically determined through addresses carried in the packets themselves. If a particular communication link is busy, the packet will be routed through a less-congested path. In theory – this occurs much less often in practice – each packet of a communication may travel a different route to its destination.”).

11. IP-Enabled Servs., *First Report & Order & Notice of Proposed Rulemaking*, 20 FCC Rcd. 10,245, 10,261 (2005) [hereinafter *E911 First Report and Order*] (citing *Sw. Cable Co.*, 392 U.S. at 177-78) (“Ancillary jurisdiction may be employed, in the Commission’s discretion, when Title I of the Act gives the Commission subject matter jurisdiction over the service to be regulated and the assertion of jurisdiction is ‘reasonably ancillary to the effective performance of [its] various responsibilities.’” (quoting *Sw. Cable Co.*, 392 U.S. at 178)), petition for review denied by *Nuvio Corp. v. F.C.C.*, 473 F.3d 302 (D.C. Cir. 2006).

12. 47 U.S.C. § 151; see J. Steven Rich, *Brand X and the Wireline Broadband Report and Order: The Beginning of the End of the Distinction Between Title I and Title II Services*,

To preserve the information service deregulatory safe harbor, while imposing selected new regulatory requirements, the FCC has engaged in creative statutory construction that relies on subtle and metaphysical differences between telecommunications and telecommunications service, offering versus providing telecommunications, and information services when defined in a communications statute versus a law enforcement statute. Because the information service safe harbor forecloses application of traditional telecommunications service regulation, pursuant to Title II of the Communications Act, the FCC has extraordinarily stretched its “ancillary” jurisdiction under Title I of the Communications Act to achieve the necessary statutory mandate for selective re-regulation.

To establish a statutory nexus for selective regulation of information services, the FCC has engaged in creative semantic juggling that establishes a dichotomy between telecommunications provided in conjunction with an information service and telecommunications services offered on a stand-alone basis.¹³ Even though the FCC addresses the same bit transmission pathways in both classifications, the Commission used the telecommunications/telecommunications service dichotomy to expand the deregulatory safe harbor to include previously regulated telephone company provided Internet access using retrofitted copper wire local loops, viz., Digital Subscriber Line (“DSL”) service¹⁴ as well as cable modem Internet access¹⁵ via retrofitted cable television networks.

Technological and market convergence¹⁶ increasingly makes it difficult for the FCC to assign services into mutually exclusive categories,

58 FED. COMM. L.J. 221 (2006).

13. See Rob Frieden, *What Do Pizza Delivery and Information Services Have in Common? Lessons From Recent Judicial and Regulatory Struggles with Convergence*, 32 RUTGERS COMPUTER & TECH. L.J. 247 (2006).

14. Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, *Report & Order & Notice of Proposed Rulemaking*, 20 FCC Rcd. 14,853 (2005) [hereinafter *Appropriate Framework*], *petition for review denied by Time Warner Telecom, Inc. v. F.C.C.*, 507 F.3d 205 (3d Cir. 2007).

15. Inquiry Concerning High-Speed Access to Internet Over Cable and Other Facilities, *Declaratory Ruling & Notice of Proposed Rulemaking*, 17 FCC Rcd. 4798 (2002) [hereinafter *Cable Inquiry*], *aff'd in part, vacated in part*, *Brand X Internet Servs. v. F.C.C.*, 345 F.3d 1120 (9th Cir. 2003), *rev'd and remanded*, *Brand X*, 545 U.S. 967.

16. Ryan K. Mullady, *Regulatory Disparity: The Constitutional Implications of Communications Regulations That Prevent Competitive Neutrality*, 7 U. PITT. J. TECH. L. & POL'Y 4 (2007) (“Over the last two decades, the communications industry has undergone rapid technological advancements leading to the convergence of services. New technological capabilities allow companies to compete in markets which previously had no competition. While potentially beneficial to the consumer, convergence within the communications industry has created a regulatory nightmare.”); see generally INT'L TELECOMM. UNION, DIGITAL.LIFE: ITU INTERNET REPORT 2006 (2006), available at <http://www.itu.int/osg/spu/publications/digitalife/docs/digital-life-web.pdf>.

a task it considers compulsory.¹⁷ Likewise, the FCC has begun to face the need to impose regulatory safeguards and requirements on ventures that have qualified for designation as information service providers, or could so qualify if the Commission consistently applied definitions now codified in the Communications Act of 1934, as amended.¹⁸ Such transparency would present the FCC with a major deregulatory quandary because having already attributed the information service classification to Internet access services provided by cable modem and DSL connections, the Commission must resort to clever and intellectually suspect semantic maneuvering to avoid attributing the same status to software applications delivered via these connections such as Voice over Internet Protocol (“VoIP”)¹⁹ voice communications services.

VoIP services challenge the telecommunications/information service

17. “In keeping with the legislative history of the Communications Act, the Commission interprets that Act’s definitions of ‘telecommunications service’ and ‘information service’ to be mutually exclusive.” Commc’ns Assistance for Law Enforcement Act and Broadband Access and Servs., *First Report & Order & Further Notice of Proposed Rulemaking*, 20 FCC Rcd. 14,989, 14,996 (2005) [hereinafter CALEA Implementation] (citing Fed.-State Joint Bd. on Universal Serv., *Report to Congress*, 13 FCC Rcd. 11,830, ¶¶ 39, 43 (1998)); CALEA Implementation, *supra* at 14,994-98 (describing this mutual exclusivity with respect to facilities-based wireline broadband Internet access services).

18. Communications Act of 1934, Pub. L. No. 73-416, 48 Stat. 1064 (codified as amended in scattered sections of 47 U.S.C.).

19. Voice over Internet Protocol (“VoIP”) offers voice communications capabilities, much like ordinary telephone service, using the packet switched Internet, for all or part of the link between call originator and call recipient. VoIP calls originating or terminating over the standard, dial-up telephone network require conversion from or to the standard telephone network’s architecture that creates a dedicated “circuit-switched” link, as opposed to the ad hoc, “best efforts” packet switching used in the Internet. See Mark C. Del Bianco, *Voices Past: The Present and Future of VoIP Regulation*, 14 COMMLAW CONSPECTUS 365 (2006); Robert Cannon, *State Regulatory Approaches to VoIP: Policy, Implementation, and Outcome*, 57 FED. COMM. L.J. 479 (2005); Robert M. Frieden, *Dialing for Dollars: Should the FCC Regulate Internet Telephony?*, 23 RUTGERS COMPUTER & TECH. L.J. 47 (1997); Chérie R. Kiser & Angela F. Collins, *Regulation on the Horizon: Are Regulators Poised to Address the Status of IP Telephony?*, 11 COMMLAW CONSPECTUS 19 (2003); Sunny Lu, Note, *Cellco Partnership v. FCC & Vonage Holdings Corp. v. Minnesota Public Utilities Commission: VoIP’s Shifting Legal and Political Landscape*, 20 BERKELEY TECH. L.J. 859, 862 (2005). For technical background on how VoIP works, see International Engineering Consortium, Web ProForums: Voice over Internet Protocol, http://www.iec.org/online/tutorials/int_tele/ (last visited Apr. 10, 2008); Susan Spradley & Alan Stoddard, Powerpoint Presentation to the FCC Office of Engineering & Technology: Tutorial on Technical Challenges Associated with the Evolution to VoIP (Sept. 22, 2003), available at http://www.fcc.gov/oet/tutorial/9-22-03_voip-final_slides_only.ppt; see also Stephen E. Blythe, *The Regulation of Voice-Over-Internet-Protocol in the United States, the European Union, and the United Kingdom*, 5 J. HIGH TECH. L. 161 (2005); Jerry Ellig & Alastair Walling, *Regulatory Status of VoIP in the Post-Brand X World*, 23 SANTA CLARA COMPUTER & HIGH TECH. L.J. 89 (2006); R. Alex DuFour, *Voice Over Internet Protocol: Ending Uncertainty and Promoting Innovation Through a Regulatory Framework*, 13 COMMLAW CONSPECTUS 471 (2005); Amy L. Leisinger, Note, *If It Looks Like a Duck: The Need for Regulatory Parity in VoIP Telephony*, 45 WASHBURN L.J. 585 (2006).

regulatory dichotomy because some offer a functional equivalent and competitive alternative to local and long distance telephone service, while others provide a communications link for an activity that typically does not include a telephone call, e.g., video games. On the other hand, all provide these services using software and other applications typically accessed by consumers via cable modem and DSL links already classified as information services. If the Commission classified VoIP as a telecommunications service, the decision would cast doubt on the rationality and lawfulness of imposing regulatory burdens on packagers of software enabled services that ride along a bitstream generated by information service providers ("ISPs"). If the FCC classified VoIP as an information service, this decision would exempt VoIP from conventional telecommunications service regulation under Title II of the Communications Act and would force the FCC to invoke ancillary jurisdiction to apply regulatory safeguards and requirements, otherwise applicable only to telecommunications service providers, based on a general public interest mandate contained in Title I of the Communications Act.

Even as it avoids deciding which regulatory classification applies to VoIP services, the FCC has received rulemaking and declaratory ruling petitions that have obligated it to make several decisions resulting in the imposition of regulatory burdens on VoIP and the partial re-regulation of information services, including DSL and cable modem service.²⁰ Faced with the need to shore up a subsidy mechanism for supporting universal access to basic telephone services via a surcharge on voice telephony minutes of use, the Commission now requires VoIP service providers to make contributions to the Universal Service Fund.²¹ Responding to public safety concerns about VoIP customer access to emergency telephone services, the FCC now requires VoIP service providers to retrofit their networks to support E9-1-1 calling²² and access by disabled users²³ and to enable new subscribers to use previously assigned and used telephone numbers.²⁴ In response to national security concerns expressed by government agencies such as the Department of

20. See CALEA Implementation, *supra* note 17, at 15,001.

21. Universal Serv. Contribution Methodology, *Report & Order & Notice of Proposed Rulemaking*, 21 FCC Rcd. 7518 (2006) [hereinafter Contribution Methodology] (extending Section 254(d) permissive authority to require interconnected VoIP providers to contribute to the Universal Service Fund), *review granted in part, vacated in part*, Vonage Holdings Corp. v. F.C.C., 489 F.3d 1232 (D.C. Cir. 2007).

22. E911 First Report and Order, *supra* note 11.

23. IP-Enabled Servs., *Report & Order*, 22 FCC Rcd. 11,275 (2007) [hereinafter Access to Telecommunications Service].

24. Telephone Number Requirements for IP-Enabled Servs. Providers, *Report & Order, Declaratory Ruling, Order on Remand, & Notice of Proposed Rulemaking*, 22 FCC Rcd. 19,531 (2007) [hereinafter Telephone Number Requirements].

Justice, the FCC has found a way to interpret the Communications Assistance for Law Enforcement Act (“CALEA”) as requiring wiretapping by VoIP service providers and all providers of broadband access to the Internet, despite an express exemption on applying CALEA to providers of “information services.”²⁵

The FCC has avoided having to classify VoIP, while nevertheless applying some of the regulatory burdens traditionally borne exclusively by telecommunications service providers. The Commission’s strategy combines an invocation of broad public interest regulatory authority under Title I of the Communications Act, as amended, with a focus on the telecommunications transmission link in VoIP. When the FCC wants to subject VoIP services to regulatory requirements, it finds a way to emphasize the telecommunications component, but when the FCC wants to eschew regulation, the very same telecommunications component becomes a subordinate, unseverable, and integrated component of a cable modem, DSL, power line,²⁶ or wireless²⁷ information service.

This Article will examine whether and how the FCC can support a campaign to deregulate or treat as outside its jurisdiction many next generation network services while at the same time imposing financially

25. The Communications Assistance for Law Enforcement Act (CALEA) requires, *inter alia*, that:

[A] telecommunications carrier shall ensure that its equipment, facilities, or services that provide a customer or subscriber with the ability to originate, terminate, or direct communications are capable of – (1) expeditiously isolating and enabling the government, pursuant to a court order or other lawful authorization, to intercept, to the exclusion of any other communications, all wire and electronic communications carried by the carrier within a service area to or from equipment, facilities, or services of a subscriber of such carrier concurrently with their transmission to or from the subscriber’s equipment, facility, or service, or at such later time as may be acceptable to the government

47 U.S.C. § 1002(a). However, it explicitly exempts providers of information services from having to provide wiretapping assistance. *Id.* § 1002(b)(2)(A). CALEA defines “information services” as:

[T]he offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications; and (B) includes— (i) a service that permits a customer to retrieve stored information from, or file information for storage in, information storage facilities; (ii) electronic publishing; and (iii) electronic messaging services; but (C) does not include any capability for a telecommunications carrier’s internal management, control, or operation of its telecommunications network.

Id. § 1001(6).

26. See United Power Line Council’s Petition for Declaratory Ruling Regarding the Classification of Broadband over Power Line Internet Access Service as an Information Service, *Memorandum Opinion & Order*, 21 FCC Rcd. 13,281 (2006) (extending the information service deregulatory safe harbor to broadband over power line networks).

27. See Wireless Treatment, *supra* note 8 (extending the information service deregulatory safe harbor to wireless broadband networks).

burdensome requirements and regulatory duties on some ventures that fit within the information service provider classification. The FCC has erected a regime largely predisposed to treating next generation services as information services free of interconnection, unbundling, tariffing, line sharing, and other requirements Title II of the Communications Act requires the FCC to impose. To support its deregulatory mission, the FCC has found ways to subordinate the telecommunications components in a service that blends telecommunications transmission of bits with information services. For example, in reclassifying DSL from a telecommunications service to an information service, the FCC combined the need for deregulatory parity with a new finding that the once stand-alone telecommunications service characteristic of DSL had become inextricably integrated with information services with the latter predominating.

Notwithstanding the urge to deregulate, either on rational or doctrinal grounds, the Commission has had to confront the fact that competition alone will not ensure the achievement of all Congressionally mandated or FCC identified public interest objectives. Even with actual or prospective competition, the wholesale abdication of regulatory oversight leaves the FCC in a precarious legal position if, and when, it needs to reassert regulatory oversight as has occurred on several occasions for VoIP services²⁸ and once for all types of broadband Internet access information services.²⁹

The Article concludes that Title I provides a shaky foundation to support regulation particularly in the absence of separate legislation supporting jurisdiction. The Article also concludes that the FCC cannot expect to continue expanding its Title I regulatory wingspan based on current success in convincing reviewing courts to defer to its expertise.

I. TELECOMMUNICATIONS SERVICES VERSUS INFORMATION SERVICES

For over thirty years, the FCC has confronted the challenge of how to manage the scope and nature of its regulatory oversight in the face of

28. See, e.g., Contribution Methodology, *supra* note 21 (requiring VoIP providers that provide access to the public switched telephone network to contribute to universal service funding); E911 First Report and Order, *supra* note 11 (requiring VoIP service providers to support enhanced emergency 911 dialing access); Access to Telecommunications Service, *supra* note 23 (requiring interconnected VoIP providers to offer 711 abbreviated dialing access to traditional relay services via a voice telephone or a text telephone (TTY)); Telephone Number Requirements, *supra* note 24 (extending local number portability obligations to interconnected VoIP to ensure that their customers can retain their existing telephone numbers when changing telephone providers).

29. Comm'n's Assistance for Law Enforcement Act and Broadband Access and Servs., *Second Report & Order & Memorandum Opinion & Order*, 21 FCC Rcd. 5360 (2006).

converging telecommunications and information processing technologies. With rare exception, Congress has refrained from providing the Commission with specific definitions and direction on what, if any, regulatory oversight should apply. Left to its own devices, the FCC first erected a regulatory dichotomy between “basic” and “enhanced” services³⁰ with the expectation that the two classifications were mutually exclusive: telephone companies would provide basic services that other ventures, including separated affiliates of telephone companies, would use to carry advanced services.

The judge presiding over the federal government’s antitrust suit against AT&T crafted a similar dichotomy³¹ and, in 1996, Congress enacted legislation that created the terms telecommunications service and information service to achieve the same goal.³² Throughout the years, with only minor modifications, the FCC applied traditional telecommunications common carrier regulation to carriers providing the basic transmission links for advanced information services that the FCC would not regulate. The FCC eventually eliminated the requirement that telephone companies pursue enhanced services via separate subsidiaries,³³ but the Commission retained the expectation that it could

30. Amendment of Section 64.702 of the Commission’s Rules and Regulations (Second Computer Inquiry), *Final Decision*, 77 F.C.C.2d 384, ¶¶ 113-15 (1980), *aff’d sub nom.* Computer & Comm’n. Indus. Ass’n v. F.C.C., 693 F.2d 198 (D.C. Cir. 1982), *cert. denied sub nom.* La. Pub. Serv. Comm’n v. F.C.C., 461 U.S. 938 (1983); *see* Amendment of Section 64.702 of the Commission’s Rules and Regulations (Second Computer Inquiry), *Memorandum Opinion & Order*, 84 F.C.C.2d 50 (1980); Amendment of Section 64.702 of the Commission’s Rules and Regulations (Second Computer Inquiry), *Memorandum Opinion & Order on Further Reconsideration*, 88 F.C.C.2d 512 (1981); *see also* Robert M. Frieden, *The Computer Inquiries: Mapping the Communications/Information Processing Terrain*, 33 FED. COMM. L.J. 55 (1981).

31. *See* United States v. Am. Tel. & Tel. Co., 552 F. Supp. 131, 186-94 (D.D.C. 1982), *aff’d sub nom.* Maryland v. United States, 460 U.S. 1001 (1983). The Bell Operating Companies, spun off from AT&T, received authorization to provide information services in 1991. United States v. W. Elec. Co., 767 F. Supp. 308, 332 (D.D.C. 1991), *aff’d*, 993 F.2d 1572 (D.C. Cir. 1993).

32. *See* 47 U.S.C. § 151.

33. Without any actual measurement of whether structural separation caused ILECs to operate inefficiently or to lose operational synergies, the Commission subsequently eliminated structural safeguards. *See* Computer III Further Remand Proceedings: Bell Operating Co. Provision of Enhanced Servs., *Further Notice of Proposed Rulemaking*, 13 FCC Rcd. 6040 (1998), *rule modification granted by* 14 FCC Rcd. 4289 (1999), *reconsideration granted in part by* 14 FCC Rcd. 21,628 (1999); Computer III Remand Proceedings: Bell Operating Co. Safeguards and Tier 1 Local Exchange Co. Safeguards, *Report & Order*, 6 FCC Rcd. 7571 (1991), *vacated in part*, California v. F.C.C., 39 F.3d 919 (9th Cir. 1994); Computer III Remand Proceedings, *Report & Order*, 5 FCC Rcd. 7719 (1990); Amendment of Sections 64.702 of the Commission’s Rules and Regulations (Third Computer Inquiry), *Memorandum Opinion & Order on Further Reconsideration & Second Further Reconsideration*, 4 FCC Rcd. 5927 (1989); Amendment to Sections 64.702 of the Commission’s Rules and Regulations (Third Computer Inquiry), *Report & Order*, 2 FCC Rcd. 3072 (1987), *modified on reconsideration by* 3 FCC Rcd. 1150 (1988), *vacated and remanded*, California v. F.C.C.,

conceptually separate basic telecommunications services from enhanced information services.

This dichotomy has become technologically unsustainable and has motivated the FCC to come up with increasingly suspect rationales for shoehorning more and more services into the largely unregulated information service safe harbor, despite an ongoing need for some types of government oversight, including consumer protection, network reliability, and national security. Converging telecommunications and information processing technologies prevent the FCC from easily compartmentalizing services into one or the other regulatory classification. Similarly, ventures that used to operate only in the telecommunications sector now find it essential to find new revenue generators in the information services sector, including Internet access and Internet-mediated services that can include video programming. Nevertheless, the FCC and reviewing courts have supported the dichotomy, using painstaking deconstruction of the difference between telecommunications and telecommunications service, as well as the difference between offering and providing telecommunications.

A. The Supreme Court Endorses Cable Modem Internet Access as an Information Service

In *Brand X*, a majority of the Supreme Court endorsed the FCC's information service classification for cable modem service.³⁴ Using the *Chevron*³⁵ standard, which supports deference to administrative agency decision-making that reasonably interprets and implements statutory language,³⁶ the Court cleared the way for the FCC not only to create a lightly regulated information service safe harbor for both cable modem and DSL³⁷ high speed broadband access services, but also to address and

905 F.2d 1217 (9th Cir. 1990); Amendment of Sections 64.702 of the Commission's Rules and Regulations (Third Computer Inquiry), *Memorandum Opinion & Order on Further Reconsideration*, 3 FCC Rcd. 1135 (1988); Amendment of Sections 64.702 of the Commission's Rules and Regulations (Third Computer Inquiry), *Memorandum Opinion & Order on Reconsideration*, 2 FCC Rcd. 3035 (1987), *vacated and remanded, California*, 905 F.2d 1217; Amendment of Sections 64.702 of the Comm'n's Rules and Regulations (Third Computer Inquiry), *Report & Order*, 104 F.C.C.2d 958 (1986); *see also* Robert M. Frieden, *The Third Computer Inquiry: A Deregulatory Dilemma*, 38 FED. COMM. L. J. 383 (1987).

34. *Brand X*, 545 U.S. 967.

35. *Chevron U.S.A., Inc. v. Natural Res. Def. Council*, 467 U.S. 837, 843-44 (1984).

36. *Brand X*, 545 U.S. at 980 (citing *Chevron*, 467 U.S. at 843-44 & n.11) ("If a statute is ambiguous, and if the implementing agency's construction is reasonable, *Chevron* requires a federal court to accept the agency's construction of the statute, even if the agency's reading differs from what the court believes is the best statutory interpretation.")

37. The majority opinion recognized the likelihood of a future reclassification for DSL services and had no problem with that outcome:

The Commission's decision appears to be a first step in an effort to reshape the way

resolve other complex technological issues with the Court's blessing:

The questions the Commission resolved in the order under review involve a "subject matter that is technical, complex, and dynamic." The Commission is in a far better position to address these questions than we are. Nothing in the Communications Act or the Administrative Procedure Act makes unlawful the Commission's use of its expert policy judgment to resolve these difficult questions.³⁸

A majority of the Court agreed that the FCC could reasonably have concluded that cable modems solely provide an information service, despite the use of telecommunications to link subscribers with content.³⁹ Accordingly, the Court reversed the Ninth Circuit Court of Appeal's prior determination that a separate and identifiable telecommunications service element existed on grounds that the *Chevron* precedent supported the FCC's statutory construction: "A court's prior judicial construction of a statute trumps an agency construction otherwise entitled to *Chevron* deference only if the prior court decision holds that its construction follows from the unambiguous terms of the statute and thus leaves no room for agency discretion."⁴⁰

The Court's majority decision accepted the FCC's telecommunications and telecommunications service dichotomy as the basis for concluding that cable modem Internet access constituted an information service because the telecommunications component was a

the Commission regulates information-service providers; that may be why it has tentatively concluded that DSL service provided by facilities-based telephone companies should also be classified solely as an information service. The Commission need not immediately apply the policy reasoning in the *Declaratory Ruling* to all types of information-service providers. It apparently has decided to revisit its longstanding *Computer II* classification of facilities-based information-service providers incrementally. Any inconsistency between the order under review and the Commission's treatment of DSL service can be adequately addressed when the Commission fully reconsiders its treatment of DSL service and when it decides whether, pursuant to its ancillary Title I jurisdiction, to require cable companies to allow independent ISPs access to their facilities.

Brand X, 545 U.S. at 1002 (citations omitted).

38. *Id.* at 1002-03 (citations omitted).

39. *Id.* at 996-97.

In sum, if the Act fails unambiguously to classify non-facilities-based information-service providers that use telecommunications inputs to provide an information service as "offerors" of "telecommunications," then it also fails unambiguously to classify facilities-based information-service providers as telecommunications-service offerors; the relevant definitions do not distinguish facilities-based and non-facilities-based carriers. That silence suggests, instead, that the Commission has the discretion to fill the consequent statutory gap.

Id.

40. *Id.* at 982.

subordinate and unseverable component, not separately offered.⁴¹ The majority used several analogies to support the view that the FCC could lawfully ignore or subordinate the telecommunications function as something integrated into an information service, but not offered on a stand-alone basis. The majority's analogies provided examples in which a venture offers a number of services, many of which can be combined into a consolidated package, and others that are made available, but that are not essential. In the former, the majority noted that car dealers sell cars and not a collection of integrated components, such as an engine and chassis.⁴² The majority also rejected competing analogies offered by Justice Scalia in dissent by noting that customers can pick up pizzas rather than have them delivered and similarly can purchase dog leashes at pet stores without also having to purchase a dog.⁴³

Because ambiguity exists as to the functional integration or separateness of telecommunications, the Court majority gladly deferred to the FCC.⁴⁴ The Court noted that the nature and scope of integration between telecommunications and information processing "turns not on the language of the [Communications] Act, but on the factual particulars of how Internet technology works and how it is provided, questions *Chevron* leaves to the Commission to resolve in the first instance."⁴⁵

41. *Id.* at 989.

Cable companies in the broadband Internet service business "offer" consumers an information service in the form of Internet access and they do so "via telecommunications," but it does not inexorably follow as a matter of ordinary language that they also "offer" consumers the high-speed data transmission (telecommunications) that is an input used to provide this service

Brand X, 545 U.S. at 989 (citations omitted).

42. *Id.*

43. *Id.* at 991.

In response, the dissent argues that the high-speed transmission component necessary to providing cable modem service is necessarily "offered" with Internet service because cable modem service is like the offering of pizza delivery service together with pizza, and the offering of puppies together with dog leashes. The dissent's appeal to these analogies only underscores that the term "offer" is ambiguous in the way that we have described. The entire question is whether the products here are functionally integrated (like the components of a car) or functionally separate (like pets and leashes). That question turns not on the language of the Act, but on the factual particulars of how Internet technology works and how it is provided, questions *Chevron* leaves to the Commission to resolve in the first instance.

Id. (citations omitted).

44. Because "the statute fails unambiguously to classify the telecommunications component of cable modem service as a distinct offering," the majority asserted that "federal telecommunications policy in this technical and complex area . . . [should] be set by the Commission, not by warring analogies." *Id.* at 992.

45. *Id.* at 991.

While deploring the use of “warring analogies,”⁴⁶ the majority nevertheless offered analogies that support the FCC’s interpretation of what constitutes a service offering versus integration of one function into a broader package of service elements:

We also do not share the dissent’s certainty that cable modem service is so obviously like pizza delivery service and the combination of dog leashes and dogs that the Commission could not reasonably have thought otherwise. For example, unlike the transmission component of Internet service, delivery service and dog leashes are not integral components of the finished products (pizzas and pet dogs). One can pick up a pizza rather than having it delivered, and one can own a dog without buying a leash. By contrast, the Commission reasonably concluded, a consumer cannot purchase Internet service without also purchasing a connection to the Internet and the transmission always occurs in connection with information processing. In any event, we doubt that a statute that, for example, subjected offerors of “delivery” service (such as Federal Express and United Parcel Service) to common-carrier regulation would unambiguously require pizza-delivery companies to offer their delivery services on a common-carrier basis.⁴⁷

In a dissenting opinion, Justice Scalia did not agree with the majority opinion that the FCC could lawfully⁴⁸ and practically treat the telecommunications link as inseparable from the predominant information processing services provided. He disputed the FCC’s view that cable television companies do not provide a telecommunications service when linking subscribers physically apart from the content they access.⁴⁹ Justice Scalia used pizzerias and pizza delivery for his primary analogy and asserted that one could not ignore the fact that pizza baking and pizza delivery constitute two separate elements of the pizza business.⁵⁰ He concluded, “[i]t is therefore inevitable that customers will

46. *Brand X*, 545 U.S. at 992.

47. *Id.* at 992 (citations omitted).

48. *Id.* at 1005 (Scalia, J., dissenting) (“The important fact, however, is that the Commission has chosen to achieve this [result] through an implausible reading of the statute, and has thus exceeded the authority given it by Congress.”).

49. *Id.* at 1008 (“Despite the Court’s mighty labors to prove otherwise the telecommunications component of cable-modem service retains such ample independent identity that it must be regarded as being on offer – especially when seen from the perspective of the consumer or the end user, which the Court purports to find determinative”) (citation omitted).

50. *Id.* at 1007.

If, for example, I call up a pizzeria and ask whether they offer delivery, both common sense and common “usage,” would prevent them from answering: “No, we do not offer delivery – but if you order a pizza from us, we’ll bake it for you and then bring it to your house.” The logical response to this would be something on

regard the competing cable-modem service as giving them *both* computing functionality *and* the physical pipe by which that functionality comes to their computer—both the pizza and the delivery service.”⁵¹

The use of simplistic, but diverging, analogies within Supreme Court opinions demonstrates how experts in the law struggle to understand the scope of both regulatory and deregulatory authority the FCC has when applying statutory definitions to telecommunications and information processing technologies. The majority decision accepts the FCC’s interpretation and application of statutory definitions while Judge Scalia chides the FCC for acting without statutory authority. In what might become a timely prediction of future FCC conduct, Justice Scalia also rejected the FCC’s heavy reliance on Title I ancillary jurisdiction to achieve whatever re-regulation it might deem necessary:

This is a wonderful illustration of how an experienced agency can (with some assistance from credulous courts) turn statutory constraints into bureaucratic discretions. The main source of the Commission’s regulatory authority over common carriers is Title II, but the Commission has rendered that inapplicable in this instance by concluding that the definition of “telecommunications service” is ambiguous and does not (in its current view) apply to cable-modem service. It contemplates, however, altering that (unnecessary) outcome, not by changing the law (i.e., its construction of the Title II definitions), but by reserving the right to change the facts. Under its undefined and sparingly used “ancillary” powers, the Commission might conclude that it can order cable companies to “unbundle” the telecommunications component of cable-modem service. And presto, Title II will then apply to them, because they will finally be “offering” telecommunications service!⁵²

the order of, “so, you *do* offer delivery.” But our pizza-man may continue to deny the obvious and explain, paraphrasing the FCC and the Court: “No, even though we bring the pizza to your house, we are not actually ‘offering’ you delivery, because the delivery that we provide to our end users is ‘part and parcel’ of our pizzeria-pizza-at-home service and is ‘integral to its other capabilities.” Any reasonable customer would conclude at that point that his interlocutor was either crazy or following some too-clever-by-half legal advice.

Id. (citations omitted).

51. *Brand X*, 545 U.S. at 1009 (Scalia, J., dissenting).

52. *Id.* at 1014. The dissent continued:

Under the Commission’s assumption that cable-modem-service providers are not providing “telecommunications services,” there is reason to doubt whether it can use its Title I powers to impose common-carrier-like requirements, since 47 U.S.C. § 153(44) specifically provides that a “telecommunications carrier shall be treated as a common carrier under this chapter *only to the extent* that it is engaged in providing telecommunications services,” and “this chapter” includes Titles I and II.

B. DSL Migrates from Telecommunications Service to Information Service

Following up on the Supreme Court's endorsement of its decision to deem cable modem Internet access an information service, the FCC reclassified DSL from a telecommunications service to an information service.⁵³ This reclassification did not trigger a court appeal or much scrutiny because the Supreme Court already had expansively deferred to and endorsed the Commission's expertise in differentiating telecommunications from information services and because the Commission could make a strong public interest argument favoring regulatory parity between cable modem and DSL service. Notwithstanding the Supreme Court's unwillingness to second guess the FCC's interpretation of its legislative mandate, including the classification of services using the definitions contained in the Communications Act, the Commission had a more challenging task in reclassifying a telecommunications service, instead of initially classifying a carrier's offering as an information service.

Bear in mind that cable television ventures can offer cable modem service by retrofitting their video programming distribution network that the FCC never deemed a telecommunications service. For DSL, the FCC had to rationalize a reclassification of a service that telephone companies can offer only by retrofitting their existing copper wire network initially used exclusively to deliver regulated telecommunications services. The FCC's reclassification of DSL exempted telephone companies and their DSL subscribers from having to contribute to universal service funding, even though the Commission soon concluded that the sustainability of its universal service funding program required the expansion of compulsory contributors to include VoIP services accessed via DSL.

The FCC justified its reclassification of DSL on several grounds: 1) deregulation will promote wider access to broadband access;⁵⁴ 2) the public interest benefits accruing from subjecting both cable modem and DSL service to minimal regulation;⁵⁵ 3) deregulation will create incentives for investment in next generation networks;⁵⁶ 4) emerging

Id. at 1014 n.7.

53. Appropriate Framework, *supra* note 14.

54. *Id.* at 14,855 (“[T]his Order encourages the ubiquitous availability of broadband to all Americans by, among other things, removing outdated regulations. Those regulations were created over the past three decades under technological and market conditions that differed greatly from those of today.”).

55. *Id.* (“[T]he framework we adopt in this Order furthers the goal of developing a consistent regulatory framework across platforms by regulating like services in a similar functional manner, after a transitional period.”).

56. *Id.* (“[T]he actions we take in this Order allow facilities-based wireline broadband

competition by several facilities-based broadband providers;⁵⁷ and 5) the perception that a legislative mandate to promote the availability of “advanced telecommunications capabilities”⁵⁸ includes deregulatory initiatives to promote access to information services.⁵⁹

The FCC never directly addressed how the telecommunications transmission component of DSL service had changed from one identifiable as a stand-alone, common carrier service to an integrated and unseverable component. Instead the Commission simply reiterated and applied its rationale for finding the integrated and unseverable aspects of telecommunications in cable modem service. The FCC deems DSL services functionally equivalent to cable modem service because “wireline broadband Internet access”⁶⁰ has the same integration of basic telecommunications and enhanced information processing functions⁶¹

Internet access service providers to respond to changing marketplace demands effectively and efficiently, spurring them to invest in and deploy innovative broadband capabilities that can benefit all Americans . . .”).

57. *Id.* at 14,856 (“[T]he record before us demonstrates that the broadband Internet access market today is characterized by several emerging platforms and providers, both intermodal and intramodal, in most areas of the country.”). But curiously the Commission also forecasts competition resulting from its decision. *Id.*

We are confident that the regulatory regime we adopt in this Order will promote the availability of competitive broadband Internet access services to consumers, via multiple platforms, while ensuring adequate incentives are in place to encourage the deployment and innovation of broadband platforms consistent with our obligations and mandates under the Act.

Appropriate Framework, *supra* note 14, at 14,856.

58. The Telecommunications Act of 1996 (“96 Act”) defines “advanced telecommunications capability . . . without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.” Pub. L. No. 104-104 § 706(c), 110 Stat. 56, 153 (codified at 47 U.S.C. § 157 note).

59. Appropriate Framework, *supra* note 14, at 14,865 (“Finally, the directives of section 706 of the 1996 Act require that we ensure that our broadband policies promote infrastructure investment, consistent with our other obligations under the Act.”).

60. *Id.* at 14,860 (“Wireline broadband Internet access service, for purposes of this proceeding, is a service that uses existing or future wireline facilities of the telephone network to provide subscribers with Internet access capabilities.”).

61. *Id.* at 14,863-64.

Applying the definitions of “information service,” “telecommunications,” and “telecommunications service,” we conclude that wireline broadband Internet access service provided over a provider’s own facilities is appropriately classified as an information service because its providers offer a single, integrated service (i.e., Internet access) to end users. That is, like cable modem service (which is usually provided over the provider’s own facilities), wireline broadband Internet access service combines computer processing, information provision, and computer interactivity with data transport, enabling end users to run a variety of applications (e.g., e-mail, web pages, and newsgroups). These applications encompass the capability for “generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications,” and taken

and because the Commission apparently cannot decouple or sever the telecommunications component: "Because wireline broadband Internet access service inextricably combines the offering of powerful computer capabilities with telecommunications, we conclude that it falls within the class of services identified in the Act as 'information services.'"⁶²

Having effectuated the reclassification of DSL as an information service, the FCC removed all previous regulatory safeguards designed to promote a level competitive playing field among competing providers of enhanced services that apply information processing to basic transmission links. In its *Second Computer Inquiry*, the FCC established several interconnection and fair dealing requirements on telephone companies when offering basic telecommunications services, as well as a requirement that these companies separate basic services from enhanced services and offer the former on a common carrier basis.

The FCC subsequently concluded that technological innovations and the possibility of gains in operational efficiencies support the elimination of a regulatory barrier against integrating basic and enhanced services. The elimination of these regulations frees telephone companies to offer intelligent networks and not "dumb pipes" that other ventures would enhance with software and other applications. In an effort to ensure that telephone companies have every incentive to build basic and enhanced networks, the FCC promoted full exploitation of technological and market convergence at the risk of having relinquished the most effective and lawful regulatory tools to remedy abuses and to protect the public interest when self-regulation does not suffice in the information service marketplace.

The Commission has no doubts that a competitively level marketplace will evolve, thereby ensuring widespread availability of retail broadband access for consumers and even for access to ventures seeking to compete with broadband service providers using their facilities and services on a resale basis.⁶³ The Commission has such confidence about

together constitute an information service as defined by the Act.

Id.

62. *Id.* at 14,864.

63. *Id.* at 14,887.

Based on the record before us, we expect that facilities-based wireline carriers will have business reasons to continue making broadband Internet access transmission services available to ISPs without regard to the *Computer Inquiry* requirements. The record makes clear that such carriers have a business interest in maximizing the traffic on their networks, as this enables them to spread fixed costs over a greater number of revenue-generating customers. For their part, cable operators, which have never been required to make Internet access transmission available to third parties on a wholesale basis, have business incentives similar to those of incumbent LECs to make such transmission available to ISPs, and are continuing to do so pursuant to private carriage arrangements.

the evolution of competition that it ignores current evidence of a duopoly in broadband Internet access (greater than 200 kilobits per second in both directions), comprised of cable and telephone companies serving approximately 96% of the market.⁶⁴ Curiously, the Commission does not consider it necessary even to assess whether any venture has dominant market power in the broadband or wireline broadband marketplace.⁶⁵ The Commission concludes that such a market assessment was appropriate only for the previous market environment dominated by telephone companies with separate telecommunications and information service markets.⁶⁶ For specific problems not remedied by a competitive marketplace, the FCC reminds readers that the Commission can and will use its ever expanding and presumably effective Title I authority⁶⁷ in such

Appropriate Framework, *supra* note 14, at 14,887.

64. WCB REPORT, *supra* note 9, at 2 (“Of the 64.6 million total high-speed lines, 44.1% were cable modem, 34.9% were ADSL, 1.5% were symmetric DSL (SDSL) or traditional wireline, 1.1% were fiber to the end user premises, and 18.4% used other technologies.”); *id.* at 3 (“Of the 50.4 million lines which were faster than 200 kbps in *both* directions, 55.9% were cable modem, 36.3% were ADSL, 1.9% were SDSL or traditional wireline, 1.4% were fiber to the end user premises, and 4.5% used other technologies.”); *id.* (of the 45.9 million lines that were speedier than 200 kbps in both directions and serving residential subscribers, “cable modem represented 59.9% while 35.8% were ADSL, 0.2% were SDSL or traditional wireline, 1.0% were fiber to the end user premises, and 3.2% used other technologies.”). The FCC’s statistics provide the basis for the Commission, stakeholder and outside researchers to conclude that a vibrant and robustly competitive broadband market exists. *See, e.g.*, J. Gregory Sidak, *A Consumer-Welfare Approach to Network Neutrality Regulation of the Internet*, 2 J. COMPETITION. L. & ECON. 349, 387 (2006) (arguing that dial up telephone service, despite its throughput limitations, constitutes a competitive alternative to broadband services to conclude that a robustly competitive Internet access marketplace exists for VoIP providers).

65. Appropriate Framework, *supra* note 14, at 14,897-98.

Based on the record before us, it is not necessary to make a finding of market non-dominance as to the incumbent LECs in the provision of broadband Internet access transmission, as some parties have asked us to do, before we may eliminate the Computer Inquiry obligations. We decline to do so. Nor do we think it necessary or appropriate to make findings about dominance or non-dominance with respect to the retail market for broadband Internet access.

Id.

66. *Id.* at 14,898.

[The previous] market environment differs markedly from the dynamic and evolving broadband Internet access marketplace before us today where the current market leaders, cable operators and wireline carriers, face competition not only from each other but also from other emerging broadband Internet access service providers. This rapidly changing market does not lend itself to the conclusions about market dominance the Commission typically makes to determine the degree of regulation to be applied to well-established, relatively stable telecommunications service markets. On the contrary, any finding about dominance or non-dominance in this emerging broadband Internet access service market would be premature.

Id.

67. The FCC proposes to provide still essential consumer protection safeguards under a common framework for all broadband services. *Id.* at 14,929-30 (“This framework necessarily will be built on our ancillary jurisdiction under Title I; as we explain in the Order, this

areas as consumer protection, network reliability, or national security obligations.⁶⁸

II. VOIP SERVICE REGULATION

On technological and philosophical grounds, one would think the FCC would not burden VoIP service with much, if any regulation. The Commission has expressed a disinclination to regulate new and developing technologies and services, particularly if it anticipates robust competition as likely to occur.⁶⁹ Additionally, the Commission has undertaken a multi-year campaign to reduce regulations and the extent regulation imposes financial costs and competitive disadvantages.⁷⁰

jurisdiction is ample to accomplish the consumer protection goals we identify below, and we will not hesitate to exercise it.”).

68. *Id.* at 14,913-14.

The Commission may exercise its ancillary jurisdiction when Title I of the Act gives the Commission subject matter jurisdiction over the service to be regulated and the assertion of jurisdiction is “reasonably ancillary to the effective performance of its various responsibilities.” We recognize that both of the predicates for ancillary jurisdiction are likely satisfied for any consumer protection, network reliability, or national security obligation that we may subsequently decide to impose on wireline broadband Internet access service providers.

Appropriate Framework, *supra* note 14, at 14,913-14 (quoting *Sw. Cable Co.*, 392 U.S. at 178).

69. For example, the FCC opted to treat wireless broadband access as an information service like cable modem, DSL and powerline provided Internet access. Wireless Treatment, *supra* note 8.

[C]lassifying wireless broadband Internet access service as an information service furthers the goals of sections 7 and 230(b)(2) of the Communications Act, and section 706 of the Telecommunications Act of 1996. As noted above, wireless broadband Internet access technologies continue to evolve at a rapid pace. Through this classification, we provide the regulatory certainty needed to help spur growth and deployment of these services. Particularly, the regulatory certainty we provide through this classification will encourage broadband deployment in rural and underserved areas, where wireless broadband may be the most efficient broadband option. Additionally, we believe that wireless broadband Internet access service can provide an important homeland security function by creating redundancy in our nation’s communications infrastructure.

Id.

70. Appropriate Framework, *supra* note 14, at 14,877.

[R]egulation can have a significant impact on the ability of wireline platform providers to develop and deploy innovative broadband capabilities that respond to market demands. The record shows that the additional costs of an access mandate diminish a carrier’s incentive and ability to invest in and deploy broadband infrastructure investment. We find this negative impact on deployment and innovation particularly troubling in view of Congress’ clear and express policy goal of ensuring broadband deployment, and its directive that we remove barriers to that deployment, if possible, consistent with our other obligations under the Act. It is precisely this negative impact on broadband infrastructure that led the Commission to eliminate other broadband-related regulation over the past two years. These

Indeed the motivation to expand the availability of the information services safe harbor stems from a view that the FCC should avoid regulation whenever possible in light of the marketplace distortions such regulation can generate including investment disincentives and arbitrage strategies that create unequal regulatory burdens on competitors.⁷¹

In light of aggressive efforts by the FCC to exempt the Internet from regulation and to characterize Internet access as an information service, it seems ironic that the Commission cannot reach closure on deciding whether VoIP also qualifies for inclusion in the information service deregulatory safe harbor. VoIP services require the use of software to process bitstreams originated and terminated over DSL and cable modem links with the long haul occurring within the Internet's "cloud"⁷² of telecommunications networks. It should strain credulity, even for deferential courts, for the FCC to conclude that while the underlying bitstream provided by cable modem and DSL providers constitutes an information service that integrates telecommunications, VoIP services do not similarly integrate telecommunications into a package predominated by information service components.

A. VoIP Service Providers Must Contribute to Universal Service Funding Regardless of Their Regulatory Status

When the FCC confronted a need to shore up a system for subsidizing universal access to basic telephone services, the Commission opted to include interconnected VoIP⁷³ providers as compulsory contributors.⁷⁴ The FCC avoided having to classify VoIP as a telecommunications service for purposes of expanding the scope of

factors, when weighed against the benefits of continuing these regulations, render a different policy result than the judgment reached at the time the *Computer Inquiry* rules were adopted.

Id. (citations omitted).

71. See Rob Frieden, *The FCC's Name Game: How Shifting Regulatory Classifications Affect Competition*, 19 BERKELEY TECH. L.J. 1275 (2004); Rob Frieden, *Regulatory Arbitrage Strategies and Tactics in Telecommunications*, 5 N.C. J. L. & TECH. 227 (2004).

72. The Internet "cloud" refers to the vast array of interconnected networks that make up the Internet and provide users with seamless connectivity to these networks and the content available via these networks. See ED KROL, *THE WHOLE INTERNET: USER'S GUIDE AND CATALOG* 261-62 (1992).

73. The FCC defines interconnected VoIP services as having the following traits:

(1) the service enables real-time, two-way voice communications; (2) the service requires a broadband connection from the user's location; (3) the service requires IP-compatible CPE [i.e., customer premises equipment]; and (4) the service offering permits users generally to receive calls that originate on the PSTN and to terminate calls to the PSTN [i.e., the conventional dial up public switched telephone network].

E911 First Report and Order, *supra* note 11, at 10,257-58.

74. Contribution Methodology, *supra* note 21, at 7520.

universal service funders because statutory language provided the Commission an option of requiring contributions from “[a]ny other provider of interstate telecommunications . . . if the public interest so requires.”⁷⁵ Accordingly the issue of a multi-billion dollar universal service financial responsibility for VoIP service depended on another semantic dichotomy: whether the FCC could convince a reviewing court that even if VoIP ventures do not *offer* telecommunications services they *provide* interstate telecommunications. The FCC concluded that VoIP services include the provision of telecommunications as a component integrated within the finished service and a reviewing court accepted the Commission’s interpretation as reasonable.⁷⁶

Before delving into the metaphysical difference between offering and providing telecommunications, background on the universal service funding process might offer perspective on the FCC’s practical and political motivations that surely influenced its statutory construction.

B. Outline of the Universal Service Funding Process

Since the onset of telephony, companies and governments have endorsed strategies for making service affordable and available even for the poor and people located in remote and costly to serve areas. Supporting universal service constitutes sound public policy because efficient, effective, and widely available telecommunications services can stimulate social and economic development by providing the vehicle for greater commerce, political discourse, education, and delivery of government services such as job training.⁷⁷ However, the means by which the United States has pursued this mission combines lofty concepts of equity and equal opportunities with other largely political objectives. For example, in the early 1900s, senior management of AT&T recognized that promoting universal service, using an internally generated financial subsidy methodology, achieved the twin goals of

75. 47 U.S.C. § 254(d).

76. *See Vonage*, 489 F.3d at 1241-42.

77. Scott Wallsten, Robert W. Hahn, Robert W. Crandall, & Robert E. Litan, *Bandwidth for the People*, Pol. Rev. (Am. Enterprise Inst. for Pub. Pol’y Res., Wash., D.C.), Nov. 22, 2004, *available at* http://www.aei.org/publications/pubid.21593,filter.all/pub_detail.asp.

Broadband Internet access could contribute substantially to economic growth. Consumers benefit from new ways to acquire information, enjoy audio and video entertainment, monitor remote locations, receive medical care, and buy items ranging from books to cars. A study in 2001 estimated that universal broadband adoption could yield annual consumer benefits of \$300 billion.

Id. (citing ROBERT W. CRANDALL & CHARLES L. JACKSON, *THE \$500 BILLION OPPORTUNITY: THE POTENTIAL ECONOMIC BENEFIT OF WIDESPREAD DIFFUSION OF BROADBAND INTERNET ACCESS* (2001)).

promoting aspects of universal service while also securing support for maintaining a “benevolent” Bell System monopoly from politicians and rural, unaffiliated telephone companies.⁷⁸

Until the passage of the Telecommunications Act of 1996,⁷⁹ telecommunications service consumers bore a universal service subsidy obligation without knowing the cost because carriers could hide the expense primarily in higher per minute long distance telephone charges and average higher costs over a large volume of calls.⁸⁰ Use of an implicit subsidy mechanism obscured the cost of the universal service mission and made it difficult to discern whether subsidy burdens blunted demand and caused other market distortions. Consumers could not readily determine the scope of their subsidy contribution because carriers did not subdivide their single per minute rates into separate elements, including a surcharge for universal service.⁸¹

The '96 Act requires explicit subsidies,⁸² codifies the universal service mission,⁸³ and establishes specific requirements for the FCC to

78. When AT&T President Theodore Vail articulated universal service, he sought “the unification of telephone service under regulated local exchange monopolies.” MILTON L. MUELLER, JR., *UNIVERSAL SERVICE: COMPETITION, INTERCONNECTION, AND MONOPOLY IN THE MAKING OF THE AMERICAN TELEPHONE SYSTEM* 92 (1997).

79. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified as amended in scattered sections of 15, 18 and 47 U.S.C.).

80. Stuart Buck, *Telric vs. Universal Service: A Takings Violation?*, 56 *FED. COMM. L.J.* 1, 2 (2003).

By longstanding tradition, local phone companies are required to sell their services to customers at roughly comparable prices. This so-called “universal service” obligation is intended to ensure that people who live in rural and residential areas (which are expensive to serve) can buy phone service on terms similar to those offered to urban or business customers (which are cheaper to serve). Under universal service obligations, then, retail pricing is typically *averaged* across a variety of customers or geographic areas.

Id. Implicit subsidies in telecommunications “result, in large part from rate averaging between rural and suburban/urban areas and the recovery of certain non-traffic sensitive costs through traffic sensitive per minute rates, which over-recovers costs from higher volume users, often business customers.” Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, *Report & Order & Order on Remand & Further Notice of Proposed Rulemaking*, 18 FCC Rcd. 16,978, 17,078 n.509 (2003), *vacated in part, review dismissed in part*, *United States Telecom Ass’n v. F.C.C.*, 359 F.3d 554 (D.C. Cir. 2004); *see generally* Access Charge Reform, *Report & Order*, 15 FCC Rcd. 12,962, 12,971-72 (2002) (describing how high-volume users bear a greater share of the non-traffic sensitive costs than low-volume users), *rev’d in part, remanded in part sub nom.* *Tex. Office of Pub. Util. Counsel v. F.C.C.*, 265 F.3d 313 (5th Cir. 2001). *See also* Jonathan Weinberg, *The Internet and “Telecommunications Services,” Universal Service Mechanisms, Access Charges, and Other Flotsam of the Regulatory System*, 16 *YALE J. ON REG.* 211, 219-20 (1999).

81. Prior to enactment of the '96 Act telephone companies did not impose a billing line item that identified the amount due from consumers to support USF.

82. “There should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service.” 47 U.S.C. § 254(b)(5).

83. 47 U.S.C. § 254(b).

implement, including near parity in cost and access to service by rural consumers.⁸⁴ Most carriers have responded to the explicit subsidy requirement by creating a separate billing line item to identify and pass through the specific cost of universal service support.⁸⁵ For the second quarter of 2007, the “contribution factor” surcharge that was passed directly to consumers amounted to 11.3% of a telecommunications carrier’s interstate and international end-user service revenues,⁸⁶ a rate that adds several dollars per month to the average consumer’s bill.

Consumers of telecommunications services paid approximately \$7.3

The Joint Board and the Commission shall base policies for the preservation and advancement of universal service on the following principles:

(1) Quality and rates

Quality services should be available at just, reasonable, and affordable rates.

(2) Access to advanced services

Access to advanced telecommunications and information services should be provided in all regions of the Nation.

(3) Access in rural and high cost areas

Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.

(4) Equitable and nondiscriminatory contributions

All providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service.

Id.

84. Multi-Ass’n Group (MAG) Plan for Regulation of Interstate Servs. of Non-Price Cap Incumbent Local Exchange Carriers & Interexchange Carriers, *Second Report & Order and Further Notice of Proposed Rulemaking*, 16 FCC Rcd. 19,613, 19,689-90 (2001).

In section 254(g) of the Act, Congress codified the Commission’s pre-existing geographic rate averaging and rate integration policies. The Commission implemented section 254(g) by adopting two requirements. First, providers of interexchange telecommunications services are required to charge rates in rural and high-cost areas that are no higher than the rates they charge in urban areas. This is known as the geographic rate averaging rule. Second, providers of interexchange telecommunications services are required to charge rates in each state that are no higher than in any other state. This is known as the rate integration rule.

Id.

85. FCC, Universal Service Support Mechanisms, <http://www.fcc.gov/cgb/consumerfacts/universalservice.html> (last visited Apr. 10, 2008) (“Some consumers may notice a ‘Universal Service’ line item on their telephone bills. This line item appears when a company chooses to recover its contributions directly from its customers by billing them this charge. The FCC does not require companies to pass on these costs to their customers.”).

86. Proposed Third Quarter 2007 Universal Serv. Contribution Factor, *Public Notice*, 22 FCC Rcd. 11,049 (2007). The 11.3% rate represents a reduction of .04% from the prior quarter. See Proposed Second Quarter 2007 Universal Serv. Contribution Factor, *Public Notice*, 22 FCC Rcd. 5074 (2007).

billion in 2006⁸⁷ to subsidize service by local exchange carriers operating in high cost areas, and the rates paid by residents in rural areas and Indian reservations, the poor, schools, libraries, rural hospitals, and clinics primarily for basic “lifeline” telephone service.⁸⁸ Despite having collected and dispersed substantial sums of money available for universal service funding (“USF”), the carriers have not fully achieved longstanding service goals because they received money as an offset against current costs and monthly consumer charges. Laudable expansion of the mission to help bridge the Digital Divide⁸⁹ by supporting access to broadband

87. Contribution Methodology, *supra* note 21; *id.* at 7527 (“There is widespread agreement that the Fund is currently under significant strain. The size of the Fund has grown significantly, with disbursements rising from approximately \$4.4 billion in 2000 to approximately \$6.5 billion in 2005, and is projected to grow even further in the coming years.”); CONG. BUDGET OFFICE, FINANCING UNIVERSAL TELEPHONE SERVICE viii (2005), available at <http://www.cbo.gov/ftpdocs/61xx/doc6191/03-28-Telephone.pdf> (“Outlays from the USF [Universal Service Fund] grew from \$3.3 billion in fiscal year 1999 to \$5.7 billion in fiscal year 2004.”). The Universal Service Administrative Company, which disburses universal service funds, estimates that it will have paid out \$7.3 billion in 2006. Universal Serv. Admin. Co., Universal Service Fund Facts, <http://www.usac.org/about/universal-service/fund-facts/fund-facts.aspx> (last visited Apr. 10, 2008) [hereinafter Universal Service Fund Facts].

88. Universal service funding targeted to expand telephone subscription offers financial subsidies to qualifying individuals that defray the non-recurring cost to initiate service and the recurring costs for dial up telephone service. The services that are supported by the federal universal service support mechanisms are:

- (1) voice grade access to the public switched network;
- (2) local usage;
- (3) Dual Tone Multifrequency (DTMF) signaling or its functional equivalent [for “touch tone” dialing];
- (4) single-party service or its functional equivalent;
- (5) access to emergency services, including 911 and enhanced 911;
- (6) access to operator services;
- (7) access to interexchange services;
- (8) access to directory assistance; and
- (9) toll limitation for qualifying low-income customers.

Fed.-State Joint Bd. on Universal Serv., *Recommended Decision*, 19 FCC Rcd. 4257, 4264-65 (2004). The FCC has declined to increase the scope of services qualifying for USF subsidies. However, the Commission does not limit subsidies to only one telephone line per household, despite the recommendation by a Federal-State Joint Board that it do so. Fed.-State Joint Bd. On Universal Serv., *Report & Order*, 20 FCC Rcd. 6371, 6373 (2005).

[W]e do not adopt the recommendation of the Joint Board to limit high-cost support to a single connection that provides access to the public telephone network.

Section 634 of the 2005 Consolidated Appropriations Act prohibits the Commission from utilizing appropriated funds to “modify, amend, or change” its rules or regulations to implement this recommendation.

Id. (citing Consolidated Appropriations Act, 2005 § 634, Pub. L. No. 108-447, 118 Stat. 2809, 2922 (codified as amended at 21 U.S.C. § 958)).

89. The Digital Divide separates “those [people] with access to new technologies and those without” NAT’L TELECOMMS. AND INFO. ADMIN., FALLING THROUGH THE NET: DEFINING THE DIGITAL DIVIDE xiii (1999), available at <http://www.ntia.doc.gov/ntiahome/fttn99/fttn.pdf>; see also Jaime Klima, *The E-Government Act: Promoting E-Quality or Exaggerating the Digital Divide*, 2003 DUKE L. & TECH. REV. 9 (2003); James E. Prieger, *The Supply Side of the Digital Divide: Is There Equal Availability in the Broadband Internet Access Market?*, 41 ECON. INQUIRY 346 (2003); Peter K. Yu, *Bridging the Digital Divide: Equality in the Information Age*, 20 CARDOZO ARTS & ENT.

networks by individuals would further stress the funding mechanism and surely would force an increase in the percentage surcharge on carrier long distance and international voice telephone revenues used to fund universal service.⁹⁰

Even if the universal service funding mission did not expand to include broadband services, the current funding mechanism has become unsustainable as revenues providing the subsidy have diminished as a result of consumer migration from conventional, dial up wireline services to others that contribute on the basis of a lower percentage surcharge, e.g., cellular radiotelephone service, or none at all, e.g., private VoIP services used by companies to provide internal long distance telephone calling.

1. Four Types of Universal Service Promotions

The universal service mission in the United States traditionally has meant that carriers have a duty to ensure that the largest possible number of residents, including the poor and residents in remote locations, have access to basic telephone service.⁹¹ Universal service funding supports four programs:

1) **The Low Income Program** reimburses local wireline and some wireless telephone companies for providing service discounts to qualifying low-income consumers.⁹² The Link-Up America program

L.J. 1 (2002); ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, UNDERSTANDING THE DIGITAL DIVIDE (2001), *available at* <http://www.oecd.org/dataoecd/38/57/1888451.pdf>; The Digital Divide Network, <http://www.digitaldivide.net> (last visited Apr. 10, 2008).

90. FCC, Universal Service Fund Contribution Factor & Quarterly Filings, <http://www.fcc.gov/omd/contribution-factor.html> (last visited Apr. 10, 2008) (“Telecommunications companies must pay a percentage of their interstate end-user revenues to the Universal Service Fund. This percentage is called the contribution factor. The contribution factor changes four times a year (quarterly) and is increased or decreased depending on the needs of the Universal Service programs.”).

91. Patricia M. Worthy, *Racial Minorities and the Quest to Narrow the Digital Divide: Redefining the Concept of “Universal Service”*, 26 HASTINGS COMM. & ENT. L.J. 1, 4 (2003).

The notion that everyone should be provided the opportunity to receive basic telephone service at an affordable rate, regardless of geographic location or economic status, has been widely adopted as national policy. The goal of quality, widely available and reasonably priced telephone service has been achieved through a myriad of regulatory policies such as rate averaging, cost support funds and loan programs.

Id.

92. FCC, Lifeline and Link-Up: Affordable Telephone Service for Income-Eligible Consumers, <http://www.fcc.gov/cgb/consumerfacts/llu.html> (last visited Apr. 10, 2008).

For states that rely solely on the federal Lifeline and Link-Up program eligibility criteria, subscribers must either have an income that is at or below 135% of the federal Poverty Guidelines, or participate in one of the following assistance

offsets one-half of the initial hook-up fee, up to \$30.00. The program also encourages carriers to offer a deferred payment schedule for the initial installation fee. The Lifeline Assistance Program provides a discount of up to \$10.00 per month for basic telephone service.⁹³ Residents of American Indian and Alaska Native tribal communities may qualify for up to an additional \$25.00 in support beyond current Lifeline support levels and expanded Link-Up support of up to \$70.00 in additional support beyond current levels. In 2006, this program provided approximately \$820 million in support.⁹⁴

2) **The High-Cost Program** provides financial support to local wireline and some wireless telephone companies that offer telecommunications services in areas where the cost of providing service exceeds a national or state average by at least 115% to 135% depending on the type of cost elements supported. Carriers operating in high cost areas are divided into rural and non-rural locales and have several different cost components assessed for purposes of determining whether subsidization should occur. The FCC primarily examines the costs local exchange carriers incur in providing subscribers with access to telecommunications services via a “local loop” connection. This first mile connection for originating calls and the last mile link for receiving calls require substantial sunk investment and also reflect economies of scale. Subsidies typically flow to telephone companies serving fewer than 50,000 telephone lines. Small carriers usually have higher per subscriber costs that cannot be recouped fully from the access charge fees imposed on long distance carriers for originating and terminating long distance traffic and from telephone subscribers who now pay a monthly \$6.50 subscriber line charge. In 2006, this program provided approximately \$4.1 billion in support.⁹⁵

3) **The Schools and Libraries “e-rate” Program**⁹⁶ provides

programs: Medicaid, Food Stamps, Supplemental Security Income (SSI), Federal Public Housing Assistance (Section 8), Low-Income Home Energy Assistance Program (LIHEAP), Temporary Assistance to Needy Families (TANF), The National School Lunch Program’s Free Lunch Program, Bureau of Indian Affairs General Assistance, Tribally-Administered Temporary Assistance for Needy Families (TTANF), Head Start (if income eligibility criteria are met), and Tribal National School Lunch Program.

Id.

93. See FCC, Lifeline and Link-Up Consumers Page, http://www.lifeline.gov/lifeline_Consumers.html (last visited Apr. 10, 2008).

94. UNIVERSAL SERV. ADMIN. CO., 2006 ANNUAL REPORT: REACHING OUT 47 (2007) [hereinafter USAC Disbursements], available at http://www.universalservice.org/_res/documents/about/pdf/usac-annual-report-2006.pdf; see also Universal Service Fund Facts, *supra* note 87.

95. USAC Disbursements, *supra* note 94, at 41.

96. Schools and Libraries Universal Serv. Support Mechanism, *Fifth Report & Order &*

discounts of twenty to ninety percent, depending on the household income level of families in the community and whether the school or library is located in an urban or rural area. The discounts offset the cost of voice, data, video and wireless services, Internet access, and the cost of installing and maintaining internal connections including switches, hubs, routers, and wiring. A maximum of \$2.25 billion is available annually and approximately \$1.67 billion was awarded in 2006.⁹⁷

4) **The Rural Health Care Program** ensures that health care providers located in rural areas pay no more than their urban counterparts for telecommunications services including those “telemedicine” services needed to access advanced diagnostic and other medical services available at urban medical centers. In 2006, this program awarded \$40.6 million.⁹⁸

C. The FCC's Decision to Include VoIP Service Providers as Compulsory USF Contributors Upheld

The United States Court of Appeals for the District of Columbia, in *Vonage Holdings Corp. v. F.C.C.*,⁹⁹ had little difficulty affirming the Commission's decision to require VoIP service providers to make universal service funding contributions. Applying the two-part *Chevron* test for judicial deference to agency action, the court concluded that the FCC made a permissible and reasonable construction of Section 254 of the Communications Act.¹⁰⁰ To determine the permissibility of the FCC's statutory construction, the court focused on the semantic difference between providing telecommunications and offering

Order, 19 FCC Rcd. 15,808, 15,810 (2004).

Under the Commission's rules, eligible schools and libraries may receive discounts ranging from 20 percent to 90 percent of the pre-discount price of eligible services, based on indicators of need. Schools and libraries in areas with higher percentages of students eligible for free or reduced-price lunch through the National School Lunch Program (or a federally approved alternative mechanism) qualify for higher discounts for eligible services than applicants with low levels of eligibility for such programs. Schools and libraries located in rural areas also generally receive greater discounts.

The Commission's priority rules provide that requests for telecommunications services, voice mail and Internet access for all discount categories shall receive first priority for the available funding (Priority One services). The remaining funds are allocated to requests for support for internal connections (Priority Two services), beginning with the most economically disadvantaged schools and libraries, as determined by the schools and libraries discount matrix.

Id.

97. USAC Disbursements, *supra* note 94, at 47.

98. *Id.*

99. *See Vonage*, 489 F.3d 1232.

100. *Id.* at 1239-41.

telecommunication. The court endorsed the FCC's view that VoIP service includes the provision of telecommunications which covers more functions than when a venture offers telecommunications:

[W]e have little trouble concluding that the word "provide" is sufficiently broad to encompass the Commission's interpretation. Returning to *Brand X's* car dealership hypothetical, we see nothing strange about the statement that a dealership provides both cars *and* engines. Indeed, one could reasonably interpret the statement that a dealership "does not provide engines" to mean that it sells cars without engines, not that it won't sell disconnected engines.¹⁰¹

The court also did not second guess the FCC's decision to interpret the word "provide" from the perception of what VoIP ventures supply and the word "offer" from consumers' perspective of what they receive.¹⁰²

The court also accepted the rationale for treating telecommunications as a subordinate and integrated component of VoIP service using the same rationale as articulated in the *Brand X* decision. However, the court did not consider the FCC obligated to classify VoIP as falling solely into the information service, or the telecommunications service categories, even though the FCC considered it necessary to do so. While acknowledging that the categories are mutually exclusive, the court rejected as unproven the argument that a provider of information services cannot also be a provider of telecommunications for purposes of lawfully authorizing the FCC to require universal service contributions under permissive authority contained in Section 254(d) of the Communications Act. The court stated just the opposite: "[T]he Act clearly contemplates that 'telecommunications' may be a component of an 'information service'"¹⁰³ The court quickly rejected the argument that the FCC should have isolated the transmission element of VoIP for purposes of determining whether common carrier, Title II regulation applies.¹⁰⁴ As in the *Brand X* case,¹⁰⁵ the court considered Section 254 of

101. *Id.* at 1240.

102. "We also see nothing that would prevent the Commission from interpreting the word 'offer' from the demand side (i.e., the consumer's perception of what she receives) and the word 'provide' from the supply side (the seller's perception of what she supplies)." *Id.*

103. *Id.* at 1241.

104. *Id.*

But, although "information service" and "telecommunications service" are mutually exclusive categories, CCIA points to no authority supporting its argument that a provider of "information services" cannot also be a "provider of telecommunications" for the purposes of section 254(d). Indeed, the Act clearly contemplates that "telecommunications" may be a component of an "information service," defining the latter as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications."

the Communications Act ambiguous in terms of the meaning of the words “offering” and “providing.” The court refused to second guess the FCC’s narrow interpretation having considered it a reasonable one using the *Chevron* standard.¹⁰⁶

Lastly the court rejected, on procedural grounds, having to assess whether VoIP solely constitutes an information service with no telecommunications component because the FCC never definitively addressed this issue. By not having determined whether VoIP constitutes an information service exclusively or a telecommunications service exclusively, the FCC could emphasize its finding that VoIP service includes a telecommunications component regardless of the definitive service classification the FCC might get around to making for the composite service.¹⁰⁷

In summary fashion, the court avoided addressing whether the FCC could have required USF contributions by VoIP providers on Title I ancillary jurisdiction grounds because of the direct link to Section 254 of the Communications Act.¹⁰⁸ The court also affirmed the FCC’s decision to require VoIP service providers to make contributions based on a rate applicable to wireline carriers instead of the lower rate applicable to wireless carriers.¹⁰⁹ The court reasoned that VoIP service attracts

Id. (quoting 47 U.S.C. § 153(20)).

105. *Brand X*, 545 U.S. at 990.

The question, then, is whether the transmission component of cable modem service is sufficiently integrated with the finished service to make it reasonable to describe the two as a single, integrated offering. We think that they are sufficiently integrated, because “a consumer uses the high-speed wire always in connection with the information-processing capabilities provided by Internet access, and because the transmission is a necessary component of Internet access.” In the telecommunications context, it is at least reasonable to describe companies as not “offering” to consumers each discrete input that is necessary to providing, and is always used in connection with, a finished service.

Id. (citations omitted).

106. *Vonage*, 489 F.3d at 1239 (“Where, as here, Congress has delegated interpretive authority to an agency, we review the agency’s interpretation of a statute under the familiar two-part test set forth in *Chevron U.S.A. Inc. v. Natural Resources Defense Council* . . .”).

107. *Id.* at 1241 (“Finally, CCA argues that ‘since *interconnected* VoIP always involves change in the ‘form or content’ of information, it cannot by definition be ‘telecommunications.’ But we have found no indication that anyone made this argument before the Commission, which may explain why the Commission never addressed it.” (citations omitted)).

108. *Id.* at 1241 (“Finding that the Commission has section 254(d) authority to require interconnected VoIP providers to make USF contributions, we have no need to decide whether the Commission could have also done so under its Title I ancillary jurisdiction.”).

109. *Id.* at 1242.

We agree with *Vonage* that this difference in capabilities renders the VoIP/wireline toll service analogy imperfect. Perfection, however, is not what the law requires. To prevail, *Vonage* must show that wireless is so much the better analogue for VoIP that the Commission acted arbitrarily and capriciously by failing to select it. This *Vonage* has not done.

consumers who make a lot of long distance telephone calls that serve as the basis for funding universal service.¹¹⁰ In a small victory for VoIP providers, the court rejected the FCC's decision allowing wireless carriers to avoid getting approval of traffic studies before implementing them while requiring such preapproval for VoIP operators.¹¹¹ The court also rejected the FCC's suspension of a rule that allows carriers to determine their universal service funding requirement based on revenues accruing from serving end users and excluding revenues from wholesaling to other carriers which would have resulted in a double payment by VoIP providers.¹¹²

Id.

110. *Id.* at 1242-43.

The mere fact that both VoIP and wireless are "all-distance" services hardly compels the conclusion that usage patterns for VoIP are closer to those for wireless than to those for wireline toll service. Vonage's "all-distance" argument also does nothing to disturb the Commission's conclusion that VoIP and wireless are likely to attract different types of customers with VoIP customers predisposed, on average, to making more long distance and international calls. Indeed, Vonage concedes that VoIP is unlikely to attract customers who make relatively few long distance calls, but nowhere argues that the same is true for wireless. That omission is significant: if VoIP only attracts customers who make high volumes of long distance and international calls but wireless attracts all kinds of customers—perhaps because its mobility appeals even to people who make few long distance calls—then VoIP will carry a greater proportion of long distance and international calls than wireless.

Vonage, 489 F.3d at 1242-43.

111. *Id.* at 1243-44 ("The Commission, however, has failed to explain how it is any less disruptive to impose such an obligation on interconnected VoIP providers who have gone overnight from making no direct USF contributions to contributing at nearly twice the level of wireless providers.")

112. *Id.* at 1244.

As the Commission acknowledged, this decision effectively required VoIP providers to make duplicative USF contributions for two quarters: once directly on their own interstate and international revenues and a second time indirectly in the form of higher costs passed along from carriers who sell them telecommunications inputs. The Commission's sole justification for imposing this unique obligation on VoIP providers was this: "if carriers are permitted to invoke the carrier's carrier rule immediately to exclude revenues from interconnected VoIP providers, the result could be a net decrease in the Fund in the short term."

This explanation suffers from a fundamental flaw: the Commission never explained how there could be a net decrease in fund revenues by making VoIP providers contribute while keeping the carrier's carrier rule in force. Indeed, increasing USF revenues was the very reason the Commission gave for requiring interconnected VoIP providers to contribute to the Fund. And, as Vonage points out, the only reason to expect a decrease in fund revenues would be if the indirect payments interconnected VoIP providers made before the Order were somehow larger than the direct payments they would make after the Order.

Id. (citations omitted).

D. Mandatory Wiretapping Cooperation for VoIP and Internet Access Providers

Notwithstanding an explicit prohibition against requiring information service providers to provide wiretapping access to law enforcement agencies, the FCC has found a way to impose such requirements on VoIP and even for Internet access services,¹¹³ which the Commission already has classified as information services. The Commission avoided having to rely on its ancillary Title I authority by referring directly to the Communications Assistance for Law Enforcement Act of 1994 (“CALEA”)¹¹⁴ and by differentiating the meaning of telecommunications for this law vis-à-vis the Communications Act.

CALEA defines telecommunications carrier as:

[A] person or entity engaged in the transmission or switching of wire or electronic communications as a common carrier for hire . . . [including cellular radio operators] or a person or entity engaged in providing wire or electronic communication switching or transmission service to the extent that the [Federal Communications] Commission finds that such service is a replacement for a substantial portion of the local telephone exchange service and that it is in the public interest to deem such a person or entity to be a telecommunications carrier for purposes of this subchapter¹¹⁵

Using its permissive authority, the FCC opted to include VoIP and Internet access providers notwithstanding the fact that they do not operate as common carriers and provide a competitive alternative to, and not a replacement of, local telephone exchange service.

In this proceeding the Commission had to emphasize the functional equivalence of VoIP and Internet access services on one hand and local exchange services on the other hand, despite having emphasized

113. CALEA Implementation, *supra* note 17, at 15,001 (“[W]e find that facilities-based providers of any type of broadband Internet access service, including but not limited to wireline, cable modem, satellite, wireless, fixed wireless, and broadband access via powerline are subject to CALEA.” (citations omitted)).

114. Communications Assistance for Law Enforcement Act, Pub. L. No. 103-414, 108 Stat. 4279 (1994) (codified as amended in scattered sections of 18 and 47 U.S.C.).

115. 47 U.S.C. § 1001(8)(A)-(B). The FCC has interpreted this section as requiring the Commission “to deem certain service providers to be telecommunications carriers for CALEA purposes” even when those providers are not telecommunications carriers under the Communications Act of 1934, as amended. CALEA Implementation, *supra* note 17, at 14,993.

elsewhere functional dissimilarities between the two categories. For example, the FCC has stated that VoIP service providers do not map users to a specific location as is necessary for emergency 9-1-1 access, an essential service to local telephone service subscribers.¹¹⁶ However, the FCC elsewhere emphasized consumers' uses of VoIP primarily for long distance telephone services as the basis for ordering mandatory contributions to universal service funding.¹¹⁷ Similarly, the FCC has never stated that cable modem and DSL services provided by information service providers constitute a replacement of basic local exchange telephone services regulated as telecommunications services.

The stretch to shoehorn VoIP and Internet access services into something permissibly subject to CALEA becomes extremely tenuous in light of an explicit prohibition on including "persons or entities insofar as they are engaged in providing information services,"¹¹⁸ a category defined in CALEA using the same language as that contained in the Communications Act.¹¹⁹ The FCC gets around what appears to be an

116. E911 First Report and Order, *supra* note 11, at 10,259.

While the rules we adopt today apply to providers of all interconnected VoIP services, we recognize that certain VoIP services pose significant E911 implementation challenges. For example, the mobility enabled by a VoIP service that can be used from any broadband connection creates challenges similar to those presented in the wireless context. These "portable" VoIP service providers often have no reliable way to discern from where their customers are accessing the VoIP service.

Id.

117. Contribution Methodology, *supra* note 21, at 7545.

Our safe harbor [for allocating the percentage of VoIP traffic subject to the USF contribution requirement] is necessarily the product of line drawing. In adopting a safe harbor we consider what would be an appropriate analogue. One industry report has estimated that 83.8 percent of VoIP traffic in 2004 was either long distance or international and only 16.2 percent was local. Thus, it appears that VoIP traffic is predominantly long distance or international. As such, it is much like wireline toll service which similarly offers interstate, intrastate toll, and international services. In fact as stated in paragraph 55 below, VoIP services are often marketed as a substitute for wireline toll service. The percentage of interstate revenues reported to the Commission by wireline toll providers is 64.9 percent. We therefore find that establishing a safe harbor of 64.9 percent is reasonable for purposes of this interim action.

Id.

118. 47 U.S.C. § 1001(8)(c)(ii).

119. *Compare* 47 U.S.C. § 1001(6) (CALEA):

The term "information services"— (A) means the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications; and (B) includes—(i) a service that permits a customer to retrieve stored information from, or file information for storage in, information storage facilities; (ii) electronic publishing; and (iii) electronic messaging services; but (C) does not include any capability for a telecommunications carrier's internal management, control, or operation of its

explicit exemption for information services by stating that, notwithstanding the use of nearly identical language, the CALEA definition of information service and telecommunications do not match the definitions contained in the Communications Act. The Commission justifies the distinction on CALEA's inclusion of a Substantial Replacement Provision ("SRP") that the Commission interprets as requiring it to deem certain service providers to be telecommunications carriers for CALEA purposes even when they would not so qualify under FCC regulation and even if they do not even fit with within CALEA's definition of telecommunications carrier:

We affirm our tentative conclusion that Congress intended the scope of CALEA's definition of "telecommunications carrier" to be more inclusive than the similar definition of "telecommunications carrier" in the Communications Act. Critically, while certain portions of the definition are the same in both statutes, CALEA's SRP "has no analogue" in the Communications Act, thus rendering CALEA's definition of "telecommunications carrier" broader than that found in the Communications Act. The SRP directs the Commission to deem certain providers to be telecommunications carriers for CALEA purposes, whether or not they satisfy the definition of telecommunications carrier in [CALEA's] sections 102(8)(A) and 102(8)(B)(i).¹²⁰

The FCC rationalizes this statutory interpretation by referring to the House of Representatives Committee Report that characterizes the SRP language as designed to include wireless and digital telephone services.¹²¹ Additionally, the Commission concludes that VoIP and Internet access services meet a three part functional test of whether the candidate for CALEA regulation: 1) provides wire or electronic communication switching or transmission service; 2) offers a replacement for a substantial portion of the local telephone exchange service; and 3) warrants such regulation on public interest grounds.¹²²

telecommunications network.
with 47 U.S.C. § 153(20) (Communications Act):

The term "information services" means the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.

120. CALEA Implementation, *supra* note 17, at 14,993 (citations omitted).

121. *Id.* ("The SRP reflects Congress's intent to 'preserve the government's ability to intercept communications that use advanced technologies such as digital or wireless transmission.'" (quoting H.R. REP. NO. 103-827(I) (1994))).

122. *Id.* at 15,009 ("We find that providers of interconnected VoIP satisfy the three

The Commission determined that the first prong is satisfied because VoIP and Internet access providers combine their own packet switching and other technologies with leased or self-provisioned telecommunications transmission lines to provide a communication switching or transmission service. Embedded in this analysis is the assumption that because VoIP and Internet access ventures need telecommunications and switching technologies to provide their information services, they also “provide” rather than “offer” telecommunications. Bear in mind that in other proceedings, the FCC determined that when a venture engages in providing rather than offering telecommunications, it qualifies for classification as an information service provider because the provided telecommunications integrates into an offered information service.¹²³ But for purposes of determining whether CALEA requirements apply, VoIP and Internet

prongs of the SRP under CALEA’s definition of “telecommunications carrier.”).

Applying the legal framework set forth in section III.A above, we determine that facilities-based broadband Internet access providers satisfy each of the three prongs of the SRP: (1) they are providing a switching or transmission functionality; (2) this functionality is a replacement for a substantial portion of the local telephone exchange service, specifically, the portion used for dial-up Internet access; and (3) public interest factors weigh in favor of subjecting broadband Internet access services to CALEA.

Id. at 15,002 (finding broadband Internet access providers must comply with CALEA wiretapping requirements); *id.* at 15,011 (“The record thus indicates that the broadband Internet access provider and the interconnected VoIP provider must both be covered by CALEA in order to ensure that law enforcement agencies’ surveillance needs are met.”).

123. *Brand X*, 545 U.S. at 990-91.

The question, then, is whether the transmission component of cable modem service is sufficiently integrated with the finished service to make it reasonable to describe the two as a single, integrated offering. We think that they are sufficiently integrated, because “a consumer uses the high-speed wire always in connection with the information-processing capabilities provided by Internet access, and because the transmission is a necessary component of Internet access.” In the telecommunications context, it is at least reasonable to describe companies as not “offering” to consumers each discrete input that is necessary to providing, and is always used in connection with, a finished service. We think it no misuse of language, for example, to say that cable companies providing Internet service do not “offer” consumers DNS, even though DNS is essential to providing Internet access. Likewise, a telephone company “offers” consumers a transparent transmission path that conveys an ordinary-language message, not necessarily the data transmission facilities that also “transmit information of the user’s choosing,” or other physical elements of the facilities used to provide telephone service, like the trunks and switches, or the copper in the wires. What cable companies providing cable modem service and telephone companies providing telephone service “offer” is Internet service and telephone service respectively—the finished services, though they do so using (or “via”) the discrete components composing the end product, including data transmission. Such functionally integrated components need not be described as distinct “offerings.”

Id. (citations omitted).

access ventures are required to cooperate with law enforcement officials because they “provide” the same telecommunications links as used and “offered” by information service providers.

Curiously, the Commission claims the decision in *United States Telecom Ass’n v. F.C.C.*,¹²⁴ supports its rationale, but that decision only provides the basis for interpreting CALEA as including the right of law enforcement authorities to access “call-identifying information”¹²⁵ contained in packet headers¹²⁶ routinely switched and routed by telecommunications carriers.¹²⁷ The court largely reversed a previous FCC decision that sought to expand the scope of data CALEA regulated operators must provide including a “punch list” of more information than just the telephone number. The court rejected an expansion of what CALEA requires from telecommunications carriers because the FCC had statutory authority to impose additional requirements only if it found inadequacies in what the telecommunications industry volunteered to make available to law enforcement authorities and only if the Commission’s proposed additional requirements could be secured in a cost-effective manner while also respecting privacy rights.

The FCC determined that VoIP and Internet access services satisfied the second prong because on functional grounds these services offer consumers a replacement for conventional telephone service as well as access to many non-local exchange services such as long distance

124. 227 F.3d 450, 464-66 (D.C. Cir. 2000).

125. Call-identifying information refers to “dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier.” 47 U.S.C. § 1001(2).

126. Landau, *supra* note 10, at 424.

In such networks, fixed circuits are not dedicated for the duration of a communication. Instead, the data that is transmitted, whether files, email, Instant Messages, voice, is broken into small packets. Each packet travels its own route over the Internet. The entire set of contents is reassembled when it is received at the other end.

Id.

127. *United States Telecom Ass’n*, 227 F.3d at 464.

In conventional circuit-mode telecommunications, a single circuit is opened between caller and recipient and all electronic signals that make up the communication travel along the circuit. In digital packet-switched networks, communications do not travel along a single path. Instead, a call is broken into a number of discrete digital data packets, each traveling independently through the network along different routes. Data packets are then reassembled in the proper sequence at the call’s destination. Like an envelope, each digital packet has two components: it contains a portion of the communication message, and it bears an address to ensure that it finds its way to the correct destination and is reassembled in proper sequence. The address information appears in the packet’s “header.”

Id.

telephone calling, enhanced services and Internet access.¹²⁸ The Commission never addressed how VoIP services and Internet access replace incumbent services as opposed to providing a competitive alternative. Similarly, the Commission never addressed the fact that most consumers access retail VoIP and other non-telephony services if, and only if, they acquire DSL and cable modem information services from incumbent carriers.

To satisfy the third public interest prong, the FCC reiterated a standard articulated in its Notice of Proposed Rulemaking that adopted language contained in the House Report on CALEA that classifying VoIP and Internet access providers as telecommunications carriers would “promote competition, encourage the development of new technologies, and protect public safety and national security.”¹²⁹

The FCC summarily dismissed the possibility that VoIP and Internet access services fit within the CALEA definition of information services by claiming that CALEA does not establish mutual exclusivity between telecommunications and information services, even though it surely establishes a dichotomy between services subject to compulsory wiretapping authority and those that are not.¹³⁰ Free of having to make an absolute either/or decision, the FCC rationalized that because VoIP and Internet access satisfy the three-prong test and, in particular, the substantial replacement provision, i.e., VoIP and Internet access services replace conventional telephone services, the Commission could decide that a “service classified as an ‘information service’ under the Communications Act may not, in all respects, be classified as an ‘information service’ under CALEA.”¹³¹ Accordingly the FCC decided

128. CALEA Implementation, *supra* note 17, at 14,994 (“We conclude that this requirement is satisfied if a service replaces any significant part of an individual subscriber’s functionality previously provided via circuit-switched local telephone exchange service.”).

129. *Id.* at 14,996 (quoting H.R. REP. NO. 103-827(I) (1994)).

130. *Id.* at 14,998.

Unlike the Communications Act, CALEA’s “overall statutory scheme” does not require the Commission to classify an integrated service offering as solely a telecommunications service or solely an information service depending on “the nature of the functions that the end user is offered,” and thus the classification of broadband Internet access services under the Communications Act is not controlling under CALEA.

Id.

131. *Id.* at 14,999.

Equally important, the classification of a service provider as a telecommunications carrier under CALEA’s SRP *does not limit* the Commission’s options for classifying that provider or service under the Communications Act. We believe that the legal framework we have established in this Order for analyzing the applicability of CALEA to service providers under the SRP provides the clearest path, in a manner most consistent with Congress’s intent, for identifying which services and service providers are subject to CALEA under the SRP.

that:

[P]roviders of broadband Internet access service are not relieved of CALEA obligations as a result of CALEA's Information Services Exclusion. As we have noted, our interpretation of the term information services in CALEA differs from our interpretation of that term in the Communications Act. Thus, the fact that broadband Internet access service may be classified as an information service under the Communications Act does not determine its classification for CALEA purposes.¹³²

Because the FCC did not want to concede that VoIP services constitute information services, the FCC concluded that "providers of interconnected VoIP services¹³³ satisfy CALEA's definition of 'telecommunications carrier' under the SRP and that CALEA's Information Services Exclusion does not apply to interconnected VoIP services."¹³⁴

In *American Council on Education v. F.C.C.*,¹³⁵ the Court of Appeals for the District of Columbia affirmed the FCC's statutory interpretations using the two-pronged *Chevron* test.¹³⁶ The court accepted the Commission's rationale that CALEA allowed the FCC to use a different mode of analysis and to reach a different conclusion as to what service classification VoIP and Internet access fit. No doubt influenced by the fact that CALEA addresses national security concerns,

Id. at 15,001.

132. CALEA Implementation, *supra* note 17, at 15,007.

133. The FCC has differentiated VoIP services that provide voice communications capabilities between computers and interconnected VoIP services with the former treated as an information service and the later not. See Petition for Declaratory Ruling that Pulver.com's Free World Dialup is Neither Telecomms. Nor a Telecomms. Serv., *Memorandum Opinion & Order*, 19 FCC Rcd. 3307 (2004). The FCC defines interconnected VoIP as having:

[T]he following characteristics: (1) the service enables real-time, two-way voice communications; (2) the service requires a broadband connection from the user's location; (3) the service requires IP-compatible CPE; and (4) the service offering permits users generally to receive calls that originate on the PSTN and to terminate calls to the PSTN.

E911 First Report and Order, *supra* note 11, at 10,257-58.

134. CALEA Implementation, *supra* note 17, at 15,008.

135. 451 F.3d 226 (D.C. Cir. 2006).

136. *Id.* at 231.

Our review is governed by the classic two-step approach set out in *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.* Under *Chevron*, "if the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." However, if the statute is "silent or ambiguous with respect to the specific question at issue," we ask whether the agency's interpretation is "permissible," that is, "reasonable."

Id.

the court considered it a reasonable policy choice and statutory interpretation for the FCC to emphasize the lack of precision and ambiguity in CALEA as grounds for the Commission's development of the three-pronged test for expanding regulation to carriers and services otherwise subject to little or no regulation under the Communications Act.

Because CALEA offers a more expansive definition of telecommunications carrier, including ones that replace conventional services and because CALEA does not establish mutual exclusivity between telecommunications and information services, the court endorsed a decision that emphasized the telecommunications aspects of a service that integrated both telecommunications and information services. Remarkably, a majority of the Supreme Court considered the very same telecommunications functionality and was persuaded that it constituted a subordinate and integrated element of a dominant information service.

Under CALEA, a service combining both telecommunications and information services needs only limited rationale for **emphasizing** the telecommunications component to justify ignoring the information services components.¹³⁷ Under the Communications Act, a service combining both telecommunications and information services requires a plausible rationale for **subordinating** the telecommunications component to justify emphasizing the information service component.¹³⁸

137. The FCC interprets 47 U.S.C. § 1001(8)(B)(ii) (Substantial Replacement Provision (SRP)) as requiring the Commission to determine whether a hybrid service, which combines telecommunications and information service, constitutes a substantial replacement of a telecommunications service subject to the wiretapping provisions of the Act. The FCC established a three prong test for assessing whether a hybrid service, which the Commission might otherwise deem an information service, nevertheless should fit within CALEA's definition of a telecommunications service. CALEA Implementation, *supra* note 17, at 14,993. Applying the SRP, the Commission makes its telecommunications service classification based on whether a hybrid service venture is:

[E]ngaged in providing wire or electronic communication switching or transmission service to the extent that the Commission finds that such service is a replacement for a substantial portion of the local telephone exchange service and that it is in the public interest to deem such a person or entity to be a telecommunications carrier for purposes of CALEA.

Id. (quoting 47 U.S.C. § 1001(8)(B)(ii)).

138. Cable Inquiry, *supra* note 15, at 4823.

Cable modem service is not itself and does not include an offering of telecommunications service to subscribers. We disagree with commenters that urge us to find a telecommunications service inherent in the provision of cable modem service. Consistent with the statutory definition of information service, cable modem service provides the capabilities described above "via telecommunications." That telecommunications component is not, however, separable from the data-processing capabilities of the service. As provided to the end user the telecommunications is part and parcel of cable modem service and is integral to its

As was the case in *Brand X* where Justice Scalia would not tolerate what he considered unlawful and unprincipled decision making, a similarly strong dissent was cast in *American Council on Education*. Senior Circuit Court Judge Edwards stated:

CALEA does not give the FCC unlimited authority to regulate every telecommunications service that might conceivably be used to assist law enforcement. Quite the contrary. Section 1002 is precise and limited in its scope. It expressly states that the statute's assistance capability requirements "do not apply to information services." Indeed, the Commission does not dispute this. Therefore, broadband Internet providers are exempt from the substantive provisions of CALEA.¹³⁹

Judge Edwards characterized the Commission's action as nothing short of "attempting to squeeze authority from a statute that does not give it . . . [with an] interpretation [that] completely nullifies the information services exception and manufactures broad new powers out of thin air."¹⁴⁰ The Judge noted that the FCC could have concluded that CALEA could cover VoIP in light of the ability to apply the substantial replacement provision to services that do not fit within the information services category, but also do not otherwise directly fit within the definition of telecommunications carrier. Of course, to make such a decision the FCC would have had to state on the record that interconnected VoIP services do not constitute an information service, a conclusion that would call into question the Commission's rationale for deeming as information services DSL and cable modem Internet access services used by VoIP customers for access.

Regardless of whether VoIP services constitute information service, Judge Edwards correctly noted that the FCC has never concluded that Internet access could possibly constitute anything but an information service, as a general term of art, by applying either the Communications Act or CALEA.¹⁴¹ In a contribution to the collection of analogies used

other capabilities.

Id.

139. *Am. Council on Educ.*, 451 F.3d at 236 (Edwards, J., dissenting).

140. *Id.* at 237.

141. *Id.* at 238-39.

In gauging the plausibility of the FCC's purported authority, one surely must look to the FCC's treatment of the "information services" exception under the Communications Act. A term in one statute does not necessarily control the Commission's actions under another statute. But here the Commission's earlier rulings show that 'information services' has become a term of art. The agency cannot simply ignore its prior *consistent* constructions of "information services," especially when it offers no coherent alternative interpretation. Under the

by jurists to conceptualize regulatory challenges in an age of technological and market convergence, Judge Edwards asserts that the FCC could:

[N]o more contend that “information service” providers are really “telecommunications carriers” because their regulation can facilitate the law enforcement purposes of CALEA, than the agency could assert that those who operate “movie theaters” are really “radio broadcasters” because their regulation would facilitate control of indecent material pursuant to [law under] 18 U.S.C. § 1464 (2000).¹⁴²

The Judge concluded that the court had absolutely no permissible basis “to sustain the FCC’s convoluted attempt to infer broad new powers under CALEA . . . [by] simply abandon[ing] the well-understood meaning of ‘information services’ without offering any coherent alternative interpretation in its place.”¹⁴³

III. ERODING A NEW COMPETITOR’S COMPARATIVE ADVANTAGES

The FCC has identified other rationales for regulating VoIP, regardless of whether the services provided constitute telecommunications or information services. The Commission decided that functional deficiencies in access to emergency local calling services and access by disabled VoIP users warranted a quick remedy. Despite professing the need for deregulation, the removal of regulatory underbrush, and efforts to promote competition, the FCC increased VoIP service providers’ regulatory burdens and in turn raised their operating costs. The Commission ordered VoIP service providers to retrofit their services on an expedited basis,¹⁴⁴ to provide access to hearing disabled users,¹⁴⁵ and to provide the same emergency 9-1-1 services as available from conventional telephone service carriers.¹⁴⁶ In other words, the FCC would not allow the marketplace to determine

Commission’s current order, “information services” is meaningless.

Prior to the issuance of the instant Order, the Commission has consistently held that broadband Internet service is an “information service.” It has never previously said otherwise. Indeed, it has never hinted otherwise.

Id.

142. *Id.* at 239-40.

143. *Id.* at 240.

144. E911 First Report and Order, *supra* note 11, at 10,266 (“We require that, within 120 days of the effective date of this Order, an interconnected VoIP provider must transmit all 911 calls, as well as a call back number and the caller’s ‘Registered Location’ for each call . . .”).

145. Access to Telecommunications Service, *supra* note 23, at 11,285.

146. E911 First Report and Order, *supra* note 11, at 10,245.

whether considerable service discounts available from VoIP service providers outweighed the greater risk in an emergency and greater inconvenience for some users.

Lacking much of a direct statutory mandate¹⁴⁷ for requiring VoIP service providers to include E9-1-1 services already available from their full service incumbent competitors, the FCC invoked its ancillary jurisdiction under Title I.¹⁴⁸ The FCC chose not to apply Title II and deem interconnected VoIP services the functional equivalent of telecommunications services. Instead, the Commission determined that:

[I]nterconnected VoIP services are covered by the statutory definitions of “wire communication” and/or “radio communication” because they involve “transmission of voice by aid of wire, cable, or other like connection” and/or “transmission by radio” of voice [thereby triggering] . . . the Commission’s subject matter jurisdiction granted in section 2(a) of the Act.¹⁴⁹

For good measure, the FCC added that VoIP regulation enables the Commission to perform “various responsibilities” including promoting safety of life and property through the use of wire and radio communication.¹⁵⁰ Additionally, the Commission rationalized that despite adding more regulatory burdens on interconnected VoIP service, the Commission’s action would promote deployment of advanced telecommunications capabilities to all Americans in furtherance of the goals articulated by Section 706 of the Telecommunications Act of 1996.¹⁵¹ Presumably by adding regulatory and financial burdens on VoIP, in mandating E9-1-1 services and access by disabled persons,¹⁵² such regulatory parity and “uniform availability of E9-1-1 services may spur consumer demand for interconnected VoIP services, in turn driving demand for broadband connections, and consequently encouraging more broadband investment and deployment consistent with the goals of

147. The FCC did invoke Section 251 of the Communications Act that authorizes the FCC to regulate the North American Numbering Plan that established area codes used in long distance telephone calling. *Id.* at 10,265 (“We exercise our authority under section 251(e) of the Act because interconnected VoIP providers use NANP numbers to provide their services.”).

148. *Id.* at 10,261 (“We find that regardless of the regulatory classification, the Commission has ancillary jurisdiction to promote public safety by adopting E911 rules for interconnected VoIP services.”).

149. *Id.* at 10,262.

150. *Id.* at 10,262-63.

151. 47 U.S.C. § 157.

152. To implement the Commission order, VoIP service providers, in many instances, will end up paying their incumbent telephone company competitors for access to the existing wireline E9-1-1 network.

section 706.”¹⁵³

A. Have Courts Become Too Deferential to the FCC?

Unlike its recent appellate track record on media matters,¹⁵⁴ the FCC has successfully persuaded appellate courts to defer to its expertise on telecommunications policy matters. The Commission has not always enjoyed such deference. For example, the FCC tried unsuccessfully over a number of years to interpret the Communications Act as permitting it to eliminate the requirement that all telecommunications service providers file public service contracts, known as tariffs, which specify the terms and conditions of service.¹⁵⁵ Despite an explicit requirement that common carriers file reasonable and nondiscriminatory tariffs,¹⁵⁶ the FCC sought to interpret statutory authority for modifying the tariffing requirement¹⁵⁷ as statutory authority for eliminating this requirement for carriers lacking market power and not having the ability to affect the supply or price of their services. The Commission sought to promote the public interest by eliminating a regulatory burden on carriers lacking market dominance. Despite changes in the telecommunications marketplace, including the onset of robust facilities-based competition for the long distance telephone service, courts repeatedly reversed the FCC on grounds that it lacked statutory authority:

Since an agency's interpretation of a statute is not entitled to

153. E911 First Report and Order, *supra* note 11, at 10,264.

154. *See* Prometheus Radio Project v. F.C.C., 373 F.3d 372 (3d Cir. 2004); Fox Television Stations, Inc. v. F.C.C., 280 F.3d 1027, 1043-44, 1051-52 (D.C. Cir. 2002), *modified on reh'g*, 293 F.3d 537 (D.C. Cir. 2002).

155. *See* MCI Telecomms. Corp. v. Am. Tel. & Tel. Co. (*MCI v. AT&T*), 512 U.S. 218 (1994); *see also* Am. Tel. & Tel. Co. v. F.C.C., Nos. 92-1628 & 92-1666, 1993 WL 260778 (D.C. Cir. June 4, 1993), *aff'd*, *MCI v. AT&T*, 512 U.S. 218; Am. Tel. & Tel. Co. v. F.C.C., 978 F.2d 727 (D.C. Cir. 1992); MCI Telecomms. Corp. v. F.C.C., 765 F.2d 1186 (D.C. Cir. 1985).

156. 47 U.S.C. § 203(a).

Every common carrier, except connecting carriers, shall, within such reasonable time as the Commission shall designate, file with the Commission and print and keep open for public inspection schedules showing all charges, . . . whether such charges are joint or separate, and showing the classifications, practices, and regulations affecting such charges.

Id.

157. *Id.* § 203(b)(2).

The Commission may, in its discretion and for good cause shown, modify any requirement made by or under the authority of this section either in particular instances or by general order applicable to special circumstances or conditions except that the Commission may not require the notice period specified in paragraph (1) to be more than one hundred and twenty days.

Id.

deference when it goes beyond the meaning that the statute can bear, [citing *Pittston Coal Group v. Sebben*, 488 U.S. 105, 113 (1988), and *Chevron*, 467 U.S., at 842-843], the Commission's permissive detariffing policy can be justified only if it makes a less than radical or fundamental change in the Act's tariff-filing requirement. The Commission's attempt to establish that no more than that is involved greatly understates the extent to which its policy deviates from the filing requirement, and greatly undervalues the importance of the filing requirement itself.¹⁵⁸

Even if they agreed that the FCC's proposal made sense, reviewing courts were constrained by the fact that Congress had not revised the Communications Act to permit the FCC to eliminate the application of common carrier responsibilities specified in Title II:

But our estimations, and the Commission's estimations, of desirable policy cannot alter the meaning of the federal Communications Act of 1934. For better or worse, the Act establishes a rate-regulation, filed-tariff system for common-carrier communications, and the Commission's desire "to 'increase competition' cannot provide it authority to alter the well-established statutory filed rate requirements"¹⁵⁹

Congress eventually provided the FCC with the necessary statutory authority, in the Telecommunications Act of 1996,¹⁶⁰ to order carriers to eliminate their tariffs, and a reviewing court readily affirmed the Commission's decision.¹⁶¹

Unlike the decade-long process for securing confirmation of its lawful authority to change telecommunications policy, the FCC seeks greater flexibility to act based on creative claims that a direct statutory link exists or based on the view that the public interest and broad ancillary jurisdiction under Title I support the Commission's action. In its best light, what drives this quest for flexibility is a sense that changing circumstances require the FCC to respond more quickly, particularly when marketplace conditions have evolved to a point where the Commission can streamline, reduce, or eliminate government oversight. In its worse light, the FCC engages in decision making with a preordained outcome designed to accrue political dividends and support

158. *MCI v. AT&T*, 512 U.S. at 229.

159. *Id.* at 233 (citations omitted).

160. 47 U.S.C. § 160(c) ("Any telecommunications carrier, or class of telecommunications carriers, may submit a petition to the Commission requesting that the Commission exercise the authority granted under this section with respect to that carrier or those carriers").

161. See *MCI WorldCom, Inc. v. F.C.C.*, 209 F.3d 760 (D.C. Cir. 2000).

economic doctrine regardless of the facts and regardless of whether the decision unfairly and unlawfully tilts the competitive playing field in favor of one group of stakeholders over others.

Unlike many previous attempts to stretch its statutory authority, primarily to reduce regulations and the scope of government oversight, the FCC now seeks authority to pursue many different objects not limited to deregulation. Recently, the FCC has sought to aid in the enforcement of digital rights management by requiring manufacturers of television sets to process received instructions that specify the copying and retransmission opportunities available to consumers.¹⁶² The Circuit Court of Appeals for the District of Columbia reversed the FCC's broadcast flag regulatory regime with a stinging rebuke.¹⁶³ Characterizing the FCC's action as the most sweeping assertion of authority in the Commission's seven decades of existence, the court rejected the use of ancillary jurisdiction under Title I in lieu of explicit Congressional authorization:

The Commission recognized that it may exercise ancillary jurisdiction only when two conditions are satisfied: (1) the Commission's general jurisdictional grant under Title I covers the regulated subject and (2) the regulations are reasonably ancillary to the Commission's effective performance of its statutorily mandated responsibilities. The Commission's general jurisdictional grant under Title I plainly encompasses the regulation of apparatus that can receive television broadcast content, but only while those apparatus are engaged in the process of receiving a television broadcast. Title I does not authorize the Commission to regulate receiver apparatus after a transmission is complete. As a result, the FCC's purported exercise of ancillary authority founders on the first condition. There is no statutory foundation for the broadcast flag rules, and consequently the rules are ancillary to nothing. Therefore, we hold that the Commission acted outside the scope of its delegated authority when it adopted the disputed broadcast flag regulations.¹⁶⁴

162. Digital Broadcast Content Protection, *Report & Order & Further Notice of Proposed Rulemaking*, 18 FCC Rcd. 23,550 (2003), *vacated in part, rev'd in part*, Am. Library Ass'n v. F.C.C. (*ALA*), 406 F.3d 689, 708 (D.C. Cir. 2005).

163. *ALA*, 406 F.3d at 708.

In this case, all relevant materials concerning the FCC's jurisdiction—including the words of the Communications Act of 1934, its legislative history, subsequent legislation, relevant case law, and Commission practice—confirm that the FCC has no authority to regulate consumer electronic devices that can be used for receipt of wire or radio communication when those devices are not engaged in the process of radio or wire transmission.

Id.

164. *Id.* at 691-692 (citations omitted).

The court determined that broadcast flags operate as a curb on digital television reception equipment, redistributing digital broadcast content after having received the content and not on the actual broadcast transmission.¹⁶⁵ Finding no Congressional authority for FCC regulation of consumer use of already broadcast content, the court refused to defer to agency expertise using the *Chevron* and *Mead* standards.¹⁶⁶ The court reasoned that, absent the need for explicit Congressional authority, the FCC would have plenary authority to regulate any consumer electronics and computer devices, a massive expansion of the Commission's regulatory wingspan.¹⁶⁷

The court also rejected the Commission's ancillary jurisdiction foundation based on the Communications Act. With references to several communications cases where a court endorsed ancillary jurisdiction, the D.C. Circuit Court of Appeals noted that all prior cases with precedential value involved an entity engaged in "communication by wire or radio":

The Court's decisions in *Southwestern Cable*, *Midwest Video I*, and *Midwest Video II* were principally focused on the second prong of the ancillary jurisdiction test. This is unsurprising, because the subject matter of the regulations at issue in those cases—cable television—constituted interstate communication by wire or radio, and thus fell within the scope of the Commission's general jurisdictional grant under Title I of the Communications Act. However, these cases leave no doubt that the Commission may not invoke its ancillary jurisdiction under Title I to regulate matters outside of the compass of communication by wire or radio.¹⁶⁸

The court also rejected the FCC's rationale that broadcast flag processing regulations could lawfully fit within the Commission's congressionally authorized responsibility for promulgating technical

165. *Id.* at 693.

The effectiveness of the broadcast flag regime is dependent on programming being flagged *and* on devices capable of receiving broadcast DTV signals (collectively "demodulator products") being able to recognize and give effect to the flag. Under the rule, new demodulator products (e.g., televisions, computers, etc.) must include flag-recognition technology. This technology, in combination with broadcasters' use of the flag, would prevent redistribution of broadcast programming.

Id.

166. *Id.* at 705; *see* *United States v. Mead Corp.*, 533 U.S. 218, 226-27 (2001) ("[I]mplementation of a particular statutory provision qualifies for *Chevron* deference when it appears that Congress delegated authority to the agency . . . to make rules carrying the force of law, and [the regulation was] promulgated in the exercise of that authority."); *Chevron*, 467 U.S. at 843-44; *supra* note 36 and accompanying text.

167. *ALA*, 406 F.3d at 705.

168. *Id.* at 702.

requirements for television receiving equipment as part of its implementation of rules relating to the transition from analog to digital television.¹⁶⁹

Even when the FCC seeks to liberalize its regulations, at least some reviewing courts will examine closely the nature of the FCC's statutory mandate and the reasonableness of how the Commission acted on its authority. For example, the FCC's rationale and methodology for retention of some media ownership rules and relaxation of other rules has not fully passed muster with reviewing courts.¹⁷⁰ Most recently, the FCC reconsidered the 35% national audience reach limit for broadcast television networks and its rules on local television ownership, radio/television cross-ownership and the prohibition on ownership of two national broadcast networks by a single owner.¹⁷¹

The Third Circuit Court of Appeals in *Prometheus Radio Project*, held that the FCC's decision to replace its newspaper/broadcast cross-ownership rules with cross-media limits did not violate the Constitution or the '96 Act, but that the Commission did not sufficiently justify its particular chosen numerical limits for cross-ownership of media within

169. *Id.* at 706.

It is enough here for us to find that the Communications Act of 1934 does not indicate a legislative intent to delegate authority to the Commission to regulate consumer electronic devices that can be used for receipt of wire or radio communication when those devices are not engaged in the process of radio or wire transmission. That is the end of the matter. It turns out, however, that subsequent legislation enacted by Congress *confirms* the limited scope of the agency's ancillary jurisdiction and makes it clear that the broadcast flag regulations exceed the agency's delegated authority under the statute.

Id.

170. In 2000, the FCC sought to retain a 35 percent market penetration cap on national television ownership, as well as existing cable/broadcast cross-ownership. See 1998 Biennial Regulatory Review - Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecomms. Act of 1996, *Biennial Review Report*, 15 FCC Rcd. 11,058 (2000). On appeal, the United States Court of Appeals for the D.C. Circuit held that the Commission had not sufficiently explained its reasons for retaining either of these rules. See *Fox Television Stations*, 280 F.3d at 1043-44, 1051-52; see also *Sinclair Broad. Group, Inc. v. F.C.C.*, 284 F.3d 148 (D.C. Cir. 2002) (affirming local television multiple-ownership rule allowing television station duopolies, so long as at least one of the stations is not ranked among the market's four largest stations and at least eight independently owned and operated full-power television stations remain in the market, but remanding for lack of a stated rational basis the exclusion of non-broadcast media from the eight voices exception).

171. See 2002 Biennial Regulatory Review - Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecomms. Act of 1996, *Notice of Proposed Rulemaking*, 17 FCC Rcd. 18,503 (2002); 2002 Biennial Regulatory Review - Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecomms. Act of 1996, *Report & Order & Notice of Proposed Rulemaking*, 18 FCC Rcd. 13,620 (2003), *aff'd in part, remanded in part, Prometheus*, 373 F.3d 372.

local markets. While the court affirmed the FCC's decision to retain the local television ownership rule restricting combinations of four largest stations in any market, it held that the Commission's modification to allow triopolies in markets of 18 stations or more and duopolies in other markets was unsupported by the evidence.¹⁷² The court also rejected the methodology¹⁷³ used by the FCC to assess the degree of competition in broadcast markets and used to justify the retention of numerical ownership restrictions: "Yet no matter what the Commission decides to do to any particular rule—retain, repeal, or modify (whether to make more or less stringent)—it must do so in the public interest and support its decision with a reasoned analysis."¹⁷⁴

B. Reasoned Analysis or Results-Oriented Decision Making?

The FCC's application of definitions contained in the Communications Act has provided it with a plausible statutory link for devising semantic dichotomies between telecommunications and telecommunications service and between providing and offering services. With these dichotomies the Commission has found ways to reclassify a telecommunications service as an information service and to expand the information service deregulatory safe harbor. Where the FCC can make no plausible link to statutory definitions, the Commission still can pursue either furtherance of its deregulatory mission or selective re-regulation based on its perception that Title I of the Communications Act provides broad ancillary jurisdiction to act in the public interest.¹⁷⁵

172. *Prometheus*, 373 F.3d at 420.

The deference with which we review the Commission's line-drawing decisions extends only so far as the line-drawing is consistent with the evidence or is not "patently unreasonable." The Commission's numerical limits are neither. No evidence supports the Commission's equal market share assumption, and no reasonable explanation underlies its decision to disregard actual market share. The modified rule is similarly unreasonable in allowing levels of concentration to exceed further its own benchmark for competition (1800) — a glaring inconsistency between rationale and result. We remand the numerical limits for the Commission to support and harmonize its rationale.

Id. (citations omitted).

173. *Id.* at 382 ("Most importantly, the Commission has not sufficiently justified its particular chosen numerical limits for local television ownership, local radio ownership, and cross-ownership of media within local markets. Accordingly, we partially remand the Order for the Commission's additional justification or modification . . .").

174. *Id.* at 395.

175. The Commission has stated that, should it be so inclined, it could impose non-discrimination and other operational limitations on Internet Service Providers based on its Title I ancillary jurisdiction. Broadband Industry Practices, *Notice of Inquiry*, 22 FCC Rcd. 7894, 7896 (2007) ("The Commission, under Title I of the Communications Act, has the ability to adopt and enforce the net neutrality principles it announced in the Internet Policy Statement."); see also *Appropriate Framework for Broadband Access to the Internet Over*

The FCC's statutory analysis of definitions and the scope of its Title I authority has generated mixed results when subject to judicial review. Some courts accord the Commission extraordinary latitude using the *Chevron* two-prong analysis, perhaps augmented by a reluctance to second guess an expert regulatory agency on highly technical matters, on the Commission's conclusions about how robustly competitive broadband and other markets have become,¹⁷⁶ and on the Commission's economic policy analysis.¹⁷⁷ Other courts that have reversed the FCC and judges filing strong dissents have refused to defer to the Commission notwithstanding subject matter complexity. Indeed, much of the judicial analysis, whether affirming, reversing, or dissenting, relies on analogies and analysis of common word meanings, such as "offer" and "provide."

CONCLUSION

On balance, the FCC has contributed to regulatory uncertainty rather than maintain a bright line between regulated telecommunications services and unregulated information services. Technological convergence and innovations challenge whether Congress can fashion long-standing definitions that the FCC can use to determine the scope of government oversight. But the Commission has exacerbated this quandary by aggressively pursuing a deregulatory mission even as it must backtrack and re-impose regulatory burdens on information services. Additionally, the FCC has overstated the current and prospective degree of facilities-based and resale competition in next generation services by using unrealistic definitions of what constitutes high speed broadband

Wireline Facilities, *Policy Statement*, 20 FCC Rcd. 14,986 (2005) (articulating network neutrality policy objectives); Rob Frieden, *Internet 3.0: Identifying Problems and Solutions to the Network Neutrality Debate*, 1 INT'L J. OF COMM. 461 (2007), available at <http://ijoc.org/ojs/index.php/ijoc/article/view/160/86>; Rob Frieden, *Network Neutrality or Bias?—Handicapping the Odds for a Tiered and Branded Internet*, 29 HASTINGS COMM. & ENT. L.J. 171 (2007).

176. Notably, the Supreme Court deferred to the Commission and found that:

The Commission concluded that "broadband services should exist in a minimal regulatory environment that promotes investment and innovation in a competitive market." This, the Commission reasoned, warranted treating cable companies unlike the facilities-based enhanced-service providers of the past. We find nothing arbitrary about the Commission's providing a fresh analysis of the problem as applied to the cable industry, which it has never subjected to these rules. This is adequate rational justification for the Commission's conclusions.

Brand X, 545 U.S. at 1001-02 (citations omitted).

177. For example, the Circuit Court of Appeals for the District of Columbia endorsed the FCC requiring VoIP operators to make universal service contributions based on the principle of "competitive neutrality – a principle that requires advantaging no one technology over another – favors making VoIP providers contribute because they increasingly compete with analog voice service providers, who contribute to the USF." *Vonage*, 489 F.3d at 1236.

service¹⁷⁸ and by generating faulty statistics of market penetration.¹⁷⁹ By concluding that robust competition exists when it does not, the FCC rationalizes the appropriateness of a campaign to eliminate conventional Title II regulation even for services that retrofit plant used to provide voice telephone service. Fuzzy math, buying into creative new economic “rules,” and compiling deceptively optimistic market penetration statistics constitute some of the tactics the FCC has used to rationalize its chosen regulatory, re-regulatory, and deregulatory decisions.

Judicial review has not provided a reliable bulwark against decisions that are “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.”¹⁸⁰ With far too few exceptions, courts do not scrutinize closely the FCC’s statistical compilations, empirical evidence gathering, and conclusions about marketplace conditions. Most courts willingly defer to the FCC’s projections about the impact of a policy shift, including ones ostensibly designed to promote competition even as they permit media consolidation and mergers as well as the abandonment of conventional common carrier regulatory safeguards.

The combination of lax judicial and legislative oversight as well as the FCC’s pursuit of political, philosophical, and economic policy objectives, regardless of the factual record, have substantial adverse effects. Poor market penetration by next generation networks and even the failure to install and operate such networks can no longer be attributed to “confiscatory” regulatory policies.¹⁸¹ The information

178. According to a recent FCC report on broadband, the FCC uses the term “high-speed” to “describe services that provide the subscriber with transmissions at a speed in excess of 200 kilobits per second (kbps) in at least one direction” and uses the term “Advanced services” for those services that “provide the subscriber with transmission speeds in excess of 200 kbps in each direction,” calling them a “subset of high-speed services.” WCB REPORT, *supra* note 9, at 1 n.1.

179. The FCC uses zip codes for assessing broadband access and deems the entire area served if it can find at least one user within the zip code. *Id.* at 3 (“The Commission’s data collection program requires providers to list the Zip Codes in which the provider has at least one high-speed connection in service to an end user, and 99% of Zip Codes were listed by at least one provider.”).

180. 5 U.S.C. § 706(2)(A).

181. In their objection to interconnection requirements imposed by the ‘96 Act, incumbent telephone companies used the term “confiscatory” to characterize the burden created. These carriers objected to the FCC’s statutory interpretation of the terms, conditions and scope relating to the carriers’ obligation to lease to competitors facilities and services on rates below what the incumbent carriers would require in direct negotiations with market entrants. The Supreme Court on two occasions endorsed the FCC’s implementation of a Congressional mandate to promote competition by requiring significant cooperation between incumbents and market entrants. In *AT&T Corp. v. Iowa Utilities Board*, 525 U.S. 366 (1999), the Supreme Court largely upheld the Commission’s implementation of Section 251 as a reasonable exercise of its rulemaking authority, including its requirement that incumbent carriers unbundle various network elements and offer market entrants the opportunity to pick and choose from an ala carte menu or platform of services and functions. The Court also ruled that in identifying which network elements ILECs should unbundle, the Commission did not

service safe harbor and the largely unregulated Commercial Mobile Radio Service classification for wireless networks¹⁸² have largely removed government oversight, including traditional common carrier interconnection responsibilities. Yet the United States significantly lags in both wireline and wireless broadband market penetration.¹⁸³ Rather than dispute the statistical compilations made by organizations with no reason to have bias against the United States,¹⁸⁴ the FCC and reviewing

limit the set of network elements to those necessary to promote competition whose absence from the list might impair market entrants' ability to compete. In other words the Court did not deem unconstitutional the Congressional mandate of requiring incumbent carriers to unbundled their networks and make each element available to competitors. The Court also largely deferred to the FCC's determination how to price such access. In *Verizon Communications, Inc. v. F.C.C.*, 535 U.S. 467 (2002), the Court rejected incumbent local exchange carrier arguments that using a theoretical, most efficient cost model, instead of actual historical costs, constituted a taking that violated the Fifth Amendment. The court noted that no party had disputed any specific rate established by the TELRIC pricing model and concluded that "regulatory bodies required to set [just and reasonable] rates . . . have ample discretion to choose methodology." *Id.* at 500.

182. The FCC is authorized to forbear from applying most of the Title II common carrier regulations to commercial mobile radiotelephone service providers, such as cellular radiotelephone carriers, if:

- (i) enforcement of such provision is not necessary in order to ensure that the charges, practices, classifications, or regulations for or in connection with that service are just and reasonable and are not unjustly or unreasonably discriminatory;
- (ii) enforcement of such provision is not necessary for the protection of consumers; and
- (iii) specifying such provision is consistent with the public interest.

47 U.S.C. § 332(c)(1)(A)(i)-(iii).

183. Despite technological superiority in many areas, the U.S. lags in broadband market penetration. The Organization for Economic Cooperation and Development reports that the United States ranked twelfth in broadband penetration as of June 2006. Organisation for Economic Co-Operation and Development, *Broadband Statistics to June 2007*, <http://www.oecd.org/sti/ict/broadband> (last visited Apr. 10, 2007). The International Telecommunication Union ranked the United States fifteenth in the world in terms of broadband penetration per 100 inhabitants as of January 2006. Int'l Telecomm. Union, *Broadband Statistics for 1 January 2006*, <http://www.itu.int/osg/spu/newslog/ITU+Broadband+Statistics+For+1+January+2006.aspx> (last visited Apr. 10, 2008). The ITU's broader benchmarking of the most important indicators for measuring a nation's capability to promote information and communications technologies and the "Information Society" ranked the United States twentieth in the world for 2007. Int'l Telecomm. Union, *Digital Opportunity Index*, <http://www.itu.int/osg/spu/statistics/DOI/index.html> (last visited Apr. 10, 2008).

184. See Letter from Ambassador David A. Gross, U.S. Coordinator for Int'l Commc'ns & Info. Policy, to Angel Gurría, Sec'y-Gen., Organisation of Econ. Co-Operation & Dev. (Apr. 24, 2007), available at http://www.ntia.doc.gov/ntiahome/press/2007/State_OECD_042407.pdf (objecting to OECD statistical compilation of broadband market penetration); see also National Telecommunications and Information Administration, *Fact Sheet: United States Maintains Information and Communication Technology (ICT) Leadership and Economic Strength*, http://www.ntia.doc.gov/ntiahome/press/2007/ICTleader_042407.html (last visited Apr. 10, 2008) (offering explanations why scope of broadband access in places such as government offices and coffee shops means that the OECD ranking underestimates market penetration).

courts should consider the impact of their action and inaction. Instead of promoting investment and competition in next generation networks, the largely unregulated information service safe harbor has helped create a broadband duopoly with a record of mediocre performance and aspirations.

FEDERAL REGULATION AND COMPETITIVE ACCESS TO MULTIPLE-UNIT PREMISES: MORE CHOICE IN COMMUNICATIONS SERVICES?

LYNNE HOLT* & MARK JAMISON**

I. INTRODUCTION

The nature of competition in the United States' communications sector changed significantly over the past two decades. Before the 1990s, "competition" referred to the fight among providers of discrete services, such as the contest among AT&T, MCI, and Sprint over the long-distance slice of the communications pie. Today, competition is much more likely to describe the fight over the *entire* pie, among firms offering a "triple play" of services—high-speed Internet service, video, and telephony—over a single broadband platform. Some firms recently expanded the pie with a "quadruple play" that includes wireless services as well. Cable operators, traditional wireline telephone companies, and, increasingly, wireless providers are competing to offer consumers both the underlying broadband platform and various bundled services that ride across it. However, not all consumers benefit from this competition in like manner.¹

Public policy deliberations tend to focus more on differences in access to communications services either between consumers in rural and

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1. For example, the staff of the New York Public Service Commission found differences between geographic areas in terms of the competitive alternatives that customers enjoyed. Customers in Verizon's territories tended to have more competitive service alternatives than customers in areas served by smaller telephone companies. Even within Verizon's traditional service areas there were differences in the availability of wireless and cable alternatives. See DEP'T OF PUB. SERV. STAFF, STATE OF NEW YORK, TELECOMM. IN NEW YORK: COMPETITION AND CONSUMER PROTECTION (2005), *available at* [http://www3.dps.state.ny.us/pscweb/WebFileRoom.nsf/Web/C76443168615205885257083006ADF64/\\$File/05c0616.coverltr.09.21.05.pdf](http://www3.dps.state.ny.us/pscweb/WebFileRoom.nsf/Web/C76443168615205885257083006ADF64/$File/05c0616.coverltr.09.21.05.pdf):OpenElement.

urban areas or between low-income and more affluent consumers. Policymakers focus considerably less attention on differences in access for consumers living or working in multi-unit premises—including planned-unit developments—compared to their counterparts in detached single-unit dwellings. For example, consumers in single-family homes choose among the available broadband platforms to obtain the desired services. In contrast, building owners or developers of multi-unit premises often choose both the types of broadband platforms serving a building and the specific broadband providers that will serve the consumers living or working in the premises. The owners may even negotiate the mix of communications services and terms of delivery offered within the building or planned development. In these cases, the consumer faces a limited set of choices due to the decisions of the owner or developer; the person who controls the access to the services and the person who consumes the services are likely different and their interests misaligned. Consumers who live in multi-unit premises might have greater choice for communications services if there is more competition in the technology platforms underlying these services.

In this Article, we address three overarching questions: (1) How has providers' access to multi-unit premises been affected by federal communications regulatory regimes in the past? (2) How might current regulatory regimes affect this access and, by extension, consumer choice in the future? and (3) Is there a better way to promote competitive access going forward?

A. Background

The issue of competitive access to multiunit residential and commercial buildings affects a sizable segment of this nation's population. According to the Federal Communications Commission ("FCC" or "Commission"), America contained over 750,000 office buildings in 2000.² An estimated 30% of all Americans now live in residential multiple-dwelling units.³ In addition, estimates suggest that fifty-seven million U.S. residents (roughly 19% of the total population) lived in association-governed planned communities as of 2006.⁴

2. Promotion of Competitive Networks in Local Telecomm. Mkts., *First Report & Order & Further Notice of Proposed Rulemaking*, 15 FCC Rcd. 22,983, ¶ 15 (2000) [hereinafter *Competitive Networks Order*].

3. Exclusive Serv. Contracts for Provision of Video Servs. in Multiple Dwelling Units and Other Real Estate Devs., *Report & Order & Further Notice of Proposed Rulemaking*, 22 FCC Rcd. 21,828, ¶¶ 1, 8 (2007) [hereinafter *Exclusive Service Contracts Order*].

4. Community Associations Institute (CAI), Industry Data, <http://www.caionline.org/about/facts.cfm> (last visited Apr. 10, 2008). The percentage is based on the U.S. Census estimate of 298.4 million as of July 2006.

Communications providers frequently hanker for opportunities to offer their “triple-play” and “quadruple-play” solutions to consumers in multi-unit premises. With all things being equal, the lower per capita connection and customer acquisition costs in multi-unit dwellings relative to single-family residences produces greater profits. Providers with exclusive or perpetual contracts to serve entire buildings or developments typically are assured both a dependable customer base and steady stream of revenue, which lowers their risk in building out the required infrastructure. Providers therefore seek to “lock-in” those customers.⁵

Presently, broadband competition comes primarily from two platforms: cable modem and digital subscriber line (“DSL”). As of March 2006, DSL connections accounted for 50% of all home broadband connections, with cable modems representing 41%.⁶ Increasingly, fixed wireless service is contributing another platform in the competition to provide broadband with 8% of residential high-speed users having wireless broadband connections.⁷

In contrast to broadband service, enhanced video service has been more resistant to competition. Until recently, enhanced video service was transmitted to homes primarily through cable. Now, fiber-to-the-home offers another platform for video delivery, in addition to high speed Internet and Voice over IP (“VoIP”) services. As of September 2006, fiber-to-the-home passed over six million homes of which over one million were connected.⁸ The former Regional Bell Operating Companies (“RBOCs”)—now AT&T, Verizon, and Qwest—provided almost 48% of those connections.⁹ Fiber-to-the-home is admittedly in its infancy, but the growth rate has been rapid—over 213% in increased connections from September 2005 to September 2006.¹⁰

According to standard economic theory, we would expect

5. Exclusive contracts prevent customers from switching to another provider even if customers want to switch, or at least make it costly for customers to do so. This is called lock-in because it is more costly for a customer to change to another provider than to stay with the current provider, all other things being equal. See CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 11-13 (1998).

6. JOHN B. HERRIGAN, PEW INTERNET & AMERICAN LIFE PROJECT, HOME BROADBAND ADOPTION 2006 ii (2006), available at http://www.pewinternet.org/pdfs/PIP_Broadband_trends2006.pdf.

7. *Id.*

8. RVA LLC MARKET RESEARCH & CONSULTING, FTTH/FTTP UPDATE: OCTOBER 2006 4, 7 (2006), available at http://www.tiaonline.org/business/media/press_releases/2006/documents/RVAFTTHCChartsOct06A.ppt.

9. *Id.* at 16.

10. *Id.* at 7. In September 2005, only 322,700 homes were connected; in September 2006, the number was 1,011,000.

competitive platforms delivering multiple integrated services (video, Internet, voice) at high speeds to provide consumers with more choice at a lower price than would be the case under monopoly regimes. Investment pressures drive companies to expand their subscriber base for such services. Companies know that it is costly for tenants to relocate, so if they secure them as customers they are likely to continue serving them. The extent to which tenants actually leave if their telecommunications needs are not met is the “million dollar” question. For tenants of commercial buildings, the decision to leave probably depends on the nature of their business and their options for relocation.¹¹ However, consumer choice might be undermined by strategies employed by building owners and developers, on the one hand, and communications providers, on the other hand, to protect their respective “turfs” and maximize profit through exclusive single-provider access and the delivery of bundled services. Depending on contractual terms, consumers still may have a choice in communications services even if an owner or developer enters into an exclusive agreement with a single provider to serve all the tenants.

Because convergence in telecommunications allows a single pipe to offer multiple, high-value services, we might expect bundled services to account for a growing number of contracts between building owners or developers and communications providers in the future, particularly with the migration of traditional voice telephony to VoIP and traditional cable television to Internet Protocol Television (“IPTV”). Why do providers aggressively compete to provide bundled services? From the provider’s perspective, bundled services are responding to perceived consumer preferences that enable them to sell more services. Many consumers prefer having all their communications services delivered by a single provider and bundled on one bill.¹² Moreover, consumers of bundled

11. We can assume that some indeterminate number of tenants might leave. For example, the Building Owners and Managers Association (“BOMA”) commissioned a survey of available telecommunications competition which found that 40% of tenants surveyed indicated they would leave a property if their telecommunications needs were unmet. The survey was filed with the FCC on February 23, 2001. Of course, whether these tenants actually would leave is unknown. We only know what they said. *See generally* Joint Comments of Bldg. Owners and Managers Ass’n Int’l et al., to the Inquiry Concerning Promotion of Competitive Networks in Local Telecomms., WT Dkt. No. 99-217, CC Dkt. No. 96-98, at Ex. D (Aug. 27, 1999), available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&cid_document=6009449382.

12. According to a communications survey by Telephia for the second quarter of 2006, 43% of U.S. households subscribe to bundled communications services from one provider. “Double-play” and “triple-play” bundles were the most subscribed with 23 million and 10 million subscribers, respectively. Three-hundred thousand households subscribed to “quadruple-play” bundles. Price was the most important reason, followed by convenience. *Telephia: 43% of U.S. Households Subscribe to Bundled Communications and Entertainment Services from One Provider*, WIRELESS NEWS, Sept. 6, 2006. Findings from various survey

services are less likely to switch companies. The more services that are bundled, the lower the churn rate.¹³ Furthermore, bundling allows an operator to offer a single price that is attractive to many types of consumers such that they are likely to buy more services than if the services were priced individually.¹⁴ For their part, building owners and developers might prefer to provide access to, and purchase bundled services from, a specific provider for multiple reasons: to maximize profit; to respond to the perceived needs of most of the residents in the complex; to reduce exposure to safety, security, and liability risks; to better ensure compliance with fire and building code requirements; to avoid costs related to adapting a building to accommodate the networks of other carriers; and to simplify negotiations by dealing with one provider instead of multiple providers.¹⁵ Finally, in a recent order, the FCC has taken the position that bundling is desirable, particularly if bundling is coupled with competition for the delivery of such services.¹⁶

How does the FCC's objective of competitive delivery of bundled services comport with the FCC's view on consumer choice? Consumer choice—making “competitive alternatives available to individual subscribers”—certainly was one of the intended goals of introducing competition into local telecommunications markets.¹⁷ It also was one of the goals for video markets. According to FCC Chairman Kevin Martin, the FCC will take measures to “remove regulatory impediments to the entry of new service providers into the video market by, for instance, ensuring that consumers living in apartment buildings are not

reports indicate that the majority of small businesses purchase bundled communications services primarily to cut costs and deal with only one provider. Most of the small companies indicated satisfaction with their provider. See Tracy Barbour, *Bundled Communications Services Big with Consumers: Most U.S. Small and Medium Businesses Prefer to Buy Bundled Communications*, ALASKA BUS. MONTHLY, Dec. 2006, at 52-55.

13. According to the Yankee Group, the more services are bundled, the lower the churn rate. See Susana Schwartz, *The Race to Bundle Voice, Video, and Data*, BILLING & OSS WORLD, June 1, 2004, available at <http://www.billingworld.com/articles/archives/The-Race-to-Bundle-Voice-Data-and-Video.html>.

14. SHAPIRO & VARIAN, *supra* note 5, at 74.

15. COMM. ON COMM'NS & PUB. UTILS., INTERIM PROJECT REPORT: REVIEW OF ACCESS BY COMMUNICATIONS COMPANIES TO CUSTOMERS IN MULTITENANT ENVIRONMENTS, S. 2006-106 (Fla. 2005), available at http://www.flsenate.gov/data/Publications/2006/Senate/reports/interim_reports/pdf/2006-106cu.pdf.

16. Implementation of Section 621(a)(1) of the Cable Commc'ns Policy Act of 1984 as Amended by the Cable Television Consumer Prot. and Competition Act of 1992, *Report & Order & Further Notice of Proposed Rulemaking*, 22 FCC Rcd. 5101, ¶ 2 (2007) [hereinafter Franchising Reform Order].

17. Promotion of Competitive Networks in Local Telecomms. Mkts., *Notice of Proposed Rulemaking & Notice of Inquiry*, 14 FCC Rcd. 12,673, ¶ 18 (1999) [hereinafter Promotion of Competitive Networks].

denied a choice of cable operators.”¹⁸ He further said the regulatory environment also should give consumers greater control of video programming, enable new companies to compete with incumbents in providing telephony, and prevent existing providers from impeding the development of innovations currently taking place in consumer electronics.¹⁹ The road to realizing the objectives outlined by Chairman Martin might be bumpy, but past regulatory decisions might provide some insight into their likely success. Throughout the years, provider efforts to secure profits often have boiled down to who ultimately controls the access to the buildings in which consumers live and work. So the overarching question remains: to what extent, if at all, have past FCC decisions promoted and impeded competitive access?

Two regulatory issues in particular have presented challenges to competitive access and, ultimately, have impeded consumer choice in multi-unit buildings and planned developments: (1) inside wiring and demarcation points, and (2) exclusive contracts. FCC actions to redress impediments presented by both issues have different legacies in telephony and cable service. Because wireless broadband is an emerging platform, we have confined our discussion to telephone and cable providers since they are the more established competitors for subscribers in multi-unit buildings and planned developments. The FCC’s proceedings on inside wiring pertain to access to multi-tenant buildings and not to planned communities. The FCC’s proceedings addressing exclusive and perpetual contracts affect multi-tenant buildings, as well as planned developments. We conclude with a discussion of the implications of the “old world” legacies of these services for the “new world” of bundled, digitized services for consumers in multi-unit building and planned developments.

B. The Early Days of Competition in Multiple-Unit Premises

From the 1930s to the 1990s, monopoly provision of local telephony service was the only show in town. But as consumer demand for new telecommunications technologies grew, building providers with multiple tenants stepped into the market, possibly because of the opportunity to gain competitive advantage or perhaps because the economics of local telephone monopolies made it costly for the monopolies to address diverse customer interests. For example, a local

18. See *Accessing the Communications Marketplace: A View from the FCC: Hearing Before the S. Comm. on Commerce, Science, and Transportation*, 110th Cong. 8 (2007) (written statement of Kevin J. Martin, Chairman, FCC), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270192A1.pdf.

19. *Id.*

telephone company would have had to upgrade its entire local network with digital technology to meet the demand of a small group of business customers for digital services. Furthermore, the telephone company would have needed to develop entirely new ways of marketing services. However, the building providers' interests in providing telecommunications services to their tenants challenged the local monopoly tradition. Several states adopted rules for Shared Tenant Services in response to telephone companies' concerns that property owners would act as resellers of telecommunications services and potentially threaten what they considered to be their monopoly franchise. These rules protected the companies' markets by limiting resale and sharing of telephony services, and were supported at the time by phone companies.²⁰ A typical arrangement was for the telephone company to sell a large volume of services to the property owner who would, in turn, resell telephony services to building occupants. Consumers presumably benefited from this arrangement by receiving customized service and by sharing the costs of their more sophisticated telephony services with other tenants. Rules promulgated by state public service commissions outlined the conditions under which shared services could be offered.²¹

The federal Telecommunications Act of 1996 ("1996 Act")²² was largely responsible for promoting inter-modal competition among communications providers on a national basis. The FCC acknowledged the local loop as one of the last obstacles to inter-modal competition and predicted that growing competition would cause the traditional distinctions between platforms to blur.²³ From 1996 until as recently as

20. For example, a definition in the glossary maintained by the Louisiana Department of Education website defines "Shared Tenant Service" as:

The provision of PBX services (frequently by a landlord) to multiple customers located in the same building, campus or group of buildings. External calls can be placed and received over common lines and intracompany calls can be made without the use of outside LEC lines. State regulations frequently restrict the provision of STS to protect LEC interests.

University of Louisiana at Lafayette Information Networks, Glossary: S, <http://info.louisiana.edu/dept/gloss.html> (last visited Apr. 10, 2008).

21. States with Shared Tenant Service rules included, among others, Florida, Kansas, New Hampshire, and Virginia. See FLA. ADMIN. CODE ANN. r. 25-24.567 (2007); N.H. REV. STAT. ANN. § 374:22-1 (2007); 20 VA. ADMIN. CODE § 5-409-10 (2007); see also General Investigation into Resale of Local Tel. Serv. (Shared Tenant Serv.), *Order*, Kan. Corp. Comm'n Dkt. No. 141975-u (1990), available at <http://www.kcc.state.ks.us/telecom/aps/141975.pdf>.

22. Pub. L. No. 104-104, 110 Stat. 56 (codified as amended in scattered sections of 15, 18 and 47 U.S.C.) [hereinafter "1996 Act"].

23. Implementation of the Local Competition Provisions in the Telecomms. Act of 1996, *First Report & Order*, 11 FCC Rcd. 15,499, ¶ 4 (1996).

Thus, under the 1996 Act, the opening of one of the last monopoly bottleneck strongholds in telecommunications — the local exchange and exchange access markets — to competition is intended to pave the way for enhanced competition in

2006, most of the competition in telephony resided in battles for market control between incumbent local exchange carriers (“ILECs”) and competitive local exchange carriers (“CLECs”) over access to consumers. Much of this struggle revolved around the degree to which ILECs should be required to unbundle network elements. The Court of Appeals for the D.C. Circuit stated: “[t]his tug of war—between CLECs advocating more unbundling and ILECs advocating less—has been the nub of an ongoing decade-long dispute between incumbents and their would-be competitors.”²⁴

The FCC understood that multi-unit premises presented special obstacles and challenges for facilities-based competitors in furnishing tenants with telecommunications services.²⁵ To refer to multi-unit premises in the context of telecommunications services, the FCC has used the term “multiple tenant environment” (“MTE”) in the Competitive Networks Order and subsequent telecommunications-related proceedings. This term includes “apartment buildings (rental, condominium, or co-op), office buildings, office parks, shopping centers, and manufactured housing communities.”²⁶ Specifically, competitive providers must be able to access inside wiring or access space to install their own equipment. If they use wireless technologies, they might need to access a roof to install antennas. So, the FCC acknowledged that access was more complicated for facilities-based competitors than simply negotiating with owners of single home dwellings.²⁷ The FCC’s proceedings on inside wiring, discussed below, aptly underscore the complexity of getting the conditions right for such competition to occur.²⁸

all telecommunications markets, by allowing all providers to enter all markets. The opening of all telecommunications markets to all providers will blur traditional industry distinctions and bring new packages of services, lower prices and increased innovation to American consumers. The world envisioned by the 1996 Act is one in which all providers will have new competitive opportunities as well as new competitive challenges.

Id. (emphasis added).

24. *Covad Commc’ns Co. v. F.C.C.*, 450 F.3d 528, 532-33 (D.C. Cir. 2006).

25. Competitive Networks Order, *supra* note 2, at ¶ 14.

26. *Id.* ¶ 11.

27. *Id.* ¶ 17.

28. A recent report by the U.S. Government Accountability Office illustrates this point. An analysis was performed of dedicated access services for voice and data services provided in federal government agencies in 16 major metropolitan areas. The report concluded that fiber-based competitors served on average less than 6% of buildings with demand for such services. There was some speculation as to why consumers saw such a low degree of competition despite pricing flexibility for network elements authorized in recent years. Competitors cited barriers to entry, including charges imposed by building owners as a condition for competitors to provide services. *See* U.S. GOV’T ACCOUNTABILITY OFFICE, TELECOMMUNICATIONS: FCC NEEDS TO IMPROVE ITS ABILITY TO MONITOR AND DETERMINE THE EXTENT OF

C. Inside Wiring and Demarcation Points

With respect to telephony, the FCC began its involvement with inside wiring issues in the 1970s through Part 68 of its rules, which governs the interconnection of telephone customers to the public switched network.²⁹ In 1984, the FCC adopted rules allowing customers to install and connect telecommunications equipment and inside wiring to the public switched network. The FCC defined “inside wiring” as the installation of wiring located on the customer premises side of the demarcation point.³⁰ The “demarcation point” is the point at which the wiring controlled by the telephone company ends and the property owner or customer begins.³¹ The FCC revisited this issue several times. Initially, the telephone company was authorized to determine the demarcation point. In 1990, the FCC revised the definition of the “demarcation point” to increase the amount of wiring controlled by the property owner or customer. For multiple-tenant buildings in existence before August 13, 1990, the demarcation point still would be determined by the telephone company. However, after that date, the telephone company was authorized to place the demarcation point at the minimum point of entry.³² If the company decided not to do so, the decision reverted to the property owner.³³ If the demarcation point is not already at the minimum point of entry, a property owner can request that the demarcation point be relocated there, and the telephone company must comply with the request.³⁴ The problem, of course, arises if there is no certainty about the site of the demarcation point in multi-unit dwellings. It stands to reason that when the demarcation point cannot be established, CLECs would be unable to negotiate with incumbents for access to a building’s inside wiring.³⁵

COMPETITION IN DEDICATED ACCESS SERVICES (2006), *available at* <http://www.gao.gov/new.items/d0780.pdf>.

29. 47 C.F.R. § 68.1 (2006).

30. *Id.* § 68.3.

31. *Id.* The demarcation point is defined as: “the point of demarcation and/or interconnection between the communications facilities of a provider of wireline telecommunications, and terminal equipment, protective apparatus or wiring at a subscriber’s premises.” *Id.*

32. *Id.* § 68.105(b). The “minimum point of entry” is defined as “either the closest practicable point to where the wiring crosses a property line or the closest practicable point to where the wiring enters a multiunit building or buildings.” *Id.*

33. Review of Sections 68.104 and 68.213 of the Commission’s Rules Concerning Connection of Simple Inside Wiring to the Telephone Network and Petition for Modification of Section 68.213 of the Commission’s Rules filed by the Electronic Indus. Ass’n, *Report & Order & Further Notice of Proposed Rulemaking*, 5 FCC Rcd. 4686, ¶ 31 (1990).

34. 47 C.F.R. § 68.105(d)(3).

35. Carl E. Kandutsch, *FTTH in Multitenant Environments: Some Regulatory and Competitive Questions*, BROADBAND PROPS., Dec. 2005, at 56, *available at* <http://www.broadbandproperties.com/2005issues/dec05issues/FTTH%20in%20Multi->

In its pre-1996 deliberations, the FCC's inside wiring decisions were not directed toward promoting competitive access because competitive access was not an issue at that time. The intent of the Part 68 rules was "to create a competitive market in the installation and maintenance of inside wiring."³⁶ However, the 1996 Act promoted competitive access by authorizing CLECs to lease unbundled loops from incumbents.³⁷ ILECs typically transport signals in MTEs from the network interface device located in the basement or the ground floor to locations on each floor by means of riser cables, and to individual units by inside wiring.³⁸ In 1997, the FCC required ILECs to allow unbundled access to the network interface device in MTEs.³⁹ In response to CLECs' allegations that they still had problems with access because ILEC equipment did not always include network interface devices, the FCC attempted to provide more clarity in its 1999 Unbundled Network Element ("UNE") Remand Order by defining the loop as a transmission facility between a distribution frame in the incumbent's central office to the demarcation point.⁴⁰ Moreover, the FCC defined the network interface device in functional terms,⁴¹ and defined the subloop requiring it to be unbundled.⁴²

Yet, bottlenecks to competitive access persisted despite these unbundling requirements. If competitive providers cannot access inside wiring in MTEs, how can they hope to compete with incumbents? To that end, the FCC sought comment as to whether a uniform demarcation point should be adopted, either at the minimum point of entry or at some other point.⁴³ In the Competitive Networks Order, the FCC decided not to set a uniform standard, such as requiring the demarcation point to be placed at the minimum point of entry.⁴⁴

Tenant%20Environment,%20Kandutsch.pdf.

36. Competitive Networks Order, *supra* note 2, at ¶ 49.

37. 47 U.S.C. § 251(c)(3) (2006). ILECs were required to provide requesting CLECs unbundled access to network elements on "just, reasonable, and nondiscriminatory" terms. *Id.*

38. *Cf.* Promotion of Competitive Networks, *supra* note 17, at ¶ 39.

39. Implementation of the Local Competition Provisions in the Telecomms. Act of 1996, *First Report & Order*, 11 FCC Rcd. 15,499 (1996), *aff'd in part, vacated in part sub nom.* Competitive Telecomms. Ass'n v. F.C.C., 117 F.3d 1068 (8th Cir. 1997).

40. 47 C.F.R. § 51.319(a).

41. *Id.* § 51.319(c).

42. *Id.* § 51.319(b)(2) ("The subloop for access to multiunit premises wiring is defined as any portion of the loop that is technically feasible to access at a terminal in the incumbent LEC's outside plant at or near a multiunit premises.").

43. Promotion of Competitive Networks, *supra* note 17, at ¶ 65.

44. Competitive Networks Order, *supra* note 2, at ¶¶ 50-53. On the one hand, certain CLECs argued that, despite unbundling requirements, ILECs continued to thwart their access to inside wiring. They suggested moving the demarcation point to an MPOE so that all facilities-based carriers would operate under the same terms in interconnecting with inside wiring which would be controlled by the owner. *Id.* ¶ 50. The FCC clearly had to weigh

However, in that proceeding, the FCC did take other actions to open access to competitors by prohibiting exclusive contracts in commercial MTEs,⁴⁵ requiring electric utilities and ILECs to extend reasonable and nondiscriminatory access rights-of-way and ducts on campuses and customer buildings, and prohibiting restrictions on the use of antennas to receive and transmit telecommunications and fixed wireless signals.⁴⁶ Further measures were adopted when the FCC, in response to a petition by Cox Oklahoma Telecom, L.L.C., further clarified the conditions under which competing providers may access local exchange carrier's ("LECs") inside wiring in MTEs—specifically, the FCC required LECs to have direct access to inside wire subloops and provided the framework for such installations to occur.⁴⁷ The FCC's decisions on competitive access with respect to cable television facilities have followed a different trajectory than that for telephone facilities, although they shared a similar overarching goal stemming from federal legislation. As in the 1996 Act, competition was a goal in the 1992 Cable Television Consumer Protection and Competition Act.⁴⁸ The FCC promoted competitive access to cable inside-wiring in multiple-dwelling units ("MDUs") as one means of moving toward that goal.⁴⁹ In a 2003 order, the Cable

those considerations against the competitive interests of DSL providers and potentially stranded investments by the ILECs. Therefore, the FCC concluded:

The record shows that although moving the demarcation point to the MPOE would reduce costs and facilitate deployment for competitive LECs that rely on their own facilities to reach MTEs, it would increase costs and hinder deployment for carriers that rely on unbundled local loops. In the absence of convincing evidence that the benefits to one group of competitors would significantly outweigh the harms to the other, we find the best course is to continue to leave the choice in the first instance to the building owner.

Id. ¶ 53.

45. The prohibition did not apply to residential buildings because the FCC did not believe it had adequate information to justify a determination at that time. The FCC requested comments on whether to extend the prohibition governing exclusive contracts to residential buildings. See Competitive Networks Order, *supra* note 2, at ¶ 158. Also, more recently, the FCC requested comments in Exclusive Service Contracts for Provision of Video Services in Multiple Dwelling Units and Other Real Estate Developments, *Notice of Proposed Rulemaking*, 22 FCC Rcd. 5935 (2007) [hereinafter Exclusive Service Contracts for Provision of Video Services]. The FCC noted: "We intend to issue a public notice seeking to refresh the record in that proceeding." *Id.* ¶ 3 n.10. So the FCC does not consider the possibility of extending the prohibition to residential buildings to be a "dead" issue.

46. Competitive Networks Order, *supra* note 2, ¶ 6.

47. Telecomms. Servs. Inside Wiring, *Report & Order & Declaratory Ruling*, 22 FCC Rcd. 10,640, ¶¶ 48-55 (2007) [hereinafter Telecomms. Servs. Inside Wiring Order].

48. 47 U.S.C. § 521(6) includes among its goals: "promot[ing] competition in cable communications and minimize[ing] unnecessary regulation that would impose an undue economic burden on cable systems."

49. The FCC's reasoning was that "the inability of alternative MVPDs [multichannel video programming distributors] to access existing wiring in MDUs at the end of incumbent service providers' service contracts tends to undermine competition in the MDU marketplace

Television Consumer Protection and Competition Order, the FCC defined a “multiple dwelling unit” for cable inside-wiring purposes as “a building or buildings with two or more residences, such as an apartment building, condominium building, or cooperative.”⁵⁰ Subsequently, the FCC expanded that definition to include “gated communities, mobile home parks, garden apartments, and other centrally managed real estate developments.”⁵¹ That order prohibited cable operators from enforcing or entering into new exclusivity clauses for the provision of video services.⁵² The definition of “multiple dwelling unit” in that order and prior proceedings pertaining to MDUs does not apply to commercial buildings affected by the Competitive Networks Order discussed above.⁵³ The FCC’s cable home run wiring rules were intended to facilitate competition in the event that the contract between the provider and building owner was no longer in effect, but they did not override the contract.⁵⁴ We will return to this point in our discussion of exclusive contracts below.

The cable inside-wiring proceedings apply to multichannel video programming distributors (“MVPDs”), which historically were predominantly traditional cable and satellite companies.⁵⁵ Companies may be exempt from regulations governing MVPDs if the video services provided are solely “on-demand interactive services”⁵⁶ The rules

and thereby deprive MDU tenants of choice.” See *Telecomms. Servs. Inside Wiring, First Order on Reconsideration & Second Report & Order*, 18 FCC Rcd. 1342, ¶ 7 (2003) [hereinafter *Cable Television Consumer Protection and Competition Order*].

50. *Id.* at ¶ 1 n.2; see also 47 C.F.R. § 76.800(a).

51. Exclusive Service Contracts Order, *supra* note 3, at ¶ 7.

52. *Id.* at ¶ 1.

53. Competitive Networks Order, *supra* note 2, at ¶ 11. The definition of “Multiple Tenant Environment” includes “apartment buildings (rental, condominium, or co-op), office buildings, office parks, shopping centers, and manufactured housing communities.” *Id.*

54. 47 C.F.R. § 76.800(d). The definition of cable home run wiring is “wiring [that runs] from the demarcation point to the point at which the MVPD’s wiring becomes devoted to an individual subscriber or individual loop.” *Id.* By contrast, “cable home wiring” is the internal wiring within the consumer’s premises, beginning at the demarcation point and extending to the consumer’s television set or other customer premises equipment. The FCC links the home run wiring rules to the objective of promoting competition in cable communications in the Cable Television Consumer Protection and Competition Order, *supra* note 49, at ¶ 7.

55. A MVPD is “a person such as, but not limited to, a cable operator, a multichannel multipoint distribution service, a direct broadcast satellite service, or a television receive-only satellite program distributor, who makes available for purchase, by subscribers or customers, multiple channels of video programming . . .” 47 U.S.C. § 522(13).

56. The cable inside-wiring proceedings apply to MVPDs and, as noted above, the definition of MVPDs includes cable operators, among others. To see how all this connects, we note that “cable operator” is defined in 47 U.S.C. § 522(5) as:

[A]ny person or groups of persons (A) who provides cable service over a cable system and directly or through one or more affiliates owns a significant interest in such cable system, or (B) who otherwise controls or is responsible for, through any

governing demarcation points for MVPDs serving multiple-dwelling unit buildings are not the same as for telephone companies.⁵⁷ Specifically, FCC rules prohibit an incumbent MVPD from impeding a competitor's access to inside wiring at the demarcation point.⁵⁸ Whereas, the FCC refused to set a uniform standard for the demarcation point for telephone company installations, the FCC did so for cable television installations.⁵⁹ According to the FCC:

Location of the demarcation point is significant because . . . the demarcation point is the place where competing providers may access existing home wiring in an MDU building. A demarcation point that allows relatively unimpeded access to existing wire is likely to foster competitive entry into the MDU marketplace.⁶⁰

An issue of contention has been the setting of the demarcation point when a location is "physically inaccessible." Competitors are concerned that they cannot access demarcation points that are physically inaccessible. So, in that event, the demarcation point would have to be located in an accessible spot, such as the operator's junction box.⁶¹ Therefore, the definition of this term is extremely important for competitive access. The easier it is for competitors to access the wiring, one would expect, the greater the loss of market share for the incumbent cable operators. In its 2003 order, the FCC interpreted its existing rule on physical inaccessibility to include wiring located behind drywall.⁶² That interpretation was challenged in the Court of Appeals for the D.C.

arrangement, the management and operation of such a cable system

The definition of "cable system" in 47 U.S.C. § 522(7) applies to a facility "to the extent such facility is used in the transmission of video programming directly to subscribers, unless the extent of such use is solely to provide interactive on-demand services" For leading us through this definitional labyrinth, we are indebted to Carl E. Kandutsch, see Kandutsch, *supra* note 35 (providing in-depth analysis of the defining modalities of communications services).

57. Competitive Networks Order, *supra* note 2, at n.105.

58. 47 C.F.R. § 76.802(j); *see also* Cable Television Consumer Protection and Competition Order, *supra* note 49, at ¶ 48.

59. 47 C.F.R. § 76.5(mm).

60. Cable Television Consumer Protection and Competition Order, *supra* note 49, at ¶ 49.

61. *Id.* ¶ 51.

62. *Id.* ¶ 53 (amending the note to 47 C.F.R. § 76.5(mm)(4) to include the reference to sheet rock). 47 C.F.R. § 76.5(mm)(4) states that "the term 'physically inaccessible' describes a location that: (i) Would require significant modification of, or significant damage to, preexisting structural elements, and (ii) Would add significantly to the physical difficulty and/or cost of accessing the subscriber's home wiring." The note further explains that "wiring embedded in brick, metal conduit, cinder blocks, or sheet rock with limited or without access openings would likely be physically inaccessible; wiring enclosed within hallway molding would not." 47 C.F.R. § 76.5(mm)(4) n.

Circuit, which remanded the issue to the FCC for further proceedings after determining that the FCC had not amassed sufficient evidence to support its finding.⁶³ The FCC issued a *Further Notice of Proposed Rule Making* on the Matter in 2004.⁶⁴ In June 2007, the FCC determined that cable wiring located behind drywall is indeed physically inaccessible⁶⁵ on the grounds that accessing the demarcation point behind drywall would be physically laborious or drive up costs (or both).⁶⁶ The FCC concluded that “the Commission’s inside wiring rules are intended to facilitate competition in video distribution market:” clarification as to the conditions affecting competitive access to existing home run wiring would move toward that objective.⁶⁷ Customer choice was also an issue for the FCC in its deliberations on the disposition of home run wiring where the incumbent provider no longer has an enforceable right to remain in an MDU. In its deliberations on that issue in 1997, the FCC established procedures for the disposition of cable home run wiring.⁶⁸ Various petitioners commented that building owners’ interests were not necessarily aligned with those of their tenants; however, the owners should not have authority to select alternative providers.⁶⁹ In response to various arguments to the contrary, the FCC opted to give the building owner, and not the individual subscribers, the option of acquiring the home run wiring of departing MVPDs. The FCC reaffirmed its decision by reasoning that:

The record contains no evidence that the decisions MDU owners make with regard to video providers are depriving their tenants of diverse sources of information. The Commission concluded in the *Report and Order* that the property owner should have the ability to control the wiring because the property owner is responsible for the common areas of a building. Property owners have safety and security responsibilities, maintain compliance with building and

63. Nat’l Cable & Telecomms. Ass’n v. F.C.C., 89 F. App’x 743 (D.C. Cir. 2004).

64. Telecomms. Servs. Inside Wiring, *Further Notice of Proposed Rule Making*, 20 FCC Rcd. 1233 (2004); see also GERRY LEDERER, MILLER & VAN EATON, P.L.L.C., 2007 TELECOMMUNICATIONS CHECKLIST 4 (2007), available at <http://www.millervaneaton.com/00126970.pdf>. Meanwhile, the explanatory note for the definition of “physically inaccessible” still references sheet rock. See 47 C.F.R. § 76.5(mm)(4)n.; *supra* note 62 and accompanying text.

65. Telecomms. Servs. Inside Wiring Order, *supra* note 47, at ¶ 56.

66. *Id.* ¶ 36.

67. *Id.* ¶ 56.

68. Telecomms. Servs. Inside Wiring, *Report & Order & Second Further Notice of Proposed Rulemaking*, 13 FCC Rcd. 3659 (1997). In 47 C.F.R. § 76.800(d), “home run wiring” is defined as “[t]he wiring from the demarcation point to the point at which the MVPD’s wiring becomes devoted to an individual subscriber or individual loop.”

69. Cable Television Consumer Protection and Competition Order, *supra* note 49, at ¶ 14.

electrical codes, maintain the aesthetics of the building, and balance the concerns of the residents. Individual subscribers will not be disadvantaged by having the MDU owner own or control the home run wiring. Considerations of fairness and efficiency persuade us to leave this aspect of our rules intact, rather than adopting the petitioner's proposals.⁷⁰

Moreover, the FCC observed that in most cases building owners would be influenced by market forces to recognize their tenants' interests in selecting providers.⁷¹ So market incentives would, for the most part, provide incentives to building owners to align their interest with their tenants' interests.⁷² Yet, despite the FCC's efforts to provide building owners with more control over inside wiring for both cable and telephone installations in recent years, building owners still appear to have less discretion over inside cable wires than inside telephone wiring. Cable companies are only required to comply with FCC regulations on the disposition of inside wiring if they no longer have an enforceable right to be in the building. The same constraints do not appear to apply to telecommunications companies.

D. New Entrants: Implications for Inside Wiring Regulations

What are the implications of these two strands of regulatory decisions on inside wiring (telephony and cable) for new entrants seeking to install fiber in multiple-unit buildings? First, the telecommunications regulations affect building owners and consumers in a broader array of buildings: "apartment buildings (rental, condominium, or co-op), office buildings, office parks, shopping centers, and manufactured housing communities."⁷³ These proceedings focused largely on competition between ILECs and CLECs.⁷⁴ In an effort to encourage investments in broadband services, the FCC in 2004, relieved LECs from certain unbundling requirements if they deploy fiber-to-the-home loops, regardless of the ownership of the inside wiring, to the minimum point of entry in MDUs.⁷⁵ The FCC qualified that the MDUs must be predominantly residential.⁷⁶ The decision in the 2004 proceeding was

70. *Id.* ¶ 14; see also 47 C.F.R. § 76.804(a)(3) (outlining arbitration procedures for disputes as to what price an MDU owner should pay for an MVPD's home-run wiring).

71. Cable Television Consumer Protection and Competition Order, *supra* note 49, at ¶ 15.

72. *Id.*

73. Competitive Networks Order, *supra* note 2, at ¶ 11.

74. Competitive Networks Order, *id.*, refers throughout to "incumbent LECs" and "competitive LECs" in the context of exclusive contracts and access to wiring.

75. Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, *Order on Reconsideration*, 19 FCC Rcd. 15,856, ¶¶ 10-11 (2004).

76. *Id.* ¶¶ 1-2. In ¶ 6, the FCC also included planned development units as an example

actually intended as a reconsideration and clarification of the FCC's "Triennial Review Order," which imposed limited requirements on ILECs to unbundle broadband loops.⁷⁷

In contrast to telephony consumers, cable television subscribers historically have been residential and not commercial, so the inside wiring proceedings have applied to MDUs that, by definition, include apartment buildings, condominiums, cooperatives, and other centrally managed real estate developments.⁷⁸ In prior years, these two strands of regulations—telephony and cable—were distinct because the services provided historically were easily classified as voice provided by telephone companies, data provided by cable or telephone companies, or video provided by cable and satellite companies. Each type of service presented a unique set of safety, quality, and access issues.

Yet, as the technology evolves, it may sometimes be unclear which set of inside wiring requirements should be invoked. One such example is IPTV, which is increasingly a service provided in "triple play" or "quadruple play" plans. If a company provides IPTV, is that service considered a "cable service" or not?⁷⁹ A "cable service" is defined as "(A) the one-way transmission to subscribers of (i) video programming, or (ii) other programming service, and (B) subscriber interaction, if any, which is required for the selection or use of such video programming or other programming service."⁸⁰ Other questions include the following: under what conditions does an RBOC providing video service over fiber become a MVPD, which automatically invokes cable inside-wiring rules? Should IPTV be subject to the same regulations as traditional cable television? Will consumers be adequately protected if IPTV is defined by the FCC as an "information service?" Would IPTV even satisfy that definition?

The 1996 Act defined an "information service" as:

[T]he offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system

of an MDU, although they are not included as an example in the definition in 47 C.F.R. § 76.800(a). *Id.* ¶ 6.

77. *Id.* ¶ 1.

78. Exclusive Service Contracts Order, *supra* note 3, at ¶ 7.

79. Kandutsch, *supra* note 35, at 55. Kandutsch also raised the question about the implications of classifying IPTV as an "information services" for competition in MDUs and, by extension, for the FCC's inside wiring rules. *Id.* We think this is a good example of how technology outpaces FCC classifications.

80. 47 U.S.C. § 522(6).

or the management of a telecommunications service.⁸¹

The FCC, subsequently, has determined that the following services should be included under the definition of “information service”: cable modem Internet access service, wireline broadband Internet access service, Broadband over Powerline (“BPL”)-enabled Internet access service, and wireless broadband Internet access service.⁸² As we have seen, terms have precise meanings in FCC proceedings. At the time of writing, we note that the FCC has not determined a classification for IPTV.⁸³ If IPTV is defined as an “information service,” it is not subject to common carrier regulation. Therefore, consumers could expect less regulatory protection.⁸⁴ However, companies may be induced to provide more bundled services using fiber in MDU premises if a growing number of services are subject to little or no regulation.

Evolving technology will continue to raise questions about the applicability of various federal regulations for new types of services. If the past is any indicator for future actions, we can expect the FCC to consider new services on a case-by-case basis. However, in the Franchising Reform Order, the FCC did provide us with some insight into its philosophy about mixed-use networks. The FCC provided that if an LEC deploys fiber optic cable for both cable and non-cable services, the LEC is not required to obtain a cable franchise based exclusively on

81. *Id.* § 153(20).

82. Wireless broadband Internet access service was the most recent service to be included as an “information service.” See Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks, *Declaratory Ruling*, 22 FCC Rcd. 5901, ¶¶ 1-2 (2007) [hereinafter Appropriate Regulatory Treatment for Broadband Access]. Declaratory rulings for the other Internet access services are referenced in nn. 4-6 of that document. *Id.* ¶ 2.

83. The FCC also declined to address the regulatory classification of IP-based television in its Franchising Reform Order, *supra* note 16, at ¶ 124.

84. The FCC’s classification of “information services” does not remove its jurisdiction over those services but reduces regulatory requirements that were designed to protect consumers in a non-competitive market. There are two underlying concepts for this designation. One underlying concept is that the market is sufficiently competitive to make a greater level of regulatory oversight unnecessary and that such oversight would impede rather foster greater competition. The other underlying concept is that the services and markets are evolving rapidly and that regulation would delay development and discourage entry. The FCC appeared to have the latter concept in mind when it classified broadband as an information service. The FCC described its regulatory stance in Appropriate Regulatory Treatment for Broadband Access, *supra* note 82, at ¶ 4, as follows:

In proceedings involving cable, wireline, and BPL, the Commission has examined the regulatory classification applicable to certain broadband services and determined to adopt a *pro-competitive, deregulatory regime* for these services. In particular, the Commission has classified cable, wireline, and BPL broadband Internet access services as “information services,” thus reducing regulatory requirements and uncertainties that could have slowed development of these broadband services.

(emphasis added).

that deployment.⁸⁵ The FCC also found that a local franchise agreement may not be used to regulate the LEC's entire network or any services beyond cable services.⁸⁶ The FCC also reasserted that facilities used solely to provide "interactive on demand services" are excluded from the definition of "cable system."⁸⁷ Of course, that leaves the question we previously raised about IP-based video services that have other features.

E. Exclusive Contracts and Other Contractual Forms

Contractual restrictions are another frequently discussed barrier to competitive access. Customer choice could be limited if exclusive or perpetual contracts prevent competitors from accessing the incumbent's inside wiring to provide service to tenants in multiunit buildings or in planned communities. On the other hand, competition might be reduced if exclusive access contracts were banned. A ban might reduce the number of small providers that depend on exclusive access contracts to generate an adequate, dependable revenue stream for their investments and possibly differentiate themselves from incumbents.⁸⁸ In 1999, the FCC initiated its inquiry into exclusive contracts for telephony services in MTEs.⁸⁹ In that proceeding, the FCC recounted the arguments for and against exclusive contracts. These contracts prevented competitive entry during the term of the contract; meanwhile, they were reported to provide new entrants with dependable revenue streams to recover investments.⁹⁰ Proponents of exclusive contracts contended that without the contracts, competition would not evolve.⁹¹ In response, the FCC requested comments on its authority to forbid exclusive contracts with building owners or managers, the scope and implementation of any rule banning exclusive contracts, the application of and conditions for such a ban, and the legal and policy issues associated with abrogation of existing contracts or with allowing them to continue.⁹² In its inquiry, the FCC was clearly trying to discern whether the potential benefits, in the form of greater discounts to end users, might offset the anti-competitiveness of such contracts. The FCC stated:

85. Franchising Reform Order, *supra* note 16, at ¶¶ 121-22.

86. *Id.*

87. *Id.* ¶ 123.

88. Carl E. Kandutsch, *Are Exclusive MDU Access Agreements on Thin Regulatory Ice?*, BROADBAND PROPS., Nov. 2006, at 86, available at http://www.broadbandproperties.com/2006issues/nov06issues/kandutsch_nov.pdf (focusing on the competitive stature of private cable operators in particular).

89. Promotion of Competitive Networks, *supra* note 17.

90. *Id.* ¶ 61.

91. *Id.*

92. *Id.* ¶ 64; Competitive Networks Order, *supra* note 2, at ¶ 25.

We seek comment on the extent to which, and under which circumstances, the ability to enter into exclusive contracts materially advances the ability of competitive carriers to serve customers in multiple tenant environments. We also seek comment on whether end users may benefit from a property owner's ability to enter into an exclusive contract, for example by negotiating a discount with the carrier.⁹³

In the Competitive Networks Order, the FCC concluded that exclusive contracts should be banned in commercial settings, but declined to prohibit them in residential settings due to insufficient information.⁹⁴ The FCC noted its reasoning for not banning exclusive contracts for residential buildings: some parties contended that absent exclusive contracts, residential buildings did not generate sufficient revenue to draw competitive entrants.⁹⁵ Other parties to the proceeding countered that exclusive contracts should be banned across the board.⁹⁶ However, the FCC made it clear that exclusive contracts (existing or new; commercial and residential) could indeed constitute "barrier[s] preventing customers from obtaining the benefits of the more competitive access environment envisioned in the 1996 Act."⁹⁷

A comparison of the FCC's decision regarding cable home wiring is instructive. In that decision, the FCC viewed building owners' interests to be aligned, for the most part, with those of tenants. In its position on exclusive contracts for telecommunications services in the Competitive Networks Order, the FCC clearly viewed the interests of building owners as not always being aligned to those of tenants:

An exclusive contract may benefit a building owner when it possesses some market power over tenants, such as where tenants are already committed to long-term leases and moving costs are prohibitive. Where that is the case, building owners may have the ability and incentive to engage in behavior that does not maximize tenant welfare.⁹⁸

If the building owners' and tenants' interests were aligned to a significant degree, we might expect the FCC to see no need to impose a ban on exclusive contracts in commercial settings, nor to invite further

93. Promotion of Competitive Networks, *supra* note 17, at ¶ 61.

94. Competitive Networks Order, *supra* note 2, at ¶ 27. For later procedural developments, see Exclusive Service Contracts for Provision of Video Services, *supra* note 45 and accompanying text.

95. Competitive Networks Order, *supra* note 2, at ¶ 33.

96. *Id.*

97. *Id.* ¶ 36.

98. *Id.* ¶ 31.

consideration of a ban in residential settings. Yet, the FCC reasoned that the ban on exclusive contracts in commercial settings was justified “as primarily a temporary [measure] designed to address a transitional problem.”⁹⁹ With growing competition in local telephony markets, competition would make contracts that harm consumers unsustainable, and the market power of building owners would likely erode.¹⁰⁰ The FCC followed up with a *Further Notice of Proposed Rulemaking* in the Competitive Networks Order.¹⁰¹ The FCC issued two subsequent public notices on access issues related to multi-tenant environments followed by a decision in March 2008 to ban exclusive contracts for telecommunications services in residential settings.¹⁰²

The FCC’s approach toward exclusive or perpetual contracts for video from MVPDs has differed from that toward exclusive telephony contracts involving LECs and CLECs. The FCC also distinguished between “exclusive” and “perpetual” contracts in contracts applying to MVPDs. Exclusive cable contracts “specify that, for a designated term, only a particular MVPD and no other provider may provide video programming and related services to residents of an MDU.”¹⁰³ Perpetual contracts permit incumbent providers to maintain wiring and continue to provide service within the multiple-unit premises for indefinite periods of time or for the duration of a franchise.¹⁰⁴

Exclusive and perpetual contracts were the legacies of a non-competitive era.¹⁰⁵ However, in the Cable Television Consumer Protection and Competition Order, the FCC acknowledged that market conditions for providing video services had become more competitive.¹⁰⁶ According to the Competitive Networks Order, market conditions had

99. *Id.* ¶ 34.

100. *Id.*

101. Competitive Networks Order, *supra* note 2, at ¶¶ 160-164. The proposed rule was published in Promotion of Competitive Networks in Local Telecomms. Mkts., 66 Fed. Reg. 1622 (Jan. 9, 2001) (to be codified at 47 C.F.R. pts. 1 and 64).

102. Wireless Telecomms. Bureau Requests Comment on Current State of the Mkt. for Local and Advanced Telecomms. Servs. in Multitenant Environments, *Public Notice*, 16 FCC Rcd. 20,971 (2001). Specifically, the FCC requested updated data on the current state of the market for advanced telecommunications services in multitenant environments and comments were due on February 1, 2002. *Id.* In the March 21, 2008 order, the FCC noted: “Developments in the markets for telecommunications, video, and broadband services over the last several years support our conclusion to extend the ban on exclusivity to residential MTEs.” Promotion of Competitive Networks in Local Telecomms. Mkts., *Report & Order*, FCC 08-87, WT Dkt. No. 99-217, 2008 WL 762860, ¶ 9 (Mar. 21, 2008) [hereinafter March 2008 Order].

103. Cable Television Consumer Protection and Competition Order, *supra* note 49, at ¶ 59.

104. *Id.*

105. *Id.* ¶ 60.

106. *Id.*

also become more competitive for facilities-based telephony services in multi-unit premises.¹⁰⁷ In recounting the comments received in the Competitive Networks (telecommunications) proceeding on this issue, the FCC observed that the different designs of inside wire distribution systems for video and telephony created different market conditions and thus, necessitated a separate examination of contracts.¹⁰⁸ Moreover, these conditions might yield different results for residential telecommunications service than for residential video service.¹⁰⁹

In the Cable Television Consumer Protection and Competition Order, the FCC summarized arguments from parties supporting and opposing such contracts, but decided not to ban either exclusive or perpetual contracts at the time.¹¹⁰ Justifying its decision for not banning exclusive contracts, the FCC observed a 3.5% drop from 2000 to 2002 in the percentage of subscribers receiving video programming from franchised cable companies.¹¹¹ Justifying its decision for not banning perpetual contracts, the FCC observed there was no record of evidence indicating their prevalence.¹¹² Despite its decision not to take any action in 2003 (the year that the Cable Television Consumer Protection and Competition Order was issued), the FCC noted that perpetual contracts in MDUs may deter competition.¹¹³

More than four years later, the FCC revisited the issue of exclusive contracts for video services in MDUs in its *Notice of Proposed Rulemaking*.¹¹⁴ In that proceeding, the FCC requested comment on the several questions related to the “prevalence, use, and effect of exclusive contracts in today’s marketplace.”¹¹⁵ In response to comments from that proceeding, the FCC issued an order prohibiting contracts with exclusivity clauses in new and existing contracts—to be further discussed below.¹¹⁶

Against the backdrop of deliberations on exclusive and perpetual contracts is the issue of constitutional takings—either physical or regulatory—under the Fifth Amendment.¹¹⁷ We do not propose to deal

107. Competitive Networks Order, *supra* note 2, at ¶ 14.

108. *Id.* ¶ 62.

109. *Id.*

110. *Id.* ¶¶ 71-72.

111. *Id.* ¶ 69.

112. *Id.* ¶ 72.

113. Competitive Networks Order, *supra* note 2, at ¶ 75.

114. Exclusive Service Contracts for Provision of Video Services, *supra* note 45.

115. *Id.* ¶ 6.

116. Exclusive Service Contracts Order, *supra* note 3, at ¶ 1.

117. A law review article analyzed the potential constitutional implications of proposed rules for banning exclusive telecommunications contracts. These rules did not apply to existing contracts. The case law that was reviewed related to property takings under *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419 (1982) and *Yee v. City of Escondido*,

with the implications of case law on takings here, but have a few brief observations about the FCC's general authority to regulate exclusive contracts and its authority to regulate existing contracts. As to its general regulatory authority, the FCC concluded that it could prohibit telecommunications carriers from entering into exclusive contracts with commercial building owners in connection with interstate service.¹¹⁸ The FCC was somewhat less conclusive when it came to its authority to regulate exclusive contracts involving video service in MDUs and other real estate, and invited comments to address its tentative conclusion that it has such authority.¹¹⁹ The FCC ultimately concluded in the Exclusive Service Contracts Order that it is authorized to prohibit exclusivity clauses involving video services in MDUs and other real estate under Section 628(b) and (j) of the Communications Act of 1934 and, in the absence of explicit authority, under Titles I and III of the 1934 Act.¹²⁰ Moreover, such a prohibition would represent neither a physical nor a regulatory taking under the Fifth Amendment of the U.S. Constitution.¹²¹ In the Exclusive Service Contracts Order, the Commission noted that the prohibition applied only to cable operators subject to the provisions of Section 628 and sought further comment on the applications of the prohibition to other types of video providers.¹²²

503 U.S. 519 (1992), and regulatory takings under *Penn Central Transportation Co. v. City of New York*, 438 U.S. 104 (1978), *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987), and *Dolan v. City of Tigard*, 512 U.S. 374 (1994). The author found that the proposed rules that were under consideration at the time did not appear to constitute a taking. See Kathryn Gordon, Note, *Enhancing Competition: Are Proposed Federal Commission Rules That Treat Local Exchange Carrier Access to Multiple Tenant Environments a Taking?*, 55 FED. COMM. L.J. 99 (2002). Even though there appeared to be no constitutional barriers, there appeared to be public policy problems with subsidizing CLECs if, indeed, competition was really the objective. See *id.*

118. Competitive Networks Order, *supra* note 2, at ¶ 35. In note 85 of the Competitive Networks Order, *id.*, the FCC cites its authority under 47 U.S.C. § 201(b) and the decision of the court in *Cable & Wireless P.L.C. v. F.C.C.*, 166 F.3d 1224, 1230-32 (D.C. Cir. 1999).

119. The FCC based its tentative conclusion on language in § 628(b) of the Communications Act of 1934 and § 706 of the 1996 Telecommunications Act. The FCC also invited comment on whether that authority could be found in several other sections, including § 623 of the Communications Act of 1934. See Exclusive Service Contracts for Provision of Video Services, *supra* note 45, at ¶ 9.

120. Exclusive Service Contracts Order, *supra* note 3, at ¶¶ 40, 52, 60. The FCC claimed in ¶ 60 that it has authority to enforce all aspects of the Cable Act pursuant to Sections 4(i), 201 (b), and 303(r). The FCC also claimed in ¶ 52 that it also has ancillary authority to do so under Titles I and III of the 1934 Act.

121. *Id.* ¶¶ 55-56.

122. *Id.* Specifically, the prohibition applies to cable operators, common carriers or their affiliates that provide video programming directly to subscribers, and operators of open video systems. See *id.* ¶ 60. The prohibition does not apply to Digital Broadcast Satellite ("DBS") providers and other providers not subject to Section 628 of the Communications Act of 1934. See *id.* at ¶ 61. According to the Commission, "there is no evidence in the record that providers of DBS service use exclusivity clauses." See *id.* ¶ 8.

The FCC's authority in regulating existing contracts proved to be initially more problematic. Therefore, the FCC decided to proceed cautiously with respect to regulating existing exclusive contracts for telecommunications services—concerned with the potential effects of contractual modifications on investments of building owners and providers subject to those contracts.¹²³ The question of the FCC's authority over existing telecommunications contracts and financial impacts likewise applies to contracts involving video programming. Addressing the question of authority in conjunction with MVPDs, the Commission asked for comments on whether it has authority to regulate exclusive contracts entered into after regulations are promulgated and whether it could declare such contracts void and voidable.¹²⁴ In the same proceeding, the Commission asked for comments about its authority to nullify or otherwise regulate perpetual contracts.¹²⁵ Based on evidence in the record, the Commission decided to prohibit the enforcement of existing, as well as new, exclusivity clauses by cable companies that would potentially impede competitive access.¹²⁶ According to the Commission, “[t]he rule merely prohibits clauses that serve as a bar to other MVPDs that seek to provide services to a MDU.”¹²⁷ However, the prohibition does not apply to other provisions in contracts containing exclusivity clauses.¹²⁸ The Commission also asked for comments on whether exclusive marketing and bulk billing arrangements should be prohibited, but did not prohibit those arrangements in the order.¹²⁹ Finally, the Commission concluded that “the legitimate expectations of investors” will not be adversely affected by the prohibition of exclusive access in existing cable company contracts.¹³⁰

No discussion of exclusive contracts is complete without some mention of state mandatory access laws. These laws generally provide franchised cable companies with the legal authority to install and

123. Competitive Networks Order, *supra* note 2, at ¶ 36. In the Exclusive Service Contracts Order, *supra* note 3, the Commission noted that it intended to address the enforceability of exclusivity clauses for telecommunications services within two months due to “competitive parity implications.” Competitive Networks Order, *supra* note 2, at ¶ 46 n.109. In its March 2008 order to ban exclusive contracts in residential settings, the Commission, citing its observations in other orders, noted: “the dramatic growth of service combinations and the ‘triple play’ reduces the concern that a sole telecommunications service revenue stream is insufficient to generate additional competitive entry, even in the residential context.” March 2008 Order, *supra* note 102, at ¶ 9.

124. Exclusive Service Contracts for Provision of Video Services, *supra* note 45, at ¶ 10.

125. *Id.* ¶ 13.

126. Exclusive Service Contracts Order, *supra* note 3, at ¶ 37.

127. *Id.* ¶ 57.

128. *Id.* ¶¶ 37, 57.

129. *Id.* ¶¶ 57, 63. In the *Further Notice of Proposed Rulemaking*, the Commission noted that it was aware of the possible anti-competitiveness of these arrangements.

130. *Id.* ¶¶ 36, 58.

maintain inside wiring in multi-unit premises. For example, Wisconsin's law prohibits an owner or a manager of an MDU, mobile home park, or condominium from preventing, or interfering with, a cable operator providing cable service to residents.¹³¹ The rights of the companies protected by these laws may even supersede building owners' desires or objections.¹³² Moreover, they may serve to compromise the FCC's home run wiring rules discussed above.¹³³ Currently, Texas, Rhode Island, and Indiana have mandatory access statutes affecting telephone companies in multi-unit premises and office buildings.¹³⁴ Eighteen states and the District of Columbia have passed mandatory access statutes affecting franchised cable companies.¹³⁵ The FCC noted the anti-competitive nature of mandatory access statutes because most of them "give the franchised cable operator a legal right to wire and remain in an MDU,"¹³⁶ but declined in 2003 to pre-empt states and municipalities with those laws.¹³⁷ The Commission's recent Franchising Reform Order also does not appear to preempt state mandatory access statutes; that order only applies to local franchising laws, regulations, and agreements to the extent that they conflict with the order.¹³⁸ The Commission's Exclusive Service Contracts Order appears to override contracts entered into in accordance with state mandatory access statutes to the extent that they conflict with the exclusivity clause prohibition in the order. However, the order does not override MDU owners' authority to deny particular providers access to the premises in keeping with relevant state laws, nor does it require them to provide access to all video providers.¹³⁹ The Commission's prohibition is based on its regulatory authority of the contracts of jurisdictional cable operators regardless of any "tangential effect of such regulation on MDU owners."¹⁴⁰

131. WIS. STAT. § 66.0421(2) (2007).

132. Cable Television Consumer Protection and Competition Order, *supra* note 49, at ¶ 35.

133. *Id.*

134. IND. CODE § 8-1-32.6-9 (2007); TEX. UTIL. CODE ANN. §§ 54.259 - 261 (Vernon 2007); R.I. GEN. LAWS § 39-19-10 (2007).

135. See LEDERER, *supra* note 64, at § 11; see also Independent Multi-Family Communications Council, Mandatory Access States, <http://www.imcc-online.org/ISSUES/RESOURCE%20Info/Mandatory%20Access/states.htm> (last visited Apr. 10, 2008) (listing of the states with these statutes, including statutory citations and enactment dates).

136. Cable Television Consumer Protection and Competition Order, *supra* note 49, at ¶ 38.

137. *Id.* ¶ 39.

138. Franchising Reform Order, *supra* note 16, at ¶ 129.

139. Exclusive Service Contracts Order, *supra* note 3, at ¶¶ 37, 60.

140. *Id.* ¶ 60.

II. LOOKING TOWARD THE FUTURE

We might ask ourselves if there is a better way to ensure competitive access to multi-unit premises. Extensive case law on property and regulatory takings informs much of what the U.S. government can do in terms of ensuring the proper conditions for competitive access. However, other countries with different legal legacies might find they have more flexibility and fewer legal constraints in this respect. For example, Hong Kong is densely populated, with almost seven million residents, and has one of the highest broadband penetration rates in the world (73% of households use broadband service).¹⁴¹ The Office of the Telecommunications Authority (“OFTA”) regulates the telecommunications industry in Hong Kong.¹⁴² OFTA authorized by ordinance telecommunications network operators to install their networks in common places of the buildings to serve tenants.¹⁴³ Common places generally include lobbies, staircases, equipment rooms, risers, roofs, and open spaces.¹⁴⁴ Building owners are not permitted to refuse access to interested operators.¹⁴⁵ Moreover, building owners are prohibited from entering into any reasonable contract that prevents tenants from accessing their choice of public telecommunications services.¹⁴⁶ So, consumer choice is central to access policy here, and the government’s strategy is driven by that goal. In the United States, by contrast, consumer choice considerations must always be considered in the context of constitutional Fifth Amendment rights.

The FCC has deliberately taken very incremental steps to inject competition into the delivery of voice, data, and video services in multi-unit premises. Its approach has been to focus on issues significantly related to competitive access like inside wiring and contractual provisions. The FCC’s efforts to promote competitive access have been impeded to some extent by its historic deference to case law affecting the rights of property owners, and a political awareness of potential opposition from states and local governments whose authority might be preempted.¹⁴⁷ Because FCC proceedings are based on classifications and

141. INFO. SERVS. DEP’T, HONG KONG SPECIAL ADMIN. REGION GOV’T, HONG KONG: THE FACTS — TELECOMMUNICATIONS (2008), *available at* <http://www.gov.hk/en/about/abouthk/factsheets/docs/telecommunications.pdf>.

142. *Id.*

143. Office of the Telecommunications Authority, Hong Kong Special Admin. Region Gov’t, Frequently Asked Questions on In-Building Access Issues, <http://www.ofa.gov.hk/en/industry/inbuilding/faq.html> (last visited Apr. 10, 2008).

144. *Id.*

145. *Id.*

146. *Id.*

147. Although the FCC never explicitly admitted to a concern over potential state and local opposition to preemption, this concern appears to be underlying the deference paid to

reclassifications to such a large extent, it is perhaps not surprising that regulatory response and intervention fall behind the changes in technology. Examples are plentiful in the inside wiring deliberations, such as the FCC's change in the definition of the network interconnection device, discussed above, to reflect functionality. This nation's heavy reliance on legalist "fixes" always appears to generate more regulatory proceedings, which are both costly and time consuming, with the inevitable outcome that regulatory decisions give rise to further deliberations either in courts on appeal or in subsequent orders on the same set of issues. This is not an indictment on the FCC or on any other regulator for that matter, but just our observation that all the ramifications of technological applications simply cannot be envisioned at a fixed point in time. The FCC's regulatory decisions are always destined to fall behind technological changes, an argument cogently articulated in Ron Whitworth's 2005 law review article on IPTV.¹⁴⁸ By giving consumers more choice, IP video technology may render video content regulation obsolete and undermine the tier levels of programming offered by cable companies.¹⁴⁹

Other countries arguably have been more effective than the United States in promoting broadband competition with far less regulatory intervention.¹⁵⁰ Their approaches might not be easily adaptable to that

states and local governments "to decide whether the need for mandatory access laws outweighs the anti-competitive effects of such laws." Cable Television Consumer Protection and Competition Order, *supra* note 49, at ¶ 39.

148. Ron Whitworth, Comment, *IP Video: Putting Control in the Hands of Consumers*, 14 COMM'LAW CONSPECTUS 207, 210 (2005).

149. *Id.*

150. According to recent data released by the OECD, the U.S.'s ranking in broadband subscribers per 100 inhabitants is now fifteenth of the 30 nations ranked. The U.S. was ranked fourth in 2001 (Korea, discussed above, now ranks fourth). In December 2006, over 14 million U.S. households had broadband connections with download speeds of 256 kbps. Organisation for Economic Co-operation and Development, OECD Broadband Statistics to December 2006, http://www.oecd.org/document/7/0,3343,en_2649_34223_38446855_1_1_1_1,00.html (last visited Apr. 10, 2008). We cite the OECD's rankings for this paper because they are so widely used, however the rankings are affected by the methodology's reliance on raw per capita subscription data. Alternative approaches include that of the Phoenix Center for Advanced Legal & Economic Public Policy Studies, which uses economic and demographic data and that of the Information Technology and Innovation Foundation, which uses average download speed and price per bit of the fastest generally available technology in addition to household penetration. See George S. Ford, Thomas M. Koutsky, & Lawrence J. Spiwak, *The Broadband Performance Index: A Policy-Relevant Method of Comparing Broadband Adoption Among Countries*, PHOENIX CENTER POL'Y PAPER SERIES (Phoenix Ctr. for Advanced Legal & Econ. Pub. Pol'y Studies, Wash., D.C.), July 2007, available at <http://www.phoenix-center.org/pcpp/PCPP29Final.pdf>; DANIEL K. CORREA, INFO. TECH. & INNOVATION FOUND., *ASSESSING BROADBAND IN AMERICA: OECD AND ITIF BROADBAND RANKINGS* (2007), available at <http://www.itif.org/files/BroadbandRankings.pdf>.

of our nation due to its unique legal system and large population. Nonetheless, they still may provide us with insights into other ways of spurring competition. We already mentioned Hong Kong's approach toward competitive access while acknowledging that the U.S. case law on property rights could make its application problematic at best. South Korea's approach of "more hands-off regulation" might be a useful alternative going forward.

Like Hong Kong, South Korea ranks very high in the concentration of multiple-dwelling units. In South Korea, nearly 48% of the population lives in apartment complexes.¹⁵¹ And South Korea has the highest broadband penetration by households in the world—over ninety connections per one hundred households.¹⁵² Why is that the case? The Korean government was a "player" in that it had a comprehensive three-stage plan for Korean information infrastructure that spanned the years 1995-2005.¹⁵³ The objectives of the plan were to construct a high-capacity backbone, provide incentives for research, and reduce the burden of providers' investments in networks.¹⁵⁴ The total cost of the initiative upon completion was \$2.829 billion.¹⁵⁵ South Korea's regulatory approach toward broadband competition included removing barriers to entry and promoting facilities-based competition among broadband providers.¹⁵⁶ New entrants were first movers in the form of fiber Asymmetric Digital Subscriber Line ("ADSL").¹⁵⁷ In the early stages, the government made facilities-based competition a priority. The government in South Korea also established a certification program several years ago that rates buildings based on the quality/capacity of their data lines. The idea is that developers with fatter pipes can charge

151. SEONG JU KANG, MINISTRY OF INFO. & COMM'C'N, BROADBAND SERVICE IN KOREA 3 (2006), available at <http://www.baller.com/pdfs/korea.pdf>.

152. Broadband Wales Observatory, Broadband Benchmark Update Q3: July - September 2006, Fig. 13, <http://www.broadbandwalesobservatory.org.uk/broadband-3510> (last visited Apr. 10, 2008).

153. NAT'L INFO. SOC'Y AGENCY, IMPLEMENTING NATIONAL ICT ENABLEMENT STRATEGY: THE CASE OF KOREA (2007), available at http://www.andicom.org.co/memorias/kim_chang_kon_miercoles.pdf; see also KANG, *supra* note 151, at 11.

154. KANG, *supra* note 151, at 11.

155. *Id.*

156. Broadband Wales Observatory, Korea Broadband Market Report 2005, <http://www.broadbandwalesobservatory.org.uk/broadband-3335> (last visited Apr. 10, 2008).

157. KANG, *supra* note 151, at 15; see also T.Y. Lau et al., *An Examination of Factors Contributing to South Korea's Global Leadership in Broadband Adoption*, 22 TELEMATICS & INFORMATICS 349-59 (2005), available at <http://www.sciencedirect.com/science/article/B6V1H-4FN5JRB-6/2/e1acd69e8923f57ce6231cd0ee5b3c34>. These authors also consider South Korea to be a good example of a government's strategy to enhance broadband diffusion.

more rent.¹⁵⁸

III. CONCLUSION

Consumer choice is an objective of the FCC. To move toward that goal, the FCC has initiated numerous proceedings over the past ten years to reduce barriers to competitive access in deploying telecommunications and cable services. Many of these proceedings specifically have focused on barriers to competitive access in multi-unit premises where the building owners' and developers' interests may not be aligned to those of the end users. In addition to the issues of property rights, competitors face challenges in installing telecommunications and cable networks because of the magnitude of the investment involved and the ability to access existing wiring within these premises. The regulatory legacies of the services provided by telecommunications companies and cable companies have been different, and it is therefore not difficult to appreciate that regulatory treatment might lag behind changes in services. For example, in recent years, services have evolved, like IPTV, which resemble more traditional services, but also contain features that straddle different applications. The FCC's method for dealing with such services has been largely definitional. If they are classified as an "information service" under the Communications Act of 1934, as amended by the 1996 Act, they would be subject to little or no regulation.¹⁵⁹

Admittedly, the process of defining services can be difficult and challenging given the sometimes overlapping attributes of evolving services. As the former FCC Chairman, Michael Powell, observed:

One might ask what is in a name? In the law, a great deal. When Congress crafts legislation it defines the rights, responsibilities and obligations by reference to particular definitions or classifications. In the multifaceted world of communications it has defined the rights and obligations differently, depending on the nature of the service offered without regard to the means in which it is offered.

Thus, the Commission has an inescapable duty to determine the will of Congress by faithfully applying these definitions to new services. This is not an easy task, given all communications services

158. J.C. Herz, *The Bandwidth Capital of the World*, WIRED, Aug. 2002, at 2, available at http://www.wired.com/wired/archive/10.08/korea_pr.html.

159. See 47 U.S.C. § 153(20) (defining "information service").

have some similar and overlapping features.¹⁶⁰

At one time, the FCC's definitional process may have served consumers and providers well. But with the explosive changes in technology that consumers in this nation have been experiencing in recent years, it may be time for a regulatory paradigm shift. At the time of writing, it has been almost 12 years since the passage of the 1996 Act, and companies are still affected by different regulatory rules with respect to accessing multi-unit premises.¹⁶¹ Therefore, we might ask: how can the FCC move more quickly toward its vision for broadband service as articulated in its most recent strategic plan? That vision calls for all Americans to "have affordable access to robust and reliable broadband products and services. Regulatory policies must promote technological neutrality, competition, investment, and innovation to ensure that broadband service providers have sufficient incentive to develop and offer such products and services."¹⁶² The third objective in support of that vision requires the Commission to ensure harmonized regulatory treatment of competing broadband services.¹⁶³

Recognizing that services will continue to evolve and converge and defy easy definition, we propose an admittedly bold approach: a uniform set of rules for competitive access, regardless of technology platform, that would apply to all multi-unit premises and planned developments and would expedite service deployment. The convergence access plan should be based on the principles of non-discrimination on the basis of technology or service, using competition to empower customers in their choices of communications services and service providers, encouraging investment in advanced technologies for inside wiring, and providing incentives for intermodal competition between traditional telephony, cable, and wireless providers.¹⁶⁴ However, we recognize that there are

160. Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, *Declaratory Ruling & Notice of Proposed Rulemaking*, 17 FCC Rcd. 4798, 4866 (2002) (separate statement of Michael Powell, Chairman, FCC), available at <http://www.fcc.gov/Speeches/Powell/Statements/2002/stmkp204.pdf>.

161. For example, the Exclusive Service Contracts Order, *supra* note 3, requested comments on whether exclusivity clauses should apply to DBS providers and other providers not subject to Section 628 of the Communications Act of 1934. See *supra* note 119 and accompanying text.

162. FCC, STRATEGIC PLAN 2006-2011 5 (2005), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-261434A1.pdf.

163. *Id.*

164. We should note that these principles do not provide a definitive answer on the issue of exclusive contracts. If the number of network providers is limited, then exclusive contracts for small network providers could promote the principles we propose. On the other hand, exclusive contracts could limit customer choice if they allow incumbents to create barriers to entry, or promote inefficient entry if they encourage the formation of entrants in an otherwise competitive market whose only means of survival is to secure exclusive arrangements with

many outstanding questions concerning the feasibility of such an undertaking. To that end, we suggest that the FCC initiate a Notice of Inquiry requesting comment on the implications of such an approach. Questions to be posed might include, but not be limited to: the implications of dispensing with definitional classifications for emerging communications services; the economic and legal barriers to phasing in a uniform set of rules for competitive access; and the manner in which phased-in rules could be best accomplished to account for differences throughout the country in broadband penetration. If the FCC determines that the benefits outweigh the costs in terms of expediting competitive access and that its vision for broadband deployment would be realized more rapidly through such an approach, the FCC could proceed with a Notice of Proposed Rulemaking.

We believe that if some type of reform is not forthcoming and the incremental approach to regulation continues as it has in the past, choice in provider platforms might be more of a pipe dream than a reality for many of this nation's consumers, particularly for those who live and work in multi-unit premises and planned developments. And for many companies, providing that pipe might also remain a dream.

PATENTS AND ANTITRUST: APPLICATION TO ADJACENT MARKETS

NICHOLAS ECONOMIDES* & WILLIAM N. HEBERT**

INTRODUCTION

Patents are a key aspect of intellectual property protection created to ensure sufficient incentives for innovative activity. A patent gives its owner the right to exclude others from practicing the claimed invention for a defined term of years. This right is conferred as a reward for inventive activity and the inventor's disclosure of how to make and use the invention.¹ In contrast, antitrust law attempts to protect consumers by prohibiting business conduct involving the abuse of market and monopoly power such as exclusionary actions and conspiracies to limit competition. Thus, at a first glance, there appears to be a significant conflict in how patent and antitrust laws regard exclusion of competitors.

In this Article, we assume that the goal of United States antitrust laws is to promote productive, allocative, and dynamic efficiency.²

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1. The patent law's enabling disclosure requirement benefits society in two ways. First, the inventor's know-how is shared with society upon publication of the patent application and may be practiced by others immediately upon expiration of the patent. Second, the disclosure results in innovative new products or improvements to the invention; other inventors have incentives to design around the patent, or create patentable improvements upon the disclosed invention. The patent system differs from trade secret law, although both regimes encourage invention. *See* *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 481 (1974). Using trade secret law, a party protects its competitive advantage by legally excluding others from using information it properly maintains as a proprietary secret by making reasonable efforts to establish and maintain its confidentiality. Trade secret protection is indefinite, lasting until another party obtains the information in a proper manner, such as intentional or accidental disclosure by the owner, independent invention, or discovery through reverse engineering. The most famous example is the formula for Coca-Cola, which has been kept secret and provided significant commercial benefits to its owner for over a century. *See, e.g.*, *Coca-Cola Bottling Co. of Shreveport, v. Coca-Cola Co.*, 107 F.R.D. 288, 289 (D. Del. 1985).

2. Economists measure the benefit of alternative market structures in terms of societal

Productive efficiency means costs of creating goods are minimized. Allocative efficiency means that market prices for these goods are close to the incremental production costs. Dynamic efficiency means that the appropriate amount of innovation occurs for both creating new products and reducing costs of existing ones. Competition in a market economy creates, preserves, and enhances all three types of efficiency. Antitrust law safeguards the business environment so that this competition can flourish.

Patent law is an example of how public policy departs from relying on competition as the means of achieving efficiency.³ Patent grants establish legal monopolies with limited time durations. Competition in a market of a patented product is given up in the hope that monopoly profits guaranteed by patent protection in the short run will provide the appropriate incentive to engage in innovative activity. Departure from competition implies a loss of allocative and possibly productive efficiency.⁴ At least in theory, the grant of a patent trades a reduction in

satisfaction or total surplus ("TS"), which is the sum of consumers' surplus ("CS") (defined as the net satisfaction of consumers from the operation of a market) and producers' profits or producers' surplus ("PS"). Economists disagree on whether the aim of antitrust law should be to protect consumers' surplus or to protect total surplus from anti-competitive actions. Maximization of productive, allocative, and dynamic efficiency also maximizes total surplus. For a discussion of what should be the objective of antitrust law, see Louis Kaplow & Carl Shapiro, *Antitrust*, in 2 HANDBOOK OF LAW AND ECONOMICS 1073, 1226 (A. Mitchell Polinsky & Steven Shavell eds., 2007); Dennis W. Carlton & Randal C. Picker, *Antitrust and Regulation* (Univ. of Chicago Law & Econ., Olin Working Paper No. 312, 2006), available at <http://ssrn.com/abstract=937020>; Joseph Farrell & Michael Katz, *The Economics of Welfare Standards in Antitrust*, COMPETITION POLY CENTER (Inst. of Bus. & Econ. Research, Berkeley, Cal.), July 20, 2006, available at <http://repositories.cdlib.org/cgi/viewcontent.cgi?article=1061&context=iber/cpc>; Richard Gilbert, *Holding Innovation to an Antitrust Standard*, COMPETITION POLY CENTER (Inst. of Bus. & Econ. Research, Berkeley, Cal.), Spring 2007, available at http://works.bepress.com/cgi/viewcontent.cgi?article=1016&context=richard_gilbert.

3. Other examples of when public policy departs from using competition to achieve efficiency include government imposition of extensive safety regulations and minimum quality standards. Additionally, in specific industries such as telecommunications, regulatory bodies have imposed pricing regulations (including maximum price regulation of various services), cost-based regulation on pricing of interconnection between competitors, and below cost pricing of basic telephone service (with the aim to maximize subscription to achieve "universal service"). For an analysis of regulation in telecommunications that imposes departures from allocative efficiency, see Nicholas Economides, *Telecommunications Regulation: An Introduction*, in THE LIMITS OF MARKET ORGANIZATION 48, 62 (Richard R. Nelson ed., 2005), available at http://www.stern.nyu.edu/networks/Economides_Telecommunications_Regulation.pdf.

4. With a constant returns to scale technology of production, where unit cost remains constant for any level of production, competition among producers leads the market to maximization of total surplus. A monopolist charging a single price in the same market would restrict output resulting in lower total surplus. Such a monopolist would raise prices above marginal cost, thereby reducing allocative efficiency, and may also reduce productive efficiency by not strictly minimizing costs, since it faces no pressure by competition. We should note that the theorem of total surplus maximization, as a result of competition, also holds as long as

allocative and possibly productive static efficiency for an increase in innovative activity. Under the assumption that innovative activity is underprovided without patents, some increase in innovative activity will increase dynamic efficiency. But without a specific calculation that will depend on the particulars of the market(s) involved, it is impossible to judge if the present patent law will lead to an under-provision, over-provision, or the right intensity of innovative activity. The broad legal patent framework that does not calibrate patent duration and breadth by market is likely to often miss achieving the right intensity of innovative activity, and therefore miss guiding the economy to maximum dynamic efficiency. Specifically, there are substantial issues in the design and implementation of patent law that may prevent the market from achieving the appropriate amount of innovative activity that would precipitate dynamic efficiency.⁵

In this Article, we will discuss issues that arise in the intersection of patents and antitrust. We focus on antitrust issues that arise when a patent holder uses the monopoly power it possesses in the market for the patented product to exclude competitors in adjacent markets, which is sometimes broadly called “monopoly leveraging.” The courts have identified several categories of conduct by patent holders that might give rise to claims of monopoly leveraging. Where the patent holder’s product uses an interface or interconnection with adjacent products, a patent holder can attempt to leverage its monopoly into adjacent markets by manipulating the interface. In these circumstances a patent holder is tempted to obtain revenues from adjacent markets by excluding others from selling products or offering services that require its interface. In these situations, the courts have considered and sometimes condemned monopolists’ efforts to control these markets through design changes and

unit costs increase for sufficiently large levels of production. However, when unit costs are decreasing for *any* level of production, competition does not necessarily result in total surplus maximization. The same is true in the presence of network effects (increasing returns to scale in consumption). *E.g.*, Nicholas Economides & Fredrick Flyer, *Compatibility and Market Structure for Network Goods* (Stern Sch. of Bus., N.Y.U., Discussion Paper No. EC-98-02, 1997), *available at* <http://www.stern.nyu.edu/networks/98-02.pdf> (showing that, with strong network effects, competition may maximize consumers’ surplus but monopoly may maximize total surplus).

5. From a public policy point of view, the question is not just whether a particular invention is given a monopoly of a sufficient duration to guarantee sufficient incentives for this innovation. There is an additional question of whether later innovators also have sufficient incentives to innovate despite the rights conferred to an early innovator. Thus, the extent of monopoly conferred by a patent has to be limited skillfully so as not to interfere with the incentive to innovate of subsequent innovators. *See also* Richard J. Gilbert & Michael L. Katz, *Should Good Patents Come In Small Packages? A Welfare Analysis of Intellectual Property Bundling*, COMPETITION POLY CENTER (Inst. of Bus. & Econ. Research, Berkeley, Cal.), Jan. 27, 2007, *available at* <http://repositories.cdlib.org/cgi/viewcontent.cgi?article=1067&context=iber/cpc>.

product changes which, in effect, extend in time or expand in scope the claims of the original monopoly granted by a patent or other intellectual property.

I. PATENTS

Valid and enforceable patents give the owner a legal right to exclude others from using the claimed invention for a limited time.⁶ Examiners at the United States Patent and Trademark Office (“USPTO”) apply five principal criteria to determine patentability of an invention: (1) is the subject matter statutorily patentable?;⁷ (2) is the claimed invention novel?;⁸ (3) is the claimed invention useful?;⁹ (4) is the claimed invention non-obvious?;¹⁰ and (5) has the inventor described the invention with enough particularity such that those skilled in the art will be able to make, use, and understand the invention that the inventor made?¹¹ If the patent applicant meets the statutory criteria, the examiners have no discretion: they must issue the patent.¹² Issuance of a patent does not necessarily mean that the claimed invention is fundamentally innovative; the patent will issue if the claimed invention is simply sufficiently different from what came before it.¹³

Once issued, the patent is presumed valid.¹⁴ Patent validity is tested in the crucible of litigation. Challengers to patent rights must overcome the presumption of validity. Decisionmakers, such as judges and juries, use this presumption as a procedural tool in resolving disputes. “The decisionmaker is required to begin by accepting the proposition that the patent is valid and then looking to the challenger for proof to the contrary.”¹⁵ The challenger bears the burden through any administrative proceeding or trial to prove that the patent is invalid; the burden never shifts to the patent holder to prove that the patent is valid.¹⁶

6. ROBERT L. HARMON, PATENTS AND THE FEDERAL CIRCUIT 4-5 (8th ed. 2007).

7. 35 U.S.C. § 101 (2006) (patentable subject matter includes “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof”).

8. *Id.* § 102.

9. *Id.* § 101; see text accompanying *supra* note 7.

10. *Id.* § 103(a) (to be patentable, it must be non-obvious “at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains”).

11. *Id.* § 112.

12. HARMON, *supra* note 6, at 6.

13. See HERBERT HOVENKAMP, MARK D. JANIS, & MARK A. LEMLEY, IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW 12-26 (2007).

14. 35 U.S.C. § 282.

15. HARMON, *supra* note 6, at 34 (citing *Lear Siegler, Inc. v. Aeroquip Corp.*, 733 F.2d 881 (Fed. Cir. 1984)).

16. *Id.*

When the applicant is prosecuting his patent application, the examiner does not perform any cost/benefit analysis specific to the invention, the firms, the potential markets affected by the patent, or the impact of the patent in these markets. Examiners at the USPTO do not conduct any examination of the costs and benefits of conferring upon the inventor the right to exclude others from using the claimed invention. Patent examiners typically possess degrees in science, engineering, or law. They are not experienced policy makers, they do not see themselves as policy makers, and they have no authority to make policy. The examiners do not analyze the markets where the methods or products claimed by the patents will be sold. They do not inquire whether the patentee will practice the patent by producing a product or using the claimed invention, or whether the patentee will sit on its patent rights and simply use the threat of enforcement to keep others from using its invention. They do not inquire whether the patentee will license others to use the invention and, if so, at what rates.

The issuance of any patent in its nascent state suffers from additional defects. First, patents give property rights with considerable uncertainty as to their validity.¹⁷ This uncertainty arises in two ways: there is uncertainty over the precise boundaries of the patented claims and there is uncertainty about the claims' validity and enforceability.¹⁸ Accordingly, every child born in our patent kingdom is a pretender to a throne. Also, the duration of every patent is uniform, although economic theory shows that it should depend on the particulars of market and other factors. Patent rights are at best justified in law (but not in a case-by-case examination) based on *ex ante* expected profits. Additionally, patents may confer legal monopoly rights in more than one antitrust market.¹⁹ For example, an inventor who obtains a patent on a drug used to induce sleep might later find that it alleviates symptoms associated with diabetes. Or, the patentee might find that by slightly modifying the formula, it can obtain a new patent and exclude a potential

17. See Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 J. ECON. PERSP. 75, 76 (2005).

18. The uncertainty of patent claims arises because of the litigation process to enforce the claims. For example, the terms used in a granted claim may be ambiguous until a court construes them. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). Or, an accused device might not literally infringe the claim, but does infringe under the doctrine of equivalents. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 732 (2002). And a claim could be found to be invalid because it is obvious. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007). These are just a few examples of the uncertainty that arises for plaintiffs and defendants in patent litigation.

19. A claim for violation of the antitrust laws requires the plaintiff to identify a relevant, economically significant product market. *B.V. Optische Industrie De Oude Delft v. Hologic, Inc.*, 909 F. Supp. 162, 172 (S.D.N.Y. 1995). An allegation that a particular product is "unique", due to patent protection or otherwise, is insufficient to state a claim. *Id.*

rival from both the old market and the new market. An appropriately worded patent will permit the inventor of this single drug to exclude others from using the drug in two or more different antitrust markets.

As economists have long argued, and the United States Supreme Court definitively ruled in 2006, the ownership of a patent does not burden the patent owner with a presumption that it possesses monopoly power in any particular market.²⁰ Eight years before the Supreme Court's antitrust jurisprudence caught up to economic theory, Congress had passed an amendment to the U.S. patent laws to relieve patent owners of the presumption that the ownership of a patent, without more, subjected them to claims of unfair competition by enforcing valid patents.²¹

The converse of the rule eliminating the congruence between patent ownership and market power, however, is that the antitrust market in which a patentee possesses market power might extend beyond the four corners of the patent grant. If the patentee has market power beyond the four corners of the patent, then the immunity from suit granted by Congress for enforcement of the patent should not extend to the full boundaries of the antitrust market. The key questions for both patentees and economists are determining the borders of the lawful patent monopoly and the types of conduct that unlawfully leverages the patent grant beyond those borders. The importance of these questions to policy makers is that appropriate enforcement will enhance consumer welfare. The importance of these questions to the patent holder is that it might find itself subject to government enforcement action, criminal liability, private antitrust suits, civil damages, and treble damages.²²

II. INTERSECTION OF PATENTS AND ANTITRUST

There are a number of issues that arise in antitrust enforcement from the vague definition and the leveraging of patents.²³ Antitrust examines business *conduct* based on existing property rights. Any property right, based on real or intellectual property, can be abused in business conduct resulting in an antitrust violation.²⁴ Thus, when

20. *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 42-43 (2006).

21. Act of Nov. 19, 1988, § 201, 35 U.S.C. § 271(d)(4)-(5) (2006).

22. 15 U.S.C. § 2 (2006).

23. We omit from discussion in this Article issues that pertain to conspiracies to restrain trade. We focus here only on single firm conduct and we do not discuss antitrust issues that arise from attempts to collude using patent pools as a pretext. For a more extensive discussion of these issues, see Richard J. Gilbert, *Antitrust for Patent Pools: A Century of Policy Evolution*, 2004 STAN. TECH. L. REV. 3 (2004); Carl Shapiro, *Antitrust Limits to Patent Settlements*, 34 RAND J. ECON. 391 (2003).

24. See, e.g., *United States v. Microsoft Corp.*, 253 F.3d 34, 63 (D.C. Cir. 2001) (antitrust defendant's claim that it had "an absolute and unfettered right to use its intellectual

property rights are well defined, there is nothing special in regard to rights arising out of a patent grant or other intellectual property protection.

When patents and antitrust potentially clash, typically antitrust examination and enforcement will occur (i) after the grant of a patent; (ii) where a product based on a patent has successfully reached the market; and (iii) where the grantee managed to get monopoly power in a market. Thus, typical antitrust violations will occur for relatively few issued patents because of the winnowing process that takes place between issuance of a patent and its assertion against an alleged infringer by a monopolist. It is very difficult to anticipate a conflict between the granting of a patent and antitrust rules at the time of the grant because of the time separating the patent examination and the potential antitrust violation, and various other factors involved how the patent holder develops products and achieves market power. Patent examiners do not consider potential antitrust violations prior to granting a patent. Antitrust examination and intervention are *ex post* to the patent grant. It is impossible to conceive an *ex ante* patent examination process that could address all of the defects which the USPTO's constituents, such as technology firms and pharmaceutical companies, discussed below, have identified.

Because of the very significant uncertainty of the infringement, validity, and enforceability of a patent, some commentators have referred to patents as "lottery tickets."²⁵ Inventors apply for patents on the off-chance that their invention might be a huge commercial success. The cost to apply for and prosecute a patent application using a law firm is relatively low in comparison to the possible pay-off.²⁶ In fact, most inventors are disappointed with their patents, since they cannot even muster the few hundred dollars to pay the maintenance fees over the life of the patent after it is issued.²⁷ But once a patent is issued, the patent holder can authorize a law firm to circulate threats of infringement, serve demand letters, and file lawsuits. Defending these lawsuits may cost

property as it wishes" was held to be "no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability").

25. Lemley & Shapiro, *supra* note 17, at 80-83.

26. The average costs for filing a new patent application are approximately range \$15,398 for a complex chemical or biological patent, \$13,684 for a complex electrical or computer patent, \$11,482 for a complex mechanical patent, and \$8,548 for a patent of minimal complexity with 10 pages and 10 claims. AM. INTELLECTUAL PROP. LAW ASS'N, 2007 REPORT OF THE ECONOMIC SURVEY I78-80 (2007). Costs to prepare an amendment to respond to a USPTO Office Action average approximately \$4,448 for complex biotechnology or chemical patents, \$3,910 for complex electrical or computer patents, \$3,506 for complex mechanical patents, and \$2,244 for patent of minimal complexity. *Id.*

27. Lemley & Shapiro, *supra* note 17, at 80 (noting that 55-67% of patents lapse before the end of their term because maintenance fees are not paid).

hundreds of thousands or millions of dollars, even if they result in dismissal and a complete vindication of the alleged infringer's defenses.²⁸

Congress has sought to find a solution through legislation,²⁹ but the divergent interests of the patent system's constituents has thus far prevented consensus on a legislative fix. The solution to the conflict between patents and antitrust will not be found in *ex ante* legislation or patent examination procedures. It must be found in *ex post* enforcement of the patent and antitrust laws.

Companies in different sectors of the economy have various and conflicting complaints of the patent system. Software and technology companies complain that the USPTO should raise the standards for granting patents.³⁰ They complain that the USPTO grants too many patents. Patent infringement suits are expensive to defend. As a result, software and technology companies argue for more stringent standards to obtain patents, or less onerous penalties for alleged infringement, such as limiting the circumstances under which treble damages would be awarded.³¹ On the other hand, pharmaceutical and chemical companies argue for a strong patent regime.³² These companies want the USPTO to issue patents for their inventions and they want enforcement to be easier in order to protect the significant investment—sometimes hundreds of millions of dollars—that they have incurred to bring a drug or treatment to market.³³

If we accept the premise embodied in United States patent law, that a valid and enforceable patent confers a limited monopoly, the only check on potential abuse of that monopoly is antitrust law. The statutory patent monopoly either grants the patentee immunity from the antitrust laws or the patentee is subject to the antitrust laws in markets adjacent to the invention claimed by the patent.³⁴ If the patent confers upon the

28. AM. INTELLECTUAL PROP. LAW ASS'N, 2005 REPORT OF THE ECONOMIC SURVEY 22-26 (2005). According to the 2005 AIPLA Survey, which is published bi-annually, the median litigation cost of a patent lawsuit ranged from \$650,000 (where there was less than \$1.0 million in dispute) to \$4.5 million (where there was more than \$25 million at risk).

29. Recent past and current proposed legislation considered in Congress includes Patent Reform Act of 2005, H.R. 2795, 109th Cong. (2005), Patents Depend on Quality Act of 2006, H.R. 5096, 109th Cong. (2006), Patent Reform Act of 2006, S. 3818, 109th Cong. (2006), Patent Reform Act of 2007, H.R. 1908, 110th Cong. (2007), and Patent Reform Act of 2007, S. 1145, 110th Cong. (2007).

30. See, e.g., Gregg Hitt, *Industries Brace For Tough Battle Over Patent Law*, WALL ST. J., June 6, 2007, at A1 (noting that Microsoft and Cisco are promoting legislation to make patents "harder to get, and easier to challenge").

31. *Id.*

32. *Id.* (noting that Eli Lilly & Co. and Pfizer Inc. oppose legislative changes that will make it easier to launch and win patent challenges).

33. *Id.*

34. See, e.g., *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 1327-28 (Fed. Cir.

patentee absolute immunity from the antitrust laws, our inquiry is at an end since *any* anti-competitive conduct of the patentee in adjacent markets is shielded from antitrust scrutiny. If, however, the patent does not confer absolute immunity, antitrust laws can still limit the patentee's conduct in antitrust markets adjacent to the patent monopoly. United States antitrust law reflects this policy.³⁵

III. APPLICATION TO ADJACENT MARKETS

To understand how antitrust law may apply to markets adjacent to the patent monopoly, consider the following simple case. Let us assume that a company A is awarded a patent that confers exclusive rights to make and sell certain products of type A in a single antitrust market and assume that the company has gained monopoly power in A.³⁶ Assume further that products of type B are complementary to A and are produced by various companies in a separate antitrust market. The market for B is considered an "adjacent" market to the market for A for antitrust purposes. Further, assume company A gains exclusive control over the complementary market between product A and product B by using its patent and monopoly over the market for A to control the interface between the two product types. In particular, company A can modify the interface between product A and product B to exclude any producer of product B or selectively reduce the quality of a combination of product A and product B of particular producers. Thus, the patent holder, company A, can use its monopoly in the market for A to leverage and extend its legally-granted monopoly to the market for B. We argue that company A's actions may violate antitrust law, despite the immunity granted by its patent. This scenario can be extended to a case where the patent holder does not have monopoly power in the market for A but can still control the market for B since the products of type B are only compatible with the particular patented product A.

2000).

35. See, e.g., *Microsoft Corp.*, 253 F.3d 34. The United States Department of Justice ("DOJ") sued Microsoft for, among other things, exclusionary conduct in violation of Section 2 of the Sherman Act on the grounds that Microsoft had used technology to discourage consumers from removing its Internet browser from its operating system, and it had commingled the browser code and operating system code so that removal of Microsoft's browser would disable the entire operating system. Microsoft argued that its intellectual property authorized its conduct. Irrespective of Microsoft's particular conduct alleged by the DOJ, the court of appeals wrote: "Intellectual property rights do not confer a privilege to violate the antitrust laws." *Id.* at 63 (citing *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d at 1325).

36. As we have discussed earlier, legal monopoly rights do not necessarily imply monopoly power in an antitrust market. A firm with legal monopoly rights in a particular product may face considerable competition from close substitutes and therefore have no monopoly power.

For example, the market for A may consist of durable goods and the market for B may consist of products and services that are purchased after product A, such as maintenance plans, parts, or supplies that are needed over the lifetime of the patented product sold by company A. In other cases, the sequence of purchases of product A and product B is not crucial. In particular, product A may be a patented computer operating system while products of type B are software applications that are compatible only with this operating system, with both the operating system and applications purchased in the same transaction. The adjacent markets are not necessarily subject to network effects, except those that arise from the direct complementarity between product A and product B.³⁷

From an economics point of view, a properly designed patent system should give company A a temporary monopoly franchise only for the patented invention, embodied in product A. The prospect of a temporary monopoly and the resulting monopoly rents should be a sufficient incentive for company A to engage in the innovation required to produce a novel and non-obvious product A. For the duration of the patent monopoly, society temporarily trades the loss in consumer surplus for the adequate incentive for company A to invent product A. Given the loss of consumer surplus, this incentive ideally should be as exact as possible, offering potential innovators no more than is necessary. It is economically inefficient and therefore inappropriate for a patent system to offer potential innovators a greater incentive than is necessary. We focus on how this inefficient excess incentive may influence adjacent markets. In this instance, company A might gain an additional monopoly in the adjacent market for B by leveraging its monopoly in the market for product A, resulting in a loss in consumer surplus in both the market for A *and* the market for B. The additional loss of consumer surplus in the adjacent market for B may not be economically warranted if company A already has an adequate incentive from its temporary monopoly in the market for A. The impact of this potential economic inefficiency is directly correlated to the number of complementary goods—and resulting adjacent markets—product A enjoys. For example, a new patented drug may be complementary with a syringe to administer it, specialized medical services, hospital facilities and procedures, and so on.

Among economists, there has been a considerable discussion on whether a monopolist in the market for A is able to reap additional

37. See Nicholas Economides, *The Economics of Networks*, 14 INT'L J. INDUS. ORG. 673, 675-99 (1996), available at http://www.stern.nyu.edu/networks/Economides_Economics_of_Networks.pdf.

monopoly profits of a complementary product B. The so-called “Chicago School Theory,” first proposed in the 1950s by Aaron Director and Edward Levi, states that there is a “single monopoly profit” in the combination of a sale of product A with product B, and therefore any leveraging of the monopoly in market A over market B cannot be attributed to anti-competitive motivations.³⁸ According to the Chicago School Theory, if company A attempts to control market B, it must be for efficiency-enhancing reasons. Today, it is well understood that the Chicago School Theory holds only in very exceptional circumstances that rarely arise in typical patent leveraging cases.³⁹ Therefore, for almost all cases of adjacent markets, it should be understood that monopoly profits in market B are not captured automatically by a monopolist in market A. The more typical patent-leveraging scenario, however, is a “dual monopoly profits” case, where company A cannot reap the monopoly profits in market B by mere virtue of its patent for product A and the ensuing temporary monopoly in market A.

When the circumstances are such that the single monopoly profit theory holds, we might consider the patent system optimized if company A receives a patent in product A since company A will limit its leveraging of monopoly in market A to gain monopoly profits in both market A and market B in only those instances where it is economically efficient. In contrast, if we are in a dual monopoly profits scenario, it would not be appropriate for the patent system to reward company A (the patent holder for product A) with a monopoly in market B and let company A reap monopoly profits from product B, thereby reducing consumer surplus of product B. In neither case is it appropriate for antitrust immunity to award additional profits in product B to the patent holder for product A. In the single monopoly profit case, the monopolist of market A has already reaped the economically efficient profits in product B through the patent for A. In the dual monopoly profits case,

38. See Aaron Director & Edward H. Levi, *Law and the Future: Trade Regulation*, 51 NW. U. L. REV. 281, 290 (1956).

39. For the single monopoly profit theory to be correct, it is required that products A and B are combined in a fixed and constant ratio irrespective of the prevailing prices, each buyer buys only one unit, there is perfect foresight, market B is perfectly competitive, and the goods are produced with a constant returns to scale technology (has constant unit cost). These requirements are very restrictive and typically at least one of them fails to hold, thereby invalidating single monopoly profit theory. First, most complementary goods are consumed in variable proportions depending on prices. For example, when the prices of ink and paper are low, more of them are used in conjunction with the same printer. Second, many buyers buy more than one unit of a good. For example, a hospital buys many units of beds, of each type of drug, and so on. Third, in many markets consumers do not have sufficient information to calculate future costs. Fourth, in many markets competition is weak or non-existent. Fifth, for most goods, unit cost varies with the number of units produced. See also Joseph Farrell, *Deconstructing Chicago on Exclusive Dealing*, 50 ANTITRUST BULL. 465 (2005).

it is not appropriate for company A to receive antitrust immunity when its actions might harm consumers in the market for B. Company A has the incentive to engage in anti-competitive leveraging of its patent in product A to earn additional monopoly profits from product B in excess of that required to innovate in market A.

In the single monopoly profit case, the monopolist of market A does not need to take anti-competitive leveraging action, since he already reaps monopoly profits of product B. In contrast, in the dual monopoly profits case, the monopolist of market A can take a number of anti-competitive actions. Many of these actions can be monopoly maintenance and tying actions that are available to a monopolist irrespective of the source of his monopoly power.⁴⁰ Additionally, there are anti-competitive actions that arise directly from the control of the interface between product A and product B because of company A's patent on product A. We focus on instances when patent holders extend their temporary monopoly over the market for the patented product to adjacent markets by controlling the interface with complementary products.⁴¹ Interfaces have become increasingly important as growth in productivity depends more and more upon networks and the ability to add on applications, or replace old parts with new. Controlling the interface becomes important for the patent holder, the consumers who demand innovation and change, and the competitors who seek to deliver either the desired innovation and change or similar products at a lower price.

Antitrust case law provides a number of examples where patent holders have had their wrists slapped for trying to extend their patent

40. See Kaplow & Shapiro, *supra* note 2, at 1226; Jeffrey K. MacKie-Mason & John Metzler, *Links Between Markets and Aftermarkets: Kodak (1997)*, in ANTITRUST REVOLUTION: ECONOMICS, COMPETITION AND POLICY 428, 452 (John E. Kwoka & Lawrence J. White eds., 2003); Patrick Rey & Jean Tirole, *A Primer on Foreclosure*, 3 HANDBOOK OF INDUSTRIAL ORGANIZATION 2145, 2219 (Mark Armstrong & Robert H. Porter eds., 2007), available at <http://idei.fr/doc/by/tirole/primer.pdf>; Michael D. Whinston, LECTURES ON ANTITRUST ECONOMICS (2006); BARRY NALEBUFF, DEP'T OF TRADE & INDUS., BUNDLING, TYING, AND PORTFOLIO EFFECTS, PART 1: CONCEPTUAL ISSUES (2003), available at <http://www.berr.gov.uk/files/file14774.pdf>.

41. In many traditional mechanical products, the interfaces can be observed directly or established through reverse engineering. In the world of software, interfaces are much more difficult to decipher and reverse engineer. Thus, even firms without patents can control interfaces. A good example of this is the interfaces of the Windows PC operating system with software applications. Applications developers have to rely on Microsoft information on these interfaces, commonly called Application Protocol Interfaces ("APIs") because they cannot reverse engineer them. Fortunately for developers, Microsoft has a strong interest to disclose these APIs to producers of software that is complementary to Windows so that more applications get written for Windows and the value and sales of Windows are enhanced. However, this interest is reversed when Microsoft also produces the complementary goods in competition with third-party developers, such as the office productivity applications including Word, Excel, and Outlook bundled under Microsoft Office.

monopolies into adjacent markets, even though courts have exercised considerable restraint.⁴² This restraint is based upon three key concerns. First, judges and juries are not necessarily qualified to determine whether the needs of the marketplace justify a particular product offering.⁴³ Second, courts do not want to curb innovation by imposing restrictions on normal technological advancements.⁴⁴ Third, courts are reluctant to inquire into the patentee's state of mind when the patentee asserts that its patents give it a right to exclude competitors.⁴⁵

Courts diverge in handling the third concern. The First, Ninth, and D.C. Circuits have authorized judges and juries to view with skepticism the claim by an intellectual property owner that its intellectual property rights give it unfettered control over adjacent markets.⁴⁶ By contrast, the Federal Circuit has precluded judges and juries from inquiring into the patentee's state of mind when it asserts a valid patent.⁴⁷ Despite these conflicts between circuits, there exists a middle ground where antitrust law trumps patent law in adjacent markets. In these adjacent market cases, it is inappropriate for patentees to gain immunity from antitrust law because judges, juries, and antitrust enforcers have more than sufficient skill and judgment to discern the difference between fair competition and unreasonable market manipulation.

We discuss four types of adjacent markets where the antitrust laws hold equal, if not superior, sway to the patent laws in achieving the proper level of economic efficiency: (i) complementary peripherals and

42. See, e.g., *Microsoft Corp.*, 253 F.3d at 63; *C.R. Bard, Inc. v M3 Sys., Inc.*, 157 F.3d 1340 (Fed. Cir. 1998); *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997).

43. *Medtronic MiniMed Inc. v. Smiths Med. MD Inc.*, 371 F. Supp. 2d 578, 589 (D. Del. 2005) ("Absent evidence of anticompetitive conduct, however, it is not the role of the courts to determine how companies should innovate."); *ILC Peripherals Leasing Corp. v. Int'l Bus. Machs. Corp.*, 458 F. Supp. 423, 439 (N.D. Cal. 1978) ("Where there is a difference of opinion as to the advantages of two alternatives which can both be defended from an engineering standpoint, the court will not allow itself to be enmeshed 'in a technical inquiry into the justifiability of product innovations.'" (citation omitted)), *aff'd sub nom. Memorex Corp. v. Int'l Bus. Machs. Corp.*, 636 F.2d 1188 (9th Cir. 1980).

44. See *Microsoft Corp.*, 253 F.3d at 63 (noting that courts are skeptical about claims that competition has been harmed by a dominant firm's product design changes); *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 286 n.30 (2d Cir. 1979) (noting that courts should "exercise caution" in condemning a monopolist merely for introducing new products).

45. See, e.g., *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d at 1327-28 (refusing to inquire into subjective motivation of patentee to refuse to sell or license its patented works, or to bring suit to enforce the same right).

46. *Microsoft Corp.*, 253 F.3d at 63; *Image Technical Servs.*, 125 F.3d 1195; *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1184 (1st Cir. 1994).

47. See *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d at 1327 (declining to follow *Image Technical Servs.*, 125 F.3d 1195); but see *C.R. Bard*, 157 F.3d 1340 (jury could conclude that patentee unlawfully monopolized adjacent market through design changes to patented product).

software markets; (ii) aftermarket parts, maintenance, and service; (iii) interface design changes; and (iv) changes in drug formulas. The specific anti-competitive conduct and actual effect in each of these markets may differ, but the general tactic is the same: the patentee extends the patent monopoly beyond the market for the patented product.⁴⁸ As we discuss below, in these four types of adjacent markets, the patentee will typically lose the immunity otherwise provided by patent law. Instead, courts routinely apply regular antitrust principles to resolve disputes between the patent-holder monopolist in market A and the potentially-harmed competitor in market B.

A. *Complementary Peripheral and Software Markets*

This section describes how courts apply antitrust law to determine when a monopolist in one market uses its intellectual property rights—patent and otherwise—to engage in an unreasonable restraint of trade in complementary adjacent markets for computer and telephony peripherals and software.

Early cases involved antitrust suits by computer peripheral device makers against IBM after IBM changed the design of the physical plug interface to its computers in a way that rendered prior peripheral plug designs incompatible. The judicial debate over the antitrust implications of product innovations has been framed by two conflicting views developed in these cases. The prevalent view is that a product change that has lessened competition for peripheral products is beyond antitrust scrutiny if the monopolist offers any justification for the change. In this view, the courts refuse to evaluate technical decisions and the pros and cons of different design choices.

While these cases did not involve antitrust claims related to leveraging of patent monopolies, their holdings established a framework for deciding when a dominant firm uses intellectual property, in the general sense, to engage in conduct that unreasonably restrains trade in adjacent markets. Also, none of these early cases directly involved the assertion of patents by IBM against the peripheral parts competitors. That development occurred after the courts raised the importance of asserting patent and other intellectual property rights to justify certain business behavior by IBM.⁴⁹

48. We purposefully exclude the doctrine of equivalents, which permits a patentee to stretch the claims somewhat beyond the literal boundaries of the claimed invention. *Festo Corp.*, 535 U.S. 722. The markets we describe comprise those markets for products clearly beyond the monopoly created by the granted claims, even assuming the claims have been interpreted to their outermost borders by the doctrine of equivalents.

49. See *Image Technical Servs.*, 125 F.3d 1195. Also, in *Telex Corp. v. International Business Machines Corp.*, the plaintiff initially filed an antitrust claim, which IBM met with a

In *Telex Corp. v. IBM*, the plaintiff alleged that IBM had unlawfully monopolized the market for plug-compatible peripheral products for IBM computers, such as information storage components, which include magnetic tape drives, magnetic disk drives, magnetic drums, printers, and other specialized memory units.⁵⁰ The court found that IBM did not have monopoly power in the market for plug-compatible peripheral products because competition existed between various system manufacturers and because manufacturers of peripheral devices could easily shift production from IBM to non-IBM plug-compatible peripherals, and vice versa.⁵¹ Additionally, IBM did not have market power in the relevant market and its product changes produced lower prices. While these lower prices were still above cost, they were not predatory.⁵²

Although the plaintiff in *Telex* challenged only the lower prices associated with IBM's new products and not whether the design changes created incompatibility with competing devices, plaintiffs in later cases claimed IBM changed its plug design to harm competition. In *ILC Peripherals v. IBM Corp.*, the plaintiff was a maker of external storage devices that were plug-compatible with IBM computers, including disk drives, disk drive control units, and communications control units.⁵³ The plaintiff alleged that IBM made design changes to plugs and controllers on its computers to render the computers incompatible with the products of competitors in this market.⁵⁴ The experts who testified for both sides disagreed on the degree to which the changes were innovative and the amount of legitimate consumer benefit derived from said changes.⁵⁵ After an extensive review of the product changes and the testimony, the court held that the peripheral manufacturer failed to carry its burden that IBM's conduct had been anti-competitive.⁵⁶ It did not help that the evidence showed that the plaintiff was not making devices that depended upon IBM-compatible plugs.⁵⁷

In a subsequent case, another judge attempted to formulate a general standard in Sherman Act Section 2 cases involving product design changes in which a competitor challenged the new product

counterclaim for trade secret misappropriation and copyright infringement of certain manuals. 510 F.2d 894, 898 (10th Cir. 1975). IBM did not appeal the district court's decision on its copyright claim. *Id.* at 928. Nor did IBM assert infringement of any of its patents.

50. *Id.* at 899.

51. *Id.* at 916, 919.

52. *Id.* at 919-928.

53. *ILC Peripherals Leasing Corp.*, 458 F. Supp. at 428.

54. *Id.*

55. *Id.* at 439.

56. *Id.* at 439-40.

57. *Id.* at 439.

introductions of an alleged monopolist. *In re IBM Peripheral EDP Devices Antitrust Litigation*,⁵⁸ makers of peripheral devices compatible with IBM mainframe computers challenged IBM's design of its products, which prevented the use of the competitors' peripheral devices. The court held:

If the design choice is unreasonably restrictive of competition, the monopolist's conduct violates the Sherman Act. This standard will allow the factfinder to consider the effects of the design on competitors; the effects of the design on consumers; the degree to which the design was the product of desirable technological creativity; and the monopolist's intent, since a contemporaneous evaluation by the actor should be helpful to the factfinder in determining the effects of a technological change.⁵⁹

This case did not involve patents, but its holding is close to where the courts have ended up in cases that do involve patent holders whose conduct unreasonably restrains trade in adjacent markets.

Courts have also found that a monopolist can be held liable for making design changes to its interfaces that prevent competitors from selling their otherwise compatible products. In *Northeastern Telephone Co. v. American Telephone & Telegraph Co.*, the court held that a monopolist could be found liable under antitrust law because it intentionally designed a telephone network coupling device with diminished functionality in order to impede competition.⁶⁰ The court noted: "In other circumstances, we might be reluctant to allow a jury to second-guess engineers' decisions as to the proper construction of a sophisticated piece of equipment. But in this case we cannot look to the reaction of the competitive market to determine whether one design is superior to another."⁶¹ Thus, the court in this case found antitrust liability because the interface was manipulated to diminish the quality of the complementary good when produced by competitors. While this case did not involve the assertion of patent rights, it stated a general proposition for when a court should scrutinize interface design decisions of patent holders if the temporary monopoly created by the patent removes the presumption that interface design changes are the inherently

58. 481 F. Supp. 965 (N.D. Cal. 1979), *aff'd on other grounds sub nom.* Transamerica Computer Co. v. Int'l Bus. Machs. Corp., 698 F. 2d 1377, 1382 (9th Cir. 1983).

59. *Id.* at 1003; *see also* Cal. Computer Prods., Inc. v. Int'l Bus. Machs. Corp., 613 F.2d 727 (9th Cir. 1979) (plaintiffs challenged IBM's integration of disk drive controllers into its newest computers on antitrust grounds, but the court rejected plaintiffs' claim finding that the integrated products performed the same function as the old components about as well, but were significantly cheaper, which resulted in consumer benefit).

60. *Ne. Tel. Co. v. Am. Tel. & Tel. Co.*, 651 F.2d 76, 95 (2d Cir. 1981).

61. *Id.* at 94-95 & n.29.

superior result of competitive market forces.

Courts have also been willing to curb operating system software monopolists' efforts to impede consumers' use of complementary software applications developed by competitors. In *United States v. Microsoft Corp.*,⁶² the D.C. Circuit examined Microsoft's design of its Windows operating system and its potential anti-competitive effect on complementary software applications, especially Internet browsers developed by third-parties such as Netscape, which competed with Microsoft's Internet Explorer.⁶³ The lower court found Microsoft liable for a wide range of anti-competitive conduct.⁶⁴ In reviewing the district court's opinion, the D.C. Circuit identified two areas where Microsoft could have been found to have violated the antitrust laws.⁶⁵ First, the court found that Microsoft used its Original Equipment Manufacturer ("OEM") licenses with personal computer sellers such as Dell and Hewlett-Packard to prohibit the OEMs from installing rival Internet browsers or modifying the operating system's start-up sequence.⁶⁶ This practice ensured Microsoft's Internet Explorer would always be displayed to the user instead of a rival's browser.⁶⁷ Second, the D.C. Circuit found that Microsoft had taken steps to inextricably integrate its Internet Explorer browser with its operating system in a manner that discouraged end users from using competing Internet Web browsers.⁶⁸

Microsoft justified its actions in two ways. First, Microsoft asserted that because it owned the copyright to the Windows operating system and display, it had the right to dictate how the system started up.⁶⁹ Second, Microsoft claimed its integration of the operating system and Internet Explorer was necessary for stability and consistency of the platform.⁷⁰ In ruling on these issues, the court noted, "[a]s a general rule, courts are properly very skeptical about claims that competition has been harmed by a dominant firm's product design changes."⁷¹ The court elsewhere stated, "[a] monopolist does not violate the antitrust laws simply by developing a product that is incompatible with those of its rivals. . . . In order to violate the antitrust laws, the incompatible product must have an anticompetitive effect that outweighs any procompetitive

62. *Microsoft Corp.*, 253 F.3d 34.

63. *Id.* at 60-74.

64. *Id.* at 58.

65. *Id.* at 71, 74.

66. *Id.* at 60-64.

67. *Id.* at 61.

68. *Microsoft Corp.*, 253 F.3d at 64-67.

69. *Id.* at 62-63.

70. *Id.* at 63-64.

71. *Id.* at 65.

justification for the design.⁷² Nonetheless, despite this professed skepticism about the government's claims, the court upheld the district court's finding that Microsoft had used anti-competitive design tactics.⁷³ In particular, the court held that Microsoft could not assert its intellectual property rights as a copyright owner to exclude competition in the separate market for Internet browsers.⁷⁴ The court further found that Microsoft offered no evidence that the stability of the platform would suffer if changes were made.⁷⁵ In general terms, the *Microsoft* court scrutinized a monopolist's decisions in designing and modifying the interface required to interconnect complementary products from an adjacent market to the monopolist's product in a manner that produced monopoly power within a separate market. Specifically, the court expressly compared the pro-competitive benefits of the design and changes to the interface with the anti-competitive harms that might result if the new design allowed Microsoft to unfairly advantage its own complementary software, at the expense of competitors in the same adjacent market.

The *Microsoft* court's analysis is similar to the balancing test articulated in *In re IBM Peripheral EDP Devices Antitrust Litigation*.⁷⁶ In both cases, the court would permit the judge or the jury to weigh the pro-competitive benefits and the monopolist's justifications for its design changes against the anti-competitive effects to determine whether the design changes are unduly restrictive of competition. In cases involving the assertion of intellectual property, this approach allows the courts to fill the gap in the patent system by using the antitrust laws to address the market failures that occur when patentees try to leverage their monopoly in one market into another adjacent market. A patent system which allows company A to manipulate the interface between product A and product B provides company A with a greater incentive than is necessary to spur innovation. To allow company A to use the interface as a way to extend its monopoly in A into the market for B also decreases consumer surplus because it stifles competition in market B. By proper application

72. *Id.* at 75 (citations omitted).

73. *Id.* at 64.

74. See *Microsoft Corp.*, 253 F.3d at 63-67. The court of appeals stated:

Microsoft's primary copyright argument borders upon the frivolous. The company claims an absolute and unfettered right to use its intellectual property as it wishes: "If intellectual property rights have been lawfully acquired," it says, then "their subsequent exercise cannot give rise to antitrust liability." That is no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability.

Id. at 63 (citation omitted); see also Harry First, *Microsoft and the Evolution of the Intellectual Property Concept*, 2006 WIS. L. REV. 1369, 1376-94 (2006).

75. *Microsoft Corp.*, 253 F.3d at 63-64.

76. 481 F. Supp. 965.

of the antitrust laws, courts can enhance competition in market B without eliminating the incentives for company A to engage in the innovation that led to the grant of the patent in A in the first place.

B. Aftermarkets: Parts, Service, and Maintenance

With the Supreme Court's 1992 decision in *Eastman Kodak Co. v. Image Technical Services, Inc.*, the Court signaled a fundamental shift in private litigation of intellectual property antitrust claims within aftermarkets related to intellectual property rights in the primary market.⁷⁷ In *Kodak*, the Court held that a manufacturer of durable goods could be found liable for illegally monopolizing the derivative aftermarket for parts and services for those goods and for refusing to deal with third-party independent service organizations ("ISOs"), even if it possessed patents and copyrights.⁷⁸ In *Kodak*, the defendant manufactured photocopiers and microfilm equipment.⁷⁹ A group of ISOs sued Kodak, alleging that it had used its monopoly in one market—its installed base of reproduction machines—to monopolize the aftermarket for goods and services of those machines.⁸⁰ In the ensuing trial, the ISOs proved that Kodak had refused to sell them parts or to permit its customers to allow the ISOs to service Kodak's machines.⁸¹ Kodak raised as a defense that it had a valid business justification for refusing to deal with the ISOs because it held patents on its replacement parts for its equipment and copyrights on its diagnostic and service software.⁸² A Kodak witness testified, and its lawyers argued, that its intellectual property rights justified its refusal to deal with the ISOs, even though it had not affirmatively filed suit against the ISOs for patent or copyright infringement.⁸³

The Ninth Circuit's 1997 opinion in *Image Technical Services*, after the district court's decision on *Kodak's* remand from the Supreme Court, addressed for the first time the relationship of intellectual property rights and antitrust law and whether a monopolist's refusal to deal with competing providers of complementary goods (the ISOs) could be justified by its patents and copyrights.⁸⁴ The Ninth Circuit held that a monopolist who has achieved a dominant position through its patents and copyrights can violate the Sherman Act by exploiting that dominant

77. *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451 (1992).

78. *Id.* at 471-72, 479 & n.29.

79. *Id.* at 455.

80. *Id.* at 455-56.

81. *Image Technical Servs.*, 125 F.3d at 1208-09.

82. *See id.* at 1214.

83. *See id.* at 1218-19.

84. *See id.*

position to attain a monopoly in another market.⁸⁵ While patents and copyrights could be raised as a business justification for a refusal to deal, these intellectual property rights did not confer an absolute immunity from suit.⁸⁶ The Ninth Circuit adopted a rebuttable presumption that the assertion of intellectual property rights constituted a valid business justification for any immediate harm to consumers.⁸⁷ However, this presumption could be overcome by evidence that the assertion of intellectual property rights was a pretext that masked anti-competitive conduct.⁸⁸ The Ninth Circuit held that, in appropriate cases such as *Image Technical Services*, the antitrust laws will trump intellectual property rights.

After *Kodak*, defendants in antitrust cases began to affirmatively assert their patent and other intellectual property rights so that their rivals could not claim that their refusal to grant licenses was a mere “pretext.”⁸⁹ The effect has been that monopolists who own patents assert their intellectual property rights—particularly in cases where the rival might assert violation of the antitrust laws under a *Kodak* theory.⁹⁰

This strategy of asserting patent rights in antitrust actions has been successful and has resulted in at least one significant court opinion rejecting the “rebuttable presumption” articulated in *Image Technical Services*, despite the similarity between defendant’s and Kodak’s conduct. *In re Independent Service Organizations Antitrust Litigation* (“*CSU v. Xerox*”),⁹¹ the plaintiff was an ISO for Xerox photocopiers.⁹² Like Kodak, Xerox developed a policy to stop selling parts to any ISO that was not an end-user of Xerox equipment, after previously selling parts without condition to ISOs for many years.⁹³ Xerox policed its end-users to ensure that they were not selling parts to ISOs. The ISOs continued to purchase parts from a majority-owned European subsidiary of Xerox, until Xerox forced it to stop selling parts to ISOs.⁹⁴ Xerox, like Kodak, also competed with ISOs in the service market.⁹⁵ Furthermore, Xerox

85. *See id.* at 1220.

86. *See id.* at 1215.

87. *Image Technical Servs.*, 125 F.3d at 1219.

88. *See id.*

89. *See, e.g., Telecom Technical Serv. Inc. v. Rolm Co.*, 388 F.3d 820, 823-24 (11th Cir. 2004) (holding that “an antitrust claim could not be brought based on a refusal to sell patented parts or license copyrighted software.”).

90. *See id.* at 824.

91. *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d at 1327.

92. *See id.* at 1324.

93. *See id.*

94. For a complete description of the facts of the case, see *In re Indep. Serv. Orgs. Antitrust Litig.*, 989 F. Supp. 1131, 1131-34 (D. Kan. 1997).

95. *See In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d at 1327.

had monopoly power in the relevant equipment and parts markets.⁹⁶ And, like Kodak, Xerox owned patents for at least some of its parts (although the exact extent is not clear from the text of the opinion) and held copyrights to its diagnostic software, which was an essential component to servicing its machines.⁹⁷ Xerox refused to sell any parts, or to license its software, to certain ISOs.⁹⁸

The ISO plaintiff alleged that Xerox was attempting to leverage its monopoly power in the high volume equipment and parts markets to acquire and/or maintain monopoly power in the relevant service markets in violation of Section 2 of the Sherman Act.⁹⁹ Xerox contended that the plaintiff had not suffered any antitrust injury because the alleged injury was attributable to Xerox's lawful refusal to sell patented parts and copyrighted software.¹⁰⁰ Xerox also contended that the plaintiff could not assert a patent or copyright misuse defense to Xerox's infringement counterclaims based on Xerox's unilateral refusal to deal.¹⁰¹ The trial court and the Federal Circuit Court of Appeals agreed with Xerox.

Declining to follow the Ninth Circuit's decision in *Image Technical Services* permitting a jury to consider Kodak's motives for refusal to deal with the ISOs, the court in *CSU v. Xerox* held:

We see no more reason to inquire into the subjective motivation of Xerox in refusing to sell or license its patented works than we found in evaluating the subjective motivation of a patentee in bringing suit to enforce that same right. In the absence of any indication of illegal tying, fraud in the Patent and Trademark Office, or sham litigation, the patent holder may enforce the statutory right to exclude others from making, using or selling the claimed invention free from liability under the antitrust laws. We therefore will not inquire into the subjective motivation for asserting his statutory rights, even though his refusal to sell or license his patented invention may have an anticompetitive effect, so long as that anticompetitive effect is not illegally extended beyond the statutory patent grant.¹⁰²

The United States Supreme Court has not resolved the apparent conflict between *Image Technical Services* and *CSU v. Xerox*.

Despite the differences between *CSU v. Xerox* and *Image Technical Services* over the question of subjective motivation and intent, the two circuits share a common belief that a patent holder cannot use anti-

96. *See id.*

97. *See id.* at 1324.

98. *Id.*

99. *Id.*

100. *Id.*

101. *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d at 1324.

102. *Id.* at 1327-28.

competitive means to extend its patent rights beyond the statutory grant. In *CSU v. Xerox*, the Federal Circuit distinguished *Image Technical Services* as a tying case, but in essence agreed that a patent holder who unreasonably ventures beyond the boundaries of the patent grant could be held liable for antitrust violations.¹⁰³ As the court in *CSU v. Xerox* reasoned:

Properly viewed within the framework of a tying case, the footnote in [*Image Technical Services*] can be interpreted as restating the undisputed premise that the patent holder cannot use his statutory right to refuse to sell patented parts to gain a monopoly in a market *beyond the scope of the patent*.¹⁰⁴

In *Image Technical Services*, the Ninth Circuit relied on its rebuttable presumption that the assertion of intellectual property rights constitutes a business justification to an alleged infringer's antitrust claims.¹⁰⁵ It permitted the challenger to the monopolist's conduct to offer evidence to rebut the presumption.

Courts are grappling with two apparently contradictory principles. First, the principle that a patentee may refuse to sell or license its patented products to a third party, and second, the principle that a patentee may not use the patent to extend its monopoly into adjacent markets, such as aftermarket. Even if the patentee cannot be forced to license or sell its products, it cannot take steps that make it unreasonably and unjustifiably difficult for an aftermarket competitor to make and sell compatible, non-infringing products. This raises the issue of design changes that prevent the use of a competitor's replacement parts in the patentee's product.

C. *Interface Design Changes*

One issue in the IBM plug-compatible peripheral antitrust lawsuits was the plaintiffs' challenges to IBM's interface design changes. As discussed above, a monopolist in market A might seek to control market B, which is an aftermarket for its products, by making changes in the design of its product A, thereby making it more difficult, if not impossible, for its competitors to produce complementary products in market B. The courts have alternatively condemned and condoned this

103. *See id.* at 1325.

104. *Id.* at 1327 (citing *Atari Games Corp. v. Nintendo of Am., Inc.*, 897 F.2d 1572, 1576 (Fed. Cir. 1990) (“[A] patent owner may not take the property right granted by a patent and use it to extend his power in the marketplace improperly, i.e., beyond the limits of what Congress intended to give in the patent laws.”)).

105. 125 F.3d at 1219.

practice on antitrust grounds.¹⁰⁶

In *GAF Corp. v. Eastman Kodak Co.*, the plaintiff competed with Kodak in the amateur film developing and print photography markets.¹⁰⁷ The plaintiff contended that from 1955 to 1972, an independent photofinishing network of small labs arose that developed film using Kodak C-22 chemistry and photofinishers that printed Kodacolor film.¹⁰⁸ As soon as plaintiff and other competitors gained a foothold in the market for C-22 color film developing and photofinishing, Kodak introduced new formulas that used new chemical reactions to develop the film.¹⁰⁹ The plaintiff alleged that Kodak's conduct forced independent photofinishers to convert from the old C-22 processing to the new Kodak C-41 processing.¹¹⁰ Plaintiff and other independent film suppliers were excluded from the market as a result.¹¹¹ Kodak argued that it possessed a nearly unfettered right to introduce new products, but the court disagreed, citing both *Berkey Photo* and *Northeastern Telephone* as clearly "contrary to Kodak's contentions, that new product introductions by a monopolist are not *ipso facto* immune from antitrust scrutiny" and that a "new product introduction coupled with some associated conduct may constitute a [Sherman Act] § 2 violation."¹¹²

The court found that Kodak could be held liable.¹¹³ Explaining its adoption of the reasoning in *Northeastern Telephone*,¹¹⁴ the court stated:

[I]n scrutinizing design conduct, § 2 would merely require the monopolist's design to be "reasonable," rather than to be the design alternative least restrictive of competition. Thus, the "reasonableness" of the design of a monopolist's new products (vis-a-vis competitors' products which were technically linked to or dependent upon the monopolist's product) may be scrutinized under § 2 in cases in which "market forces cannot operate" – that is, in cases in which a single firm controls the entire market or in which a monopolist engages in coercive conduct to affect consumer choice.¹¹⁵

Where a monopolist in market A owes his monopoly to a patent, it follows that "market forces cannot operate" and a monopolist could be

106. See, e.g., *C.R. Bard*, 157 F.3d 1340; *Medronic MiniMed Inc.*, 371 F. Supp. 2d 578; *GAF Corp. v. Eastman Kodak Co.*, 519 F. Supp. 1203 (S.D.N.Y. 1981).

107. *GAF v. Kodak*, 519 F. Supp. 1203.

108. *Id.* at 1224.

109. See *id.*

110. *Id.* at 1224-25.

111. See *id.*

112. *Id.* at 1226.

113. *GAF v. Kodak*, 519 F. Supp. at 1226.

114. *Ne. Tel. Co.*, 651 F.2d 76.

115. *GAF v. Kodak*, 519 F. Supp. at 1228.

found to engage in coercive conduct affecting consumer choice by re-designing products to exclude competitors from market B.

Two recent cases have considered the antitrust implications of patents and re-designed products.¹¹⁶ In *C.R. Bard, Inc. v. M3 Systems, Inc.*, a patent holder sued a competitor for infringing patents covering biopsy guns that mechanically injected a needle into the patient's body.¹¹⁷ Both the biopsy guns and the replacement needles were the subjects of patents.¹¹⁸ In the infringement suit, the competitor claimed that the patent holder had modified its patented biopsy guns and needles for the purpose of preventing the competitor's replacement needles from fitting the gun without an adapter.¹¹⁹ The Federal Circuit affirmed the district court's decision that the patent holder unlawfully maintained its monopoly position in the aftermarket for replacement needles by exclusionary conduct, i.e., by modifying its patented gun in order to prevent the replacement needles of its competitors from fitting in them.¹²⁰ The Federal Circuit's holding implies that the patent holder violated antitrust law by manipulating the interface between the patented biopsy guns and the replacement needles in order to control competition in the aftermarket for replacement needles.¹²¹

In another medical device case, *Medtronic MiniMed Inc. v. Smiths Medical MD Inc.*,¹²² MiniMed brought an action for infringement against Smiths for its sale of infusion pumps used to deliver insulin to diabetics, and the associated infusion "sets" that connected to the pumps.¹²³ The infusion pumps were durable goods that lasted many years, while the infusion sets were disposable and thrown out after a few days.¹²⁴ Smiths brought a counterclaim for antitrust violations, alleging that MiniMed had attempted to monopolize the market for infusion sets by redesigning and patenting a lock that acted as a physical interface between the infusion pumps and the infusion sets.¹²⁵ Smiths claimed it

116. *C.R. Bard*, 157 F.3d 1340; *Medtronic MiniMed Inc.*, 371 F. Supp. 2d 578.

117. *C.R. Bard*, 157 F.3d 1340.

118. *Id.* at 1359.

119. *Id.* at 1369.

120. *See id.* at 1381-83.

121. *Id.* at 1382-83; *see also* *Xerox Corp. v. Media Scis. Int'l, Inc.*, 511 F. Supp. 2d 372, 389 (S.D.N.Y. 2007) (holding that aftermarket competitor stated a claim for monopolization of market for replacement color ink sticks for plaintiff's color printers by redesigning printers to exclude aftermarket sellers of ink sticks from the market); *cf.* *HDC Med., Inc. v. Minntech Corp.*, 474 F.3d 543, 550 (8th Cir. 2007) (involving alleged design changes to dialysis equipment where antitrust plaintiff offered evidence of a substantial price differential to show that single-use dialyzers were a distinct product market from multi-use dialyzers and thus, successfully overcame defendant's motion to dismiss).

122. *Medtronic MiniMed Inc.*, 371 F. Supp. 2d 578.

123. *Id.* at 581.

124. *Id.*

125. *Id.*

had not produced new infusion sets compatible with the new lock because MiniMed held a patent on the new lock and Smiths was thus apprehensive about getting sued.¹²⁶ The court rejected Smiths' claims on the basis of standing because Smiths had not suffered an antitrust injury.¹²⁷ The court found that MiniMed had not sued any other competitor for infringement of its patent on the new lock, and therefore, until Smiths produced and sold infusion sets that were compatible with MiniMed's redesigned infusion pumps, it did not have standing to sue for antitrust violations.¹²⁸ The court also found that Smiths had failed to allege a claim for tying, because it had not adequately alleged that customers were coerced into buying MiniMed's infusion sets.¹²⁹ In the course of reaching its decision, the court rejected Smiths' claim that MiniMed had a duty to assist it: "Smiths argues that the design changes to the connection system undertaken by MiniMed could have been accomplished without removing the luer lock. Absent evidence of anticompetitive conduct, however, it is not the role of the courts to determine how companies should innovate."¹³⁰

The *Bard* court felt that judges and juries are competent to second-guess a patent holder's design decisions and expressed skepticism at the patent holder's design changes, especially when the purpose of the change appeared to be to exclude competition in the market for replacement needles.¹³¹ By contrast, the court in *Medtronic* expressed skepticism about the competence of judges and juries to use antitrust law to regulate perceived product innovations.¹³² As shown by these two cases, courts disagree on the ability of judges and juries to make the proper delineation between patents and antitrust. At the same time, courts are reluctant to give antitrust immunity to patent holders when they leverage market power in adjacent markets. Courts should be willing to use the antitrust laws to analyze the economic effects of company A modifying its product to exclude competitors in an adjacent market B, because of the threat of an overall loss of consumer surplus and unjustifiably higher prices for consumers of B-type products.

D. Changes in Drug Formulas

For nearly every successful patented product, there exists a prospective future market for copycat, complementary, or generic

126. *Id.* at 583-84.

127. *See id.* at 584.

128. *Medtronic MiniMed Inc.*, 371 F. Supp. 2d at 584.

129. *See id.* at 584-86 & n.8.

130. *Id.* at 589 (citation omitted).

131. *C.R. Bard*, 157 F.3d at 1382.

132. *Medtronic MiniMed Inc.*, 371 F. Supp. 2d at 588.

products that a competitor will produce and sell upon expiration of the patent, at a lower price charged by the patent holder. The patent holder will often attempt to lawfully extend its monopoly to exclude these potential competitors by making slight, but patentable, design changes in the original product. A competitor claiming that the patent holder is changing its product to prevent the competitor from introducing a generic substitute is entitled to proceed with a complaint, according to *Abbott Laboratories v. Teva Pharmaceuticals*.¹³³

In *Abbott Laboratories v. Teva Pharmaceuticals*, a generic drug manufacturer alleged that the branded drug manufacturer intentionally made a series of insignificant changes to its drug as a way to keep the generic manufacturer from successfully obtaining Food and Drug Administration approval to sell the generic version and successfully market it to buyers.¹³⁴ The court analogized to other adjacent market cases to determine that if the allegations were true, the defendant had altered the functioning of the marketplace.¹³⁵ In doing, the patent holder reduced consumer choice for drugs by manipulating the laws governing sales and marketing of generic drugs, as part of a scheme to extend its monopoly into the future.¹³⁶ By repeatedly shifting the formula of its drug, the branded drug manufacturer allegedly prevented its generic drug competitors from publishing their competing drugs in the "Orange Book" where information about approved generic drugs is disseminated to the market.¹³⁷ Applying the rule of reason, the court permitted the generic competitors to proceed with their complaint, which enabled the court to conduct an inquiry into the costs and benefits of the defendant's conduct.¹³⁸

133. *Abbot Labs. v. Teva Pharm. USA, Inc.*, 432 F. Supp. 2d 408 (D. Del. 2006).

134. *See id.* at 414.

135. *See id.* at 420-22.

136. *See id.* at 424 ("By removing the old products from the market and changing the NDDF code, Defendants allegedly suppressed competition by blocking the introduction of generic fenofibrate.").

137. After approval of a drug by the Food and Drug Administration ("FDA"), information about the branded drug, including patent information, is published by the FDA in a publication entitled "Approved Drug Products with Therapeutic Equivalence Evaluations," which is generally called the "Orange Book," after the color of its cover. *Teva*, 432 F. Supp. 2d at 414. Under the Hatch-Waxman Act, 21 U.S.C. §§ 355, 360cc (2006) and 35 U.S.C. §§ 156, 271, 282, generic versions of previously approved branded drugs may be submitted for approval by the FDA as "bioequivalent" to the branded drug by submitting an Abbreviated New Drug Application ("ANDA") to the FDA. 21 U.S.C. § 355(j); *Teva*, 432 F. Supp. 2d at 414. When seeking FDA approval, the generic manufacturer must also certify and give notice that its drug will not infringe any patents listed for the branded drug in the Orange Book. *Id.* The branded drug manufacturer then has forty-five days in which to file an infringement suit. *Id.* at 415. If the generic manufacturer is successful in the infringement suit, a pharmacist can substitute the bioequivalent generic drug for any branded drug prescribed by a physician and listed in the Orange Book. *Id.*

138. *Id.* at 422.

Like the cases where a defendant of a durable good or software manipulates the interface or interconnection to extend its patent beyond the four corners of its original grant to block potential entrants to its market, the drug manufacturer allegedly changed the design of its branded drug in order to prevent generic manufacturers from establishing their fitness as substitutes for the branded drug. This alleged misuse of the patent and U.S. drug laws could not have been foreseen by a patent examiner. There is no economic principle that would grant company A under these circumstances any power in market B, since company A was already reaping the rewards of innovation conferred by the patent laws. The court appropriately examined the particular market and applied the antitrust laws to determine whether company A was unlawfully leveraging the patent monopoly in product A into market B.

CONCLUSION

This Article examined the intersection and potential conflict of patents and antitrust. Patents grant monopolies of limited duration that may result in the patent holder having monopoly or market power in one or more antitrust markets. We discussed cases where a patent holder uses such market or monopoly power in the market for a patented product to exclude competitors in an adjacent market and/or attempts to monopolize or monopolizes the adjacent market. We discussed the role that interfaces connecting the patent grant market with an adjacent market play in leveraging market power. Economic theory suggests that it is inappropriate to immunize a patent holder from antitrust liability when it attempts to extend its patent monopoly into adjacent markets, because it could decrease consumer surplus. Generally, courts have been reluctant to examine in detail a patent holder's innovations and design changes. However, applying antitrust law, courts have found that monopolists may be liable for unlawfully extending their monopolies into adjacent markets in the areas of computer peripherals and software applications; aftermarket for replacement parts, service and maintenance of durable goods; design changes to medical devices; and changes in drug formulas. Although the boundary between patents and antitrust is not clearly delineated, the courts are nonetheless reluctant to give antitrust immunity to patent holders when they leverage market power in adjacent markets.

THE REAL ID ACT AND BIOMETRIC TECHNOLOGY: A NIGHTMARE FOR CITIZENS AND THE STATES THAT HAVE TO IMPLEMENT IT

PATRICK R. THIESSEN*

INTRODUCTION

Congress passed the Real ID Act (“the Act”) in 2005 and will require all states to implement much more stringent controls on the issuance of driver’s licenses and identification. The states face a number of obstacles in implementing the requirements including a lack of funding, lack of federal support and training, and a rapidly approaching implementation deadline. Under the Real ID Act, the Department of Homeland Security (“DHS”) could require that each state-issued driver’s license contain biometric technology, but it has not yet announced the exact requirements that must be included for all new driver’s licenses. On March 1, 2007, the DHS issued its Notice of Proposed Rulemaking (“NPRM”) for the Real ID Act. The NPRM is not a final rule but a proposal that was submitted for public comment. Opponents of the Real ID Act had predicted that the DHS may have chosen to require biometric technology to be included in all new driver’s licenses to make it more difficult for terrorists or criminals to obtain identification cards. However, in the DHS NPRM, a state does not have to include biometric technology in its driver’s licenses to comply with the Act, although they are free to do so. If the DHS amends the NPRM to require biometric technology in all new state-issued driver’s licenses and identification cards, the technology is likely to experience rapid growth. As a result, biometric technology might become more reliable as its producers address the challenges encountered in incorporating the technology into new identification cards for millions of Americans.

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Because of the difficulty that the states will have in implementing the Real ID Act, states will likely resist implementing the measures or, at a minimum, threaten the federal government with a lawsuit to pressure Congress to provide more support for the Act's mandates. Therefore, it is necessary to examine the legal challenges that states could mount against the Real ID Act to either avoid implementation or acquire more assistance and funding from the federal government.

There are several possible challenges. A state might challenge the Real ID Act under the Unfunded Mandate Reform Act ("UMRA"). This challenge is unlikely to succeed because of UMRA's exception for federal laws passed in the interests of security. However, a state might be able to mount a successful challenge under the Supreme Court's holding in *Printz v. United States*,¹ which upheld federalism principles that prevent the federal executive branch from imposing administrative enforcement requirements on the states. The Supreme Court held in *Printz* that under the principles of federalism the federal government cannot impose a federal regulatory program that must be implemented by state officers because imposing such a system violates state sovereignty.

A state might also raise a legal challenge to the Act as an unconstitutional form of conditional spending under the rationale set forth in *New York v. United States*.² In *New York*, the Supreme Court held that the federal government cannot coerce states into choosing between two alternatives, neither of which the federal government has the constitutional power to impose. Here, a state could argue that the federal government does not have the power to 1) force the states to adopt national driver's license standards under *Printz* or 2) to withhold federal benefits from the citizens of a state that does not comply under the germaneness test, where the federal spending must be related to the condition imposed.

Accordingly, a state should bring a claim opposing the Real ID Act and proceed by challenging the burdens placed on state department of motor vehicle workers as a violation of federalism and the separation of powers under *Printz*, or a federalism claim opposing the imposition of the Real ID Act as an unconstitutional form of conditional spending under *New York*.

1. *Printz v. United States*, 521 U.S. 898 (1997).

2. *New York v. United States*, 505 U.S. 144 (1992).

I. OVERVIEW OF THE REAL ID ACT

*He gazed up at the enormous face. Forty years it had taken him to learn what kind of smile was hidden beneath the dark mustache. O cruel, needless misunderstanding! O stubborn, self-willed exile from the loving breast! Two gin-scented tears trickled down the sides of his nose. But it was all right, everything was all right, the struggle was finished. He had won the victory over himself. He loved Big Brother.*³

National ID cards have been proposed in the U.S. as a means of enhancing security and preventing illegal immigration; but Americans have historically rejected the idea.⁴ Many countries have national ID cards, including most European countries, Hong Kong, Malaysia, Singapore, and Thailand.⁵ However, there is not yet a standard European Union ID card, although there are proposals for such a card that would include biometric technology.⁶ The September 11th attacks renewed interest in a national ID card as a means of preventing terrorism.⁷ Larry Ellison, the founder of Oracle, was one of the first proponents of smart cards that contained a tamper-proof algorithm that could store an individual's thumbprint.⁸

In Part A of this section, I examine the history of the Real ID Act. Part B sets forth the requirements of the Real ID Act. Part C details the problems that a state might face in implementing the Act. Part D characterizes the leading arguments in opposition to the Act. Finally, Part E describes the arguments in favor of the Act.

A. *The History of the Real ID Act*

A bill similar to the Real ID Act⁹ was first legislatively proposed by Representative F. James Sensenbrenner, a Republican from Wisconsin, to comply with the findings of the 9/11 Commission, but the bill's

3. GEORGE ORWELL, 1984 300 (Harcourt Brace Jovanovich 1970) (1949).

4. Electronic Privacy Information Center, National ID Cards and REAL ID Act, <http://epic.org/privacy/id-cards> (last visited May 8, 2008) [hereinafter EPIC] (see text below the heading "History of National Identification Cards").

5. *Id.*

6. John Lettice, *UK EU Presidency Aims for Europe-wide Biometric ID Card*, THE REGISTER, July 13, 2005, available at http://www.theregister.co.uk/2005/07/13/uk_eu_id_proposal.

7. See Matthew Brzezinski, *Fortress America*, N.Y. TIMES MAG., Feb. 23, 2003, at SM38.

8. *Id.*

9. 9/11 Recommendations Implementation Act, H.R. 10, 108th Cong. (2004).

provisions requiring an ID card were taken out after several members of the 9/11 Commission publicly stated that the provisions would not contribute to security.¹⁰ Representative Sensenbrenner reintroduced the restrictive provisions in 2005, and the Real ID Act was passed by Congress on May 11, 2005, as part of an emergency appropriations bill for the wars in Iraq and Afghanistan.¹¹ By attaching the measures to this emergency military appropriations bill, Representative Sensenbrenner was able to obtain the votes of many members who might not have otherwise supported the bill because these members either wanted to provide adequate funding for the military operations or wanted to avoid looking weak on defense. As a result, the Real ID Act became a “must-sign” piece of legislation.¹² The House passed this bill without public hearings or debate.¹³

B. *The Real ID Act’s Requirements*

The Real ID Act requires the states to comply with a number of provisions that must be implemented by May 2008.¹⁴ If a state is unable to comply by May 2008, it may request a five-year extension by February 2008.¹⁵ All state licenses and identification cards held by individuals from a state must be compliant by May 10, 2013.¹⁶ No federal agency will be allowed to accept a driver’s license or identification card from any state that has not had its identification procedures certified by the DHS.¹⁷ At a minimum, the new IDs must contain the individual’s date of birth, gender, ID number, digital photograph, address of legal residence, signature, physical security features, and machine-readable

10. Noah S. Leavitt, *The Real ID Act: How it Violates Treaty Obligations, Insults International Laws, Undermines Our Security, and Betrays Eleanor Roosevelt’s Legacy*, FINDLAW’S WRIT, May 9, 2005, at <http://writ.news.findlaw.com/leavitt/20050509.html>.

11. Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Tsunami Relief of 2005, Pub. L. No. 109-13, 119 Stat. 231, 302-23 (codified in scattered sections of 8 and 49 U.S.C.).

12. Leavitt, *supra* note 10.

13. *Id.*

14. Real ID Act of 2005, H.R. 418, 109th Cong. § 202(a)(1) (2005). In the future, all passengers will be required to have an ID that complies with the Real ID Act to fly on any airline. Op-Ed., “*Real ID*” Program Will Be a Costly Chore, DENVER POST, Sept. 28, 2006, at B6.

15. David Abel, *Coakley Cites Cost in Opposing US Law on Driver’s Licenses*, BOSTON GLOBE, June 14, 2007, at 1B.

16. U.S. Department of Homeland Security, Real ID Proposed Guidelines: Questions and Answers, http://www.dhs.gov/xprevprot/laws/gc_1172767635686.shtm (last visited May 8, 2008).

17. H.R. 418 § 202(a)(1); *see also* National Conference of State Legislatures, Real ID Act of 2005: Driver’s License Summary, <http://www.ncsl.org/standcomm/sctran/realidsummary05.htm> (last visited May 8, 2008).

technology.¹⁸ It appears that all states currently meet the minimum standards for driver's license informational content.¹⁹

On March 1, 2007, the DHS issued its NPRM for the Real ID Act that detailed the minimum data elements required, which does not require a state to include biometric technology in its driver's licenses.²⁰ The NPRM is not a final rule but a proposal that was submitted for public comment and could still be amended to require that a state include biometric technology.²¹ Each state must require every ID applicant to present a photo identity document, documentation showing the individual's date of birth, proof of social security number, and documentation showing the person's name and address.²² States are required to verify the lawful status of the person and verify all required documentation needed to obtain the ID, including all social security cards and birth certificates, with the issuing agency.²³ States must also ensure the physical security of all locations where driver's licenses and identification cards are issued and produced, which includes all state Department of Motor Vehicle ("DMV") offices and branches.²⁴

To comply with the Real ID Act, states will have to reissue driver's licenses and identification to 245 million cardholders within the first five years of the Act's passage.²⁵ The Congressional Budget Office estimates that implementation will cost the states \$100 million over the next five years.²⁶ This amount, for implementing the policies at the state level, stands in sharp contrast to other cost estimates issued by state organizations that might be more familiar with their own cost structures, which run as high as \$1 billion initially with an ongoing cost of \$10.1 billion for the first five years.²⁷ Some of this cost will almost certainly be borne by the ID holder, with driver's license fees expected to increase nine to ten times—from a current fee of \$10-15 to \$90.²⁸

18. H.R. 418 § 202(b).

19. Serge Egelman & Lorrie Faith Cranor, *The Real ID Act: Fixing Identity Documents with Duct Tape*, 2 I/S: J. L. & POL'Y FOR INFO. SOC'Y 149, 174-75 (2006).

20. Minimum Standards for Driver's Licenses and Identification Cards Acceptable by Federal Agencies for Official Purposes, *Notice of Proposed Rulemaking*, 72 Fed. Reg. 10,820 (Dep't of Homeland Sec. Mar. 9, 2007).

21. Real ID Act Proposed Guidelines: Questions and Answers, *supra* note 16.

22. H.R. 418 § 202(c)(1).

23. *Id.* § 202(c)(3)(A).

24. *Id.* § 202(d)(7).

25. Press Release, Nat'l Governors Ass'n, Real ID Will Cost States More Than \$11 Billion (Sept. 21, 2006), *available* at <http://www.nga.org/portal/site/nga/menuitem.6c9a8a9ebc6ae07eee28aca9501010a0/?vgnnextoid=7aa10a8066bcd010VgnVCM1000001a01010aRCRD>.

26. Andrew Garber, *REAL ID's Cost Angers State Leaders*, SEATTLE TIMES, Aug. 17, 2005, at B1.

27. Press Release, Nat'l Governors Ass'n, *supra* note 25.

28. ANGELA FRENCH, CITIZENS AGAINST GOV'T WASTE, REAL ID: BIG BROTHER

Expected wait times at DMVs nationwide are predicted to increase up to 200 percent in some areas because DMV workers will be required to verify all documentation presented by individuals seeking new or renewal identification cards.²⁹ With the increase in wait time and the dramatic increase in price, the Real ID Act will have lasting ramifications for every American seeking an ID. It will also affect those individuals who do not have IDs or cannot obtain identification cards because they will no longer be able to access federal services.

C. *The Problems Faced by the States*

States face a number of problems in implementing the provisions of the Real ID Act. First, verifying all documentation with the issuing agency will be an enormous task and has the potential to be undermined by the fact that “breeder documents,”³⁰ such as birth certificates and social security cards, which an identification seeker must present are easily forged.³¹ The Real ID Act requires a DMV worker to verify the birth certificate with the issuing agency or hospital, which will likely consist of making a phone call to verify that the birth certificate that the identification seeker is presenting is in the official records of the issuing agency. However, there is no certainty that a person who is presenting a birth certificate is the person named in the birth certificate, only that the person named in the certificate exists.³² Requiring biometric technology on birth certificates, such as a DNA fingerprint, might be the only way to prevent this problem but this requirement is not yet in the Real ID Act.³³

States must also set up a national database to store records of these breeder documents for no less than ten years.³⁴ This database will be accessible by all fifty states, Canada, and Mexico, which creates a higher risk of identity theft if someone was able to hack into this database.³⁵ Also, encryption systems that adequately protect these databases are expensive and will have to be administered by state DMV employees that

COULD COST BIG MONEY 4 (2005), at http://www.cagw.org/site/DocServer/Real_ID_FINAL_with_cover.pdf?docID=1281.

29. Press Release, Nat'l Governors Ass'n, *supra* note 25.

30. A breeder document is a document that one might be required to present to obtain a legitimate identification card. MARGARET R. O'LEARY, *THE DICTIONARY OF HOMELAND SECURITY AND DEFENSE* 59 (2006). For example, a birth certificate is often required to obtain a driver's license. DENNIS BAILEY, *THE OPEN SOCIETY PARADOX: WHY THE 21ST CENTURY CALLS FOR MORE OPENNESS — NOT LESS* 47 (2004).

31. Raquel Aldana & Silvia R. Lazos Vargas, *“Aliens” in Our Midst Post-9/11: Legislating Outsiderness Within the Borders*, 38 U.C. DAVIS L. REV. 1683, 1718 (2005).

32. Egelman & Cranor, *supra* note 19, at 176.

33. *Id.*

34. *Id.* at 175.

35. *Id.*

must be trained.³⁶ It is also unknown how long current driver's licenses will be valid and how minors will be treated under the Act.³⁷

D. Opposition to the Real ID Act

The Real ID Act has faced a great deal of opposition from the states and a number of privacy advocates. The National Governors Association, National Association of State Legislators, and the American Association of Motor Vehicle Administrators have all issued statements in opposition to the Act.³⁸ These groups have complained that the Act's provisions have not been funded by the federal government and that the states should be given eight years to comply.³⁹ Kentucky and the state of Washington have considered resolutions against the Act.⁴⁰ Maine lawmakers passed a resolution seeking repeal of the Act, citing the Act's \$185 million costs for the state, failure to increase security, and standards that put people at risk for identity theft.⁴¹

Since taking control of the House of Representatives and the Senate in the 2006 mid-term election, Democrats have argued that the Real ID Act must be overhauled.⁴² Democratic leaders have said that, unless the long-awaited regulations to be announced by the DHS provide adequate protections for privacy and individual rights, they will repeal the Act.⁴³ Two U.S. Senators, one a Republican and the other a Democrat, lead the opposition.⁴⁴ Senator Daniel Akaka, D-Hawaii, and Senator John Sununu, R-New Hampshire, have introduced a bill, the "Identification Security Enhancement Act of 2006," to address some of what they perceive as the shortcomings of the Real ID Act.⁴⁵ The proposed bill

36. Memorandum from the Am. Civil Liberties Union, *Administrative Burdens on the States Imposed by the REAL ID Act*, available at http://www.nclr.org/files/34498_file_ACLU_REAL_ID_Burdens_on_States.pdf.

37. *"Real ID" Program Will Be a Costly Chore*, supra note 14.

38. Pam Belluck, *Mandate for ID Meets Resistance from States*, N.Y. TIMES, May 6, 2006, at A1.

39. *Id.*

40. *Id.*

41. *Maine Calls For Repeal of National-ID Act*, WASH. POST, Jan. 26, 2007, at A6.

42. Shaun Waterman, *Analysis: Dems Plan Overhaul of Real ID*, UNITED PRESS INT'L, Dec. 13, 2006, available at http://www.upi.com/Security_Terrorism/Analysis/2006/12/12/analysis_dems_plan_overhaul_of_real_id/2207.

43. *Id.*

44. K.C. Jones, *Senators Threaten to Repeal Real ID Act Unless Changes Are Made*, INFO. WEEK, Dec. 16, 2006, available at <http://www.informationweek.com/security/showArticle.jhtml?articleID=196700298>.

45. Press Release, Sen. Daniel Akaka, Akaka Introduces Legislation Repealing the Real ID Act (Dec. 11, 2006), available at http://akaka.senate.gov/public/index.cfm?FuseAction=PressReleases.Home&month=12&year=2006&release_id=1461.

would provide \$300 million annually for driver's license and ID card security implementation.⁴⁶ The proposed bill would also create driver's license standards that would be developed collaboratively by all key stakeholders including state governments and privacy experts.⁴⁷ Finally, the proposed bill would extend the compliance deadline for states.⁴⁸ Aside from the Democratic opposition, Republican Senator Sununu believes that the Real ID Act undermines the states' right to determine eligibility for driver's licenses, raises serious privacy concerns, and imposes billions of dollars of expenses on the states.⁴⁹

The Act is also opposed by groups as diverse as the CATO Institute, a libertarian think tank,⁵⁰ and the American Civil Liberties Union ("ACLU"), an organization designed to defend and preserve the individual liberties guaranteed under the Constitution,⁵¹ both of which testified in opposition to the Real ID Act in New Hampshire.⁵² The CATO Institute's opposition is based on what it characterizes as the federal government blackmailing the states.⁵³ The CATO Institute has highlighted the fact that the states are being forced to comply with the Real ID Act because a noncompliant state's citizens will be barred from air travel, entry to federal courthouses, and other federal checkpoints.⁵⁴

ACLU opposition is based on the high cost of implementation being imposed on the states, its belief that it will not actually prevent terrorism, and the diminished privacy Americans will experience because of the compilation of personal information.⁵⁵ Barry Steinhardt, Director

46. *Id.*

47. *Id.*

48. *Id.*

49. Senator John E. Sununu, Real ID: Unnecessary, Unfunded, Unlikely to Make You Safer, <http://www.sununu.senate.gov/columns5-17-06.html> (last visited May 8, 2008).

50. Cato Institute, About Cato, <http://www.cato.org/about.php> (last visited May 8, 2008).

51. Am. Civil Liberties Union, About Us, <http://www.aclu.org/about/index.html> (last visited May 8, 2008).

52. Belluck, *supra* note 38.

53. Jim Harper, *NH Can Set A National Example by Opposing a Federal ID Card*, UNION LEADER, Apr. 5, 2006, available at http://www.cato.org/pub_display.php?pub_id=6358.

54. *Id.*

55. Press Release, Am. Civil Liberties Union, State Groups' Cost Estimate, Call for Revisions Should Be Final Straw For Real ID Act, ACLU Says (Sept. 21, 2006), available at <http://www.aclu.org/safefree/general/26820prs20060921.html>.

The sad thing is, the huge new burdens Real ID will impose on ordinary Americans will bring few actual benefits, since it will do little to protect us against terrorism . . . and everyone needs to remember that the burdens it brings won't just be long lines and higher fees - we will also pay the costs of diminished privacy, ID theft and the regimentation of our country through what amounts to America's first true system of national identity papers.

Id.

of ACLU's Technology and Liberty Project, stated:

It's likely the costs for Real ID will be billions more than today's estimate [\$11 billion] — but no matter what the real figure is, Real ID needs to be repealed. At a time when many state budgets and services are already stretched thin, it is clear that this unfunded mandate amounts to no more than a tax increase in disguise.⁵⁶

Opponents of the Act also fear that the Act turns DMV workers into agents of the DHS.⁵⁷ Former Governor of Arkansas and 2008 Republican Presidential Candidate, Michael D. Huckabee, questioned “whether this is a role that you really want to turn over to an entry-level, front-line, desk person at the D.M.V.”⁵⁸ The Act has also faced opposition at the state level from both the left and the right.⁵⁹

Privacy advocates such as the Electronic Privacy Information Center (“EPIC”) and the Electronic Frontier Foundation (“EFF”) have also spoken out against the Real ID Act.⁶⁰ EPIC opposes the Act because it believes the Act would create an incredible bureaucracy in requiring state DMVs to verify all documentation, and might result in “foreign-looking” individuals being discriminated against and having their documents more heavily scrutinized.⁶¹ Moreover, EPIC argues that the states compiling personal information into databases that could be accessed by other states’ DMVs to authenticate the documents presented by ID seekers would be highly susceptible to criminals who could hack into the database and steal the personal information of individuals to perpetrate identity theft.⁶² EFF opposition is based on the fact that the Real ID Act permits the surveillance of Americans because the machine-readable magnetic strip would allow the government to track an individual’s movements by following where the card has been swiped.⁶³

The Act also faces opposition from human rights advocates and some international organizations.⁶⁴ These groups have criticized the Real ID Act because it endangers asylum seekers by making asylum

56. *Id.*

57. Belluck, *supra* note 38.

58. *Id.*

59. *Id.* (quoting Ky. State Rep. Kathy W. Stein as saying that the Real ID Act “is one of those issues where the extreme left, which I’m always characterized as, and the extreme right meet”).

60. EPIC, *supra* note 4; Electronic Frontier Foundation, Real ID, <http://www.eff.org/Privacy/ID/RealID/> (last visited May 8, 2008) [hereinafter EFF].

61. EPIC, *supra* note 4.

62. *Id.*

63. EFF, *supra* note 60.

64. Nora Boustany, *U.N. Security Council Takes Up Discussion of Rights in Burma*, WASH. POST, Sept. 30, 2006, at A12.

procedures more difficult.⁶⁵ They claim that it does so by placing the burden of proving relief on the asylum seeker.⁶⁶ The Real ID Act also could face some international opposition because it might violate a number of international treaties by stripping immigrants of their right to habeas corpus review if they claim mistreatment on the part of DHS officials.⁶⁷

E. Arguments in Support of the Real ID Act

Defenders of the Real ID Act have been able to deflect some of the criticism from various groups by arguing that the Act is necessary to prevent illegal immigration and to prevent terrorism.⁶⁸ For instance, Representative Sensenbrenner referenced the fact that Muhammad Atta, one of the 9/11 hijackers, came over to the United States on a six-month visa, but still was able to obtain a six-year driver's license in Florida.⁶⁹ Supporters also argue that the Act will prevent illegal immigration by making it more difficult for illegal immigrants to get state driver's licenses.⁷⁰ Moreover, supporters contend that asylum seekers should bear the burden of proving a valid cause for asylum, which is required under the Real ID Act because a terrorist will not be able to easily gain residency status by claiming asylum.⁷¹ Supporters also argue that a true national database, which would be susceptible to hackers, is not required because the states will send electronic queries to each other that will be answered with the individual state's database.⁷² This position is supported because the DHS states that a federal database is not required in its NPRM.⁷³

There are also some supporters at the state political level who do not

65. *Id.*

66. Jared Joyce-Schleimer, Current Development, *The State of the Real ID Act of 2005*, 19 GEO. IMMIGR. L.J. 611 (2005).

67. Leavitt, *supra* note 10.

68. Aldana & Vargas, *supra* note 31.

69. 151 Cong. Rec. H460 (daily ed. Feb 9, 2005) (statement of Rep. Sensenbrenner).

70. Anne C. Mulkern, *Congress Appears Ready to Go Its Own Way on Immigration*, DENVER POST, Feb. 13, 2005, at A6.

71. 151 Cong. Rec. H468 (daily ed. Feb 9, 2005).

Many of those intent on doing our Nation harm claim political asylum as their Trojan horse to gain access to our borders. Individuals like the 1993 World Trade Center bomber, Ramzi Yousef, claimed political asylum and was ordered to appear at a hearing. Yet Yousef, like a majority of those given notices, failed to show up at the hearings. This bill will make it easier to deport suspected terrorists.

Id. (comments of Rep. Michael McCaul).

72. Belluck, *supra* note 38 (quoting Jeff Lungren, Spokesman for Rep. James Stennessenbrenner).

73. Minimum Standards for Driver's Licenses and Identification Cards Acceptable by Federal Agencies for Official Purposes, *Notice of Proposed Rulemaking*, 72 Fed. Reg. 10,820 (Dep't of Homeland Sec. Mar. 9, 2007).

want to see their state's citizens lose out on a plethora of federal benefits.⁷⁴ Then-Governor Eliot Spitzer agreed that New York would be the first large state in the country to comply with the Act's requirements.⁷⁵ This was a substantial victory for proponents of the Act.

II. OVERVIEW OF BIOMETRICS

*There is an evil tendency underlying all our technology — the tendency to do what is reasonable even when it isn't any good.*⁷⁶

The advancement of the digital age has businesses, the government, and individuals searching for alternatives to safeguard their digital communications; biometrics are one of the proposed solutions. Biometrics refers to a set of techniques that utilize physiological or behavioral characteristics to uniquely identify an individual.⁷⁷ Biometric information is a form of electronic signature that is stored digitally.⁷⁸ The identifier can consist of a fingerprint, voiceprint, retinal scan, fingerprint deconstruction, handwriting analysis, keyboard dynamics, video surveillance, or facial recognition.⁷⁹

Biometrics have already been incorporated into a number of public and private uses and have tremendous potential.⁸⁰ The biometric technology market grew by approximately 47% in 2006—to sales over \$2.2 billion, up from \$1.5 billion in 2005.⁸¹ The military is increasingly relying on biometric identifiers.⁸² For example, biometrics technology is

74. Belluck, *supra* note 38.

75. Nicholas Confessore, *Furor Persists, But License Plan Gets Support*, N.Y. TIMES, Oct. 29, 2007, at B1.

76. ROBERT M PIRSIG, *ZEN AND THE ART OF MOTORCYCLE MAINTENANCE* 63 (HarperTorch 2006) (1974).

77. International Biometric Group, <http://biometricgroup.com> (last visited May 8, 2008).

78. Thomas J. Smedinghoff, *Online Transactions: The Rules for Ensuring Enforceability in a Global Environment*, THE COMPUTER & INTERNET LAW., Apr. 1, 2006, at 6 n.45.

79. *Id.*; see also Timothy Quinn, *DNA Lite*, Z MAG. ONLINE, Mar. 2003, available at <http://www.zmag.org/zmag/viewArticle/13992>; Sarah Arnott, *UK Issues First Biometric Passport*, COMPUTING, Mar. 6, 2006, available at <http://www.computing.co.uk/computing/news/2151432/uk-issues-first-biometric>.

80. Brian R. Hook, *Biometric Technology: Thinkpad and Beyond*, TECHNEWSWORLD, Nov. 2, 2004, available at <http://www.technewsworld.com/story/37778.html> (quoting Dave Bixler, Info. Sec. Officer, Siemens Bus. Serv., as saying about biometric technology that “[a]ssuming the technology proves cost-effective and secure, this technology has the potential to dramatically improve information and physical security at almost all levels”).

81. William M. Buckley, *How Biometric Security Is Far from Foolproof*, WALL ST. J., Dec. 21, 2006, at B3.

82. *Biometric Standards*, MIL. INFO. TECH., Mar. 13, 2006, available at <http://www.military-information-technology.com/article.cfm?DocID=1354>.

being utilized to identify suspected insurgents in Iraq.⁸³ Businesses are utilizing biometrics to decrease security expenses.⁸⁴ Fingerprint scanners are being incorporated into newer computer models as a solution for those users who are having a difficult time remembering all of their Internet passwords,⁸⁵ and the popularity of fingerprint readers is expected to grow.⁸⁶ The Internet banking industry is exploring biometric information as a solution for client verification.⁸⁷ Airports are experimenting with smartcards that are embedded with biometric data to allow frequent travelers the opportunity to avoid long security lines.⁸⁸ Biometric identifiers are being linked to consumers' credit cards to speed up the checkout process at gas stations and convenience stores.⁸⁹ Biometric technology is also being utilized by casinos to identify regular customers and to individually tailor casino services.⁹⁰

Moreover, biometric technology is currently being integrated into passports as countries seek to comply with standards set forth in international agreements. More than forty countries are introducing biometric technology in their passports as they seek to comply with the standards set forth by the International Civil Aviation Organization and the U.S. visa waiver scheme.⁹¹ By the end of 2006, all U.S. passports that are issued are required to have a radio-frequency identification ("RFID"), which includes an individual's name and a digitized photograph.⁹² In the future, RFID might also store biometric information such as fingerprints.⁹³

83. Dawn S. Onley, *Biometrics on the Front Line*, GOV'T COMPUTER NEWS, Aug. 16, 2004, available at http://www.gcn.com/print/23_23/26930-1.html.

84. Hook, *supra* note 80.

85. Yuki Noguchi, *Access Denied*, WASH. POST, Sept. 23, 2006, at D1.

86. *See* Buckeley, *supra* note 81.

87. Meiring de Villiers, *Free Radicals in Cyberspace: Complex Liability Issues in Information Warfare*, 4 NW. J. TECH. & INTELL. PROP. 13, 57 (2005); *see also* Roland Lim, *KPMG Wins Tender from IDA to Develop Security Framework*, BUS. TIMES SINGAPORE, Sep. 21, 2006.

88. Patty Donmoyer, *Reg. Traveler Test Ends: U.S. Considers Findings As Private Airport Programs Proliferate*, BUS. TRAVEL NEWS ONLINE, Oct. 3, 2005, at http://www.bnonline.com/businesstravelnews/search/article_display.jsp?vnu_content_id=1001219676; *see also* Hook, *supra* note 80 (biometric technology is also being utilized in international airports such as in Santiago, Chile).

89. Kristi Arellano, *Touch Tech Gizmo Lets Gas Purchasers Pump, Press, Go*, DENVER POST, Sept. 22, 2006, at C1 ("Feather Petroleum joins some 2,200 retailers in 44 states that use payment technology offered by San Francisco-based Pay By Touch.")

90. Chris Jones, *Hand Scanners Give Customers Easy Access To Safe Deposit Vaults*, LAS VEGAS SUN, June 3, 2002, at C1.

91. Arnott, *supra* note 79.

92. Bruce Schneier, *The ID Chip You Don't Want in Your Passport*, WASH. POST, Sept. 16, 2006, at A21.

93. *Id.*

III. INCORPORATING BIOMETRIC TECHNOLOGY INTO DRIVER'S LICENSES TO COMPLY WITH THE REAL ID ACT

*Those who would give up ESSENTIAL LIBERTY to purchase a little TEMPORARY SAFETY, deserve neither LIBERTY nor SAFETY.*⁹⁴

On March 1, 2007, the DHS issued its NPRM for the Real ID Act, a proposal that was submitted for public comment.⁹⁵ The NPRM does not require that a state include biometric technology in its driver's licenses to comply with the Act, although they are free to do so.⁹⁶ The NPRM could still be amended to include biometric technology and the states are waiting for the final proposal. The DHS has not offered a timetable for the final proposal.⁹⁷ States are delaying any implementation of procedures that meet the Real ID Act until the DHS releases its final requirements.⁹⁸

This delay has caused a number of problems for the states. States cannot solicit bids from firms who might issue the cards and they cannot finalize any related negotiations, contracts, or deals.⁹⁹ States also cannot acquire new materials, train their workers, or analyze new procedures to reduce the chance of error in either denying an authorized person from receiving a driver's license or permitting someone from obtaining a false driver's license.¹⁰⁰ Moreover, the Real ID Act, unlike the RFID required in the new U.S. passport, does not contain the same safety features.¹⁰¹ Additionally, the National Governors Association ("NGA") has requested that the technology, which will be required to be incorporated into the new identification cards, be based on actual functionality and not simply what is available on the market at the time.¹⁰² The NGA has taken this stance because biometric technology is advancing so rapidly that the DHS could require the states to utilize technology that exists, but has not been adequately tested, to ensure that it functions properly

94. Benjamin Franklin, Pennsylvania Assembly: Reply to the Governor (Nov. 11, 1755), *quoted in* SUZY PLATT, *RESPECTFULLY QUOTED: A DICTIONARY OF QUOTATIONS* 201 (Barnes & Noble 1993).

95. Minimum Standards for Driver's Licenses and Identification Cards Acceptable by Federal Agencies for Official Purposes, *Notice of Proposed Rulemaking*, 72 Fed. Reg. 10,820 (Dep't of Homeland Sec. Mar. 9, 2007).

96. *Id.*

97. *Id.*

98. "Real ID" Program Will Be a Costly Chore, *supra* note 14.

99. Anush Yegyzarian, *Tech.gov: Real ID's Real Problems*, PC WORLD, Oct. 11, 2006, available at <http://www.pcworld.com/article/id,127419-c,techrelatedlegislation/article.html>.

100. *Id.*

101. Anita Ramasastry, *Why the 'Real ID Act' is a Real Mess*, CNN.COM, Aug. 12, 2005, at <http://www.cnn.com/2005/LAW/08/12/ramasastry.ids/index.html>.

102. Press Release, Nat'l Governors Ass'n, *supra* note 25.

and justifies a state's initial investment.¹⁰³

Currently, a test case for the implementation of the Real ID Act is taking place within the Transportation Security Administration ("TSA"). The program is known as the Transportation Worker Identification Credential Program ("TWIC") and requires maritime transportation workers to go through new identification procedures that provide them with identification cards that include biographic and biometric information.¹⁰⁴ Up to 850,000 workers were expected to participate in the program by the end of 2006, and the program has many aspects similar to the Real ID Act requirements.¹⁰⁵ For example, TWIC requires that IDs carry biometric identifiers, which is a potential requirement that the DHS could include in the Real ID standards.¹⁰⁶ Also, both plans share the goal of denying IDs to unauthorized parties to enhance security.¹⁰⁷ The new identification cards cost an estimated \$140 each.¹⁰⁸ Port workers are required to present the new identification cards at checkpoints where the workers' biometric identifiers are matched by a computer to those contained on the card. If the biometrics match, a worker is permitted to enter the port.¹⁰⁹ However, implementation of the program has been bogged down by maritime industry opposition, technology flaws, and evidence that the technology does not protect the worker's privacy.¹¹⁰ The program foreshadows the difficulty that the states might have in complying with similar requirements contained in the Real ID Act as they provide new identification cards to millions of Americans.¹¹¹

Biometric technology presents a number of problems.¹¹² Historically, the technology had a problem with accuracy because biometric readers failed to match a person's biometric information with the information of an authorized person contained in a database.¹¹³ Much of the accuracy issues have been resolved as the technology has

103. *Id.*

104. Transportation Security Administration, Transportation Worker Identification Credential (TWIC™), http://www.tsa.gov/what_we_do/layers/twic/index.shtm (last visited May 8, 2008).

105. *Id.*

106. *Id.*

107. *Id.*

108. "Real ID" Program Will Be a Costly Chore, *supra* note 14.

109. Jason Miller, *DOT, DHS to Test ID Cards at Port This Week*, WASH. TECH., Oct. 29, 2006, available at http://www.washingtontechnology.com/news/1_1/daily_news/28953-1.html.

110. Spencer S. Hsu, *Transit-Worker ID Program Stalled*, WASH. POST, Sept. 17, 2006, at A3.

111. *Id.*

112. Quinn, *supra* note 79.

113. *Id.*

progressed, but other problems have arisen.¹¹⁴ There is the problem of thwarting impersonation, which biometricians have termed “spoofing.”¹¹⁵ An individual may gain access to the information that a biometric machine reader is protecting by replicating the biometric information and scanning a well-copied fingerprint or a pair of contact lenses to replicate the biometric information of a person who has access.¹¹⁶ One way to prevent biometric spoofing, which is still in its nascent stages, is to have scanners that can test for “liveness,” which are signs that the finger being used to access a fingerprint scanner has a pulse, is sweating, or has a vein pattern.¹¹⁷ Because biometric technology can be thwarted irrespective of liveness tests, it does not necessarily provide the security that its proponents promise.

There are also privacy concerns raised by incorporating biometric technology into the Real ID Act. The Real ID Act requires the states to store data in a central database that can be accessed by federal officials and the employees of other states’ DMVs when they process the identifications of individuals who have moved or who are seeking to renew their driver’s license. If the DHS amends the NPRM to require biometric data to be incorporated into these new driver’s licenses, biometric information would also have to be centrally stored in a data base. Dave Bixler, an informational security officer at Siemens Business Services, an international provider of IT services and solutions, spoke about identity theft and stated that “it only takes one leak . . . to irreparably damage [someone’s] privacy—that is one genie that can never be put back in the bottle.”¹¹⁸ The problem of identity theft could be exacerbated if each state’s DMV is required to maintain a database containing biometric identifiers. A thief of biometric data would not only have access to an individual’s written personal records, but he or she could also combine spoofing to access any of the individual’s finances safeguarded by biometric technology. The database could be hacked into, or information could also be stolen by a state or federal official with

114. Buckeley, *supra* note 81.

115. *Id.*

116. *Id.*

In 2002, Tsutomu Matsumoto, a mathematician at Yokohama National University in Japan, reported he had fooled a number of fingerprint readers by creating fake fingers out of the kind of gelatin used in candy Gummy bears. Researchers at Biomedical Signal Analysis Laboratory at West Virginia University have reported they were able to fool various types of fingerprint readers between 40% and 94% of the time using cadaver fingers or fingers made of Play-Doh.

Id.

117. Michael Kanellos, *Scientists Pore Over Biometric-Spoofing Tests*, CNET NEWS.COM, Dec. 22, 2005, available at <http://news.zdnet.co.uk/emergingtech/0,1000000183,39243463,00.htm?r=1>.

118. Hook, *supra* note 80.

authority to access the database in the course of his employment.¹¹⁹ For example, in May of 2006, the personal information, including name, birth date, and social security number, of 26 million military veterans could have been stolen by identity thieves when a Department of Veterans Affairs laptop was stolen.¹²⁰

There will be a huge cost in creating an identification card that protects against forgery and a secure database that adequately protects against identity theft, and, so far, the federal government has not provided the necessary funding to implement a successful program.¹²¹

IV. LEGAL CHALLENGES

While states technically are not forced to accept the federal standards, any refusal to comply would mean that their residents could not get a job, receive Social Security, or travel by plane. So rather than imposing a direct mandate on the states, the federal government is blackmailing them into complying with federal dictates.¹²²

Opponents of the Real ID Act could raise a number of legal challenges. Besides making official requests for an amendment to the timeframe for implementation and lobbying for more federal funding, a state might examine the possibility of filing a lawsuit against the federal government. Part A of this section examines a possible claim under the Unfunded Mandate Reform Act. Part B analyzes the possibility of a challenge under the doctrine of federalism based on the rationale in *Printz v. United States*.¹²³ Part C explores a state claim under federalism arguments that driver's licenses should be regulated by the states as an area of traditional state concern. Part D considers a state's challenge to Congress' exercise of its spending power under the rationale set forth by the U.S. Supreme Court in *New York v. United States*.¹²⁴ Finally, Part E sets forth a state's most likely course to succeed in its challenge of the Real ID Act.

119. "Real ID" Program Will Be a Costly Chore, *supra* note 14.

A given state could spend millions of dollars on the very best of security systems and then have the private data of its citizens compromised by the employee of either another state or the federal government. It could take months to locate the source of such a breach, if at all.

Id. (quoting James McCoy, Joint Budget Comm. Analyst).

120. Steve Lohr, *Surgin Losses but Few Victims*, N.Y. TIMES, Sept. 27, 2006, at G1. It was later revealed that the laptop had been stolen by three teenagers who were merely committing a simple residential burglary and did not plan on committing identity theft.

121. Egelman & Cranor, *supra* note 19, at 180.

122. Posting of Rep. Ron Paul to LewRockwell.com, National ID Cards Won't Stop Terrorism or Illegal Immigration (May 10, 2005), <http://www.lewrockwell.com/paul/paul248.html>.

123. *Printz*, 521 U.S. 898.

124. *New York*, 505 U.S. 144.

A. A State Claim under the Unfunded Mandate Reform Act

The Unfunded Mandate Reform Act (“UMRA”) was passed by the 104th Congress as a part of increased recognition of states’ rights and as a part of the Republican “Contract with America.”¹²⁵ Prior to its passage, many states had protested federal policies that were imposed upon them without any funding from the federal government.¹²⁶ To prevent the imposition of unwanted mandates upon the states UMRA provides:

[T]o curb the practice of imposing unfunded Federal mandates on states and local governments; to strengthen the partnership between the Federal Government and State, local and tribal governments; to end the imposition, in the absence of full consideration by Congress, of Federal mandates on State, local, and tribal governments without adequate funding, in a manner that may displace other essential governmental priorities; and to ensure that the Federal Government pays the costs incurred by those governments in complying with certain requirements under Federal statutes and regulations, and for other purposes.¹²⁷

UMRA includes a number of procedural safeguards designed to prevent Congress from passing an unfunded mandate.¹²⁸ It was designed to provide better information to Congress about the effects of legislation and, to that effect, the authorizing committee of a bill must include a report, most of which is prepared by the Congressional Budget Office (“CBO”), about any mandates in the bill.¹²⁹ The CBO must provide an estimate of the direct costs of any mandate that exceeds \$50 million or a report stating why it cannot give an estimate.¹³⁰

Critics have found that UMRA’s bite is limited in a number of ways.¹³¹ The definition of mandate is reserved for conditional provisions

125. Eileen M. Luna, *The Impact of the Unfunded Mandate Reform Act of 1995 on Tribal Governments*, 22 AM. INDIAN L. REV. 445 (1998).

126. *Id.*

127. Unfunded Mandate Reform Act of 1995, Pub. L. No. 104-4, 109 Stat. 48 (codified as amended in scattered sections of 2 U.S.C.).

128. Elizabeth Garrett, *Enhancing the Political Safeguards of Federalism? The Unfunded Mandates Reform Act of 1995*, 45 KAN. L. REV. 1113, 1136 (1997).

129. 2 U.S.C. § 658c(a) (2006).

130. 2 U.S.C. § 658c(a)(1).

131. UMRA is limited in at least three ways: “a narrow definition of intergovernmental mandate, an expansive list of exceptions to its coverage, and precisely specified triggering events for the disclosure and enforcement provisions.” Garrett, *supra* note 128, at 1138; *Passing the Buck: A Review of the Unfunded Mandates Reform Act: Hearing Before the Subcomm. on Oversight of Government Management, the Federal Workforce, and the District of Columbia of the S. Comm. on Homeland Security and Government Affairs*, 109th Cong. (2005) (testimony of John Hurson, President of the Nat’l Conf. of State Legs.), available at http://hsgac.senate.gov/public/_files/HursonTestimony.pdf.

for which \$500 million or more in federal aid is provided to state and local governments, but even if \$500 million or more is given, it might not be a mandate if the state is provided enough flexibility to comply.¹³² There is also the good possibility that a court will find that the federal provision does not require an enforceable duty.¹³³ More troublesome for Real ID Act opponents is the specific exception for a mandate that “is necessary for the national security or the ratification or implementation of international treaty obligations.”¹³⁴ This exception, contained in UMRA for national security, is likely to be met by the Real ID Act because its proponents have characterized the Act as necessary to prevent terrorism. Opponents of the Act could argue that the provisions do not really increase national security and, therefore, UMRA should apply to the Act. However, the federal government has recently been able to find loopholes in UMRA to enact its policies and leave the states with the bill. For example, major pieces of legislation such as the “No Child Left Behind School Reform Act, legislation guaranteeing special-education benefits for disabled children, the Medicaid program and the post-2000-election law mandating improved voting equipment,”¹³⁵ were all passed by legislators who were able to find an exception to UMRA.¹³⁶ Given the fact that the Real ID Act likely fits within the security exception, or under a similar exception that legislators could utilize as they have with other recent pieces of legislation, it is unlikely that a challenge under UMRA would succeed.

Even if a state’s UMRA challenge fails, it is possible that a state could lobby for more funding. Intergovernmental lobbying done by the NGA or the National Council for State Legislators (“NCLS”) has historically proven effective in eliminating or altering unfunded mandates.¹³⁷ For example, in 1988, then Governor of Arkansas, Bill Clinton, who was also the chairman of the NGA, was asked about a welfare-reform bill by members of the Ways and Means Committee and how certain provisions would affect the states.¹³⁸ Moreover, state legislators opposed some of the stringent work requirements that were contained in President Bush’s reauthorization of the 1996 welfare law, and eventually the work restrictions that were passed were more

132. Garrett, *supra* note 128.

133. Nevada v. United States Dep’t of Energy, 133 F.3d 1201, 1207 (9th Cir. 1997).

134. 2 U.S.C. § 1503(5).

135. David S. Broder, *Those Unfunded Mandates*, WASH. POST, Mar. 17, 2005, at A25.

136. *Id.*

137. Bruce G. Peabody & John D. Nugent, *Toward a Unifying Theory of the Separation of Powers*, 53 AM. U. L. REV. 1, 52 (2003).

138. *Id.*

flexible.¹³⁹ The NGA and the NCLS can be effective as lobbying associations because they represent elected officials who often share the same constituencies as senators and members of the House of Representatives.¹⁴⁰ However, the Real ID Act has already been passed, and these groups were unable to alter the Act prior to its passage, which limits much of their lobbying voice. Additionally, there is such a disparate set of estimates of the cost of implementation of the Real ID Act that it is unlikely that Congress will listen to the states, at least not until implementation is further under way.

B. Upholding Federalism: A State's Challenge under Printz

States could likely bring a challenge under the holding of *Printz v. United States*.¹⁴¹ Although this holding has been criticized by legal scholars,¹⁴² the Supreme Court seems firmly committed to the principles of federalism.¹⁴³ In *Printz*, interim provisions of the Brady Act, which restricted firearm purchases, were challenged as a violation of federalism. While a national database was established, the Brady Act required state law enforcement agents to conduct background checks on individuals purchasing handguns in their jurisdictions. The Supreme Court held that the federal government could not command a state's executive officers to administer or enforce a federal regulatory scheme.¹⁴⁴ Justice Scalia, writing for the majority, reasoned that requiring local law enforcement officers to conduct background checks was a violation of state sovereignty and found this provision of the Brady Act invalid because "the power of the Federal Government would be augmented immeasurably if it were able to impress into its service—and at no cost to itself—the police officers of the 50 States."¹⁴⁵ The Court also held that this provision of the Brady Act impermissibly gave too much power to the Executive Branch, by allowing it to utilize the services of law enforcement officers in all fifty states, thus violating separation of powers principles.¹⁴⁶ The Court struck down the interim provisions, but sustained the bulk of the Brady Act including the measures that later established a national database.¹⁴⁷

139. *Id.* at 53.

140. *Id.* at 54.

141. *Printz*, 521 U.S. 898.

142. Gene R. Nichol, *Justice Scalia and the Printz Case: The Trials of an Occasional Originalist*, 70 U. COLO. L. REV. 953 (1999).

143. *Garcia v. San Antonio Metro. Transit Auth.*, 469 U.S. 528 (1985); *Nat'l League of Cities v. Usery*, 426 U.S. 833 (1976); *Younger v. Harris*, 401 U.S. 37 (1971); .

144. *Printz*, 521 U.S. at 935.

145. *Id.* at 922.

146. *Id.*

147. *Id.*

Opponents of the Real ID Act could argue that DMV agents should not be commandeered to enact the provisions of the Real ID Act, since the Supreme Court held that law enforcement officers could not be agents of the executive branch in *Printz*.¹⁴⁸ The federal government could be viewed as encroaching on state sovereignty in this case under *Printz*. This burden will be even more onerous if the DHS requires biometric technology to be incorporated because DMV workers will have to be trained and will have to implement policies to coordinate this rapidly evolving technology. Moreover, the DHS, part of the Executive Branch, would have the benefit of DMV workers in all 50 states. This utilization of the officials of a state's executive branch is likely unconstitutional under *Printz*. Numerically speaking, the effect of the Real ID Act is also greater than the interim provisions of the Brady Act because the identification background checks will have to be run on 245 million people,¹⁴⁹ as opposed to the much more limited number of people who were required to have a background check under the Brady Act. The burden that will be placed on DMV workers will increase further if the DHS amends the NPRM to require states to include biometric data in its driver's licenses. Employees will have to be retrained to implement the technology and put all of the biometric data into a database so that they can respond to informational queries from other states. Moreover, the compilation of breeder documents and the requirement that the states must store a digital copy of each document for ten years are burdens much greater than the burdens placed on law enforcement officers in *Printz*. Based on the holding in *Printz*, the states could bring a lawsuit against the federal government and the Supreme Court could potentially strike down the Real ID Act.

C. Federalism: Driver's Licenses as an Area of Traditional State Concern

Additionally, the Real ID Act could be viewed as federalizing an area of "traditional state concern."¹⁵⁰ Driver's licenses are primarily issued to ensure that drivers safely operate motor vehicles on local roads and byways. People want the security of knowing that their neighbors are safe drivers and rely on local police officers to enforce local driving provisions.¹⁵¹ The states could argue that the Act oversteps the bounds

148. See Norman C. Bay, *Executive Power and the War on Terror*, 83 DEN. U. L. REV. 335, 343 n.49 (2005).

149. Press Release, Nat'l Governors Ass'n, *supra* note 25.

150. See *United States v. Morrison*, 529 U.S. 598, 611 (2000) (finding that the Violence Against Women Act was a violation of the Commerce Clause because rape was an area of "traditional state concern").

151. See Aldana & Vargas, *supra* note 31, at 1714 (suggesting that regulating driver's

of federal power and violates state sovereignty. However, the federal government can counter that Congress acted within its Commerce Clause power in passing the Act because driver's license requirements substantially affect interstate commerce.¹⁵² The Court has held that there are three broad categories of activity that Congress may regulate under the commerce power.¹⁵³ These categories of interstate commerce include the power to regulate 1) the channels of interstate commerce, 2) the instrumentalities of interstate commerce, and 3) those activities that substantially affect interstate commerce.¹⁵⁴ It could be argued that driver's license standards fit within the second category because vehicles and drivers are instrumentalities in interstate commerce or under the third category as a regulation on the activity of driving. The Court gave some indication that driver's license standards could substantially affect interstate commerce in *Reno v. Condon*, when it held that lists of driver's personal information gathered by a state DMV were articles in interstate commerce because the DMV was selling this information to marketing groups who were then providing customized solicitation to the drivers.¹⁵⁵ Defenders of the Real ID Act could argue that the Act sets up a database where a driver's personal information will be transmitted between states if a driver moves, and thus, like in *Reno*, substantially affects interstate commerce.

In *United States v. Lopez*, the Supreme Court struck down a federal law that banned handguns in school zones as not substantially affecting interstate commerce.¹⁵⁶ The Court maintained that the aggregate economic impact of the activity would be examined, but that in the facts of *Lopez* the activity did not affect the economy enough in the aggregate.¹⁵⁷ Furthermore, in *Gonzalez v. Raich*, the Supreme Court found there was a rational basis for Congress regulating the production of marijuana for home consumption because it had a substantial effect on the supply and demand of the national market.¹⁵⁸ In *Raich*, only six cannabis plants were seized and destroyed.¹⁵⁹ In contrast, driver's licenses permit their holders to pursue economic opportunities in other states and have a billion dollar effect in the aggregate. The holder can live in one state and legally drive to another state as authorized by the driver's license to work either full or part-time in that other state. Truck drivers

license is a matter of local concern).

152. *United States v. Lopez*, 514 U.S. 549, 558-59 (1995).

153. *Id.* at 558.

154. *Id.*

155. *Reno v. Condon*, 528 U.S. 141, 148 (2000).

156. 514 U.S. at 567-68.

157. *Id.* at 561.

158. *Gonzales v. Raich*, 545 U.S. 1, 19 (2005).

159. *Id.*

are a prime example of this phenomenon of living in one state but transporting goods throughout many other states. Therefore, one state's driver's license policies, where the truck driver lives for example, could substantially affect interstate commerce where that driver transports goods.

It can also be argued that the regulation of driver's license standards does not fall within Congress' commerce power because it is an area of traditional state concern and the aggregate impact is not great enough to fall within the power. However, the stronger argument rests with Congress, who would not only be regulating instrumentalities in interstate commerce, but also an activity, the transportation of goods and people, which would seem to substantially affect interstate commerce under the holdings in *Lopez* and *Raich*. Moreover, if the NPRM is amended and biometric technology is required by the DHS, the states will be sharing this information to verify the identification of drivers who have moved. This sharing between states makes it even more likely that the Act substantially affects interstate commerce.

D. A Challenge to Congress' Spending Power

Another challenge that the states might mount against the Real ID Act is that in implementing the Act, Congress abused its Spending Clause power.¹⁶⁰ Under the Tenth Amendment, which is the basis for federalism, Congress may not simply coerce a state to enact a federal regulatory program by "commandeer[ing] the legislative process of the States."¹⁶¹ In *Hodel*, a federal surface mining act was upheld because the States were not compelled to enforce the federal standards.¹⁶² The Court held that a state that did not wish to submit a program could choose not to and the regulatory burden would be borne by the federal government.¹⁶³ In other words, a state must have the discretion to turn down implementation of the federal regulatory scheme.

Congress may still encourage the states to act in a particular way by withholding incentives that influence the state's policy choices.¹⁶⁴ Federal incentives do not intrude on the sovereignty reserved to the states by the Tenth Amendment if the state has the choice not to expend any funds or participate in any federal program.¹⁶⁵ For example, in *New York v. United States*, federal incentives that provided payments to those states that complied with federal standards for the disposal of low-grade

160. U.S. CONST. art. I, § 8, cl. 1.

161. *Hodel v. Va. Surface Mining & Reclamation Ass'n.*, 452 U.S. 264, 288 (1981).

162. *Id.*

163. *Id.*

164. *New York*, 505 U.S. at 166.

165. *Id.* at 174.

radioactive waste were upheld by the Supreme Court.¹⁶⁶ Moreover, those states that failed to comply with federal disposal standards could also be charged a higher fee for the disposal of waste from that state because the Court deemed this an incentive.¹⁶⁷ However, Congress cannot coerce the states into making a choice between two alternatives, neither of which Congress has the power to implement alone.¹⁶⁸ In *New York*, another federal provision forced the states to choose between regulating the low-grade radioactive waste according to the federal standards or assuming liability for the waste.¹⁶⁹ The Court held that this provision was unconstitutional because it was actually a threat and not a choice.¹⁷⁰

The Court provided a clearer picture of what Congress must do to violate the principles set forth in *New York*, in *Reno v. Condon*.¹⁷¹ As mentioned earlier, this case involved a state's DMV selling drivers' personal information without the drivers' authorization.¹⁷² The Court found that Congress' regulation of this practice did not run afoul of the principles set forth in *New York* because the federal legislation did "not require the states in their sovereign capacity to regulate their own citizens" or require the states to assist in the enforcement of a federal statute.¹⁷³

Similarly, states opposing the Real ID Act could argue that the Act does not actually present them with a choice. The provisions of the Real ID Act stand in contrast to the incentives that were held to be constitutional in *New York*. The states are not being offered grants if they choose to enact the requirements of the Act. Nor are the states allowed to choose not to implement the Act and simply allow their citizens to get the proper identification from a federal regulatory agency with the consequence that the citizens must pay a higher fee as a result. Rather, the states could argue that the Real ID Act more closely resembles the threats that were unconstitutional in *New York*. If the states do not implement licensing requirements that comply with the Real ID Act, their citizens will not be able to receive a number of federal benefits. Like the threat of liability imposed on the states if they did not regulate the low-grade nuclear waste, the states would, in effect, be liable to its citizens for the federal benefits that the citizens could not obtain without a license that complied with the Act. Accordingly, the states have a plausible challenge based on the rationale of the Supreme Court

166. *Id.* at 152.

167. *Id.* at 153.

168. *Id.* at 176.

169. *Id.*

170. *New York*, 505 U.S. at 176.

171. *Reno*, 528 U.S. 141.

172. *Id.*

173. *Id.* at 151.

in *New York*.

Another component of Congress' ability to provide conditional spending to the states is that the spending must be germane to the regulatory scheme that Congress wants to enact.¹⁷⁴ For example, in *South Dakota v. Dole*, Congress' ability to withhold federal highway funds was held to be germane to its policy of tying funding to a state's minimum drinking age of 21 because drinking and driving was reasonably calculated to make highway travel safer.¹⁷⁵ The Supreme Court has not defined the outer bounds of germaneness, which would make conditional spending unconstitutional if it was not reasonably related to the policy to be enacted.¹⁷⁶ In writing the opinion for the majority in *South Dakota*, Chief Justice Rehnquist wrote in dicta that it was not necessary to define the germaneness of the conditional spending because in that case the petitioner did not argue for such a restriction and the Court found that the test was met anyway.¹⁷⁷ The Supreme Court has not further elaborated on this germaneness test or applied it in any case, so the analysis is guided only by the dicta in *South Dakota*.

It is further possible that the states could challenge Congress' utilization of its spending power under the germaneness test, although the Supreme Court has not adequately defined the germaneness test to make this argument the sole basis of a claim. The states could argue that the condition that they enact new driver's license standards is not reasonably related to the federal benefits that would be withheld if they did not comply. For example, withholding federal welfare benefits does not seem to be reasonably related to the states' enacting standards for driving, or at least not as closely related as the withholding of highway funding and the minimum drinking age in *South Dakota*. However, since the Supreme Court has not yet established a firm standard for the germaneness test, the states should only rely on this argument as an additional avenue for relief in a case that should rely more heavily on the precedents of *Printz* and *New York*.

State claims under the Unfunded Mandate Reform Act do not seem as likely to succeed as Tenth and Eleventh Amendment challenges under the *Printz* holding. The current makeup of the Supreme Court makes a challenge to the Real ID Act, as a violation of federalism and the separation of powers, a plausible route for states to pursue. Yet, any optimism related to the success of this claim must be tempered by the treatment of each state's DMV records as interstate commerce as set forth in *Reno*, although the decision was beneficial for consumer

174. *South Dakota v. Dole*, 483 U.S. 203, 207 (1987).

175. *Id.* at 209.

176. *Id.*

177. *Id.*

protection.

E. A State's Course to Success

It is my recommendation that a state should challenge the implementation of the Real ID Act. The state claim that is most likely to succeed is that in imposing the Act on the states, Congress violated the principles of federalism as set forth in *Printz* and *New York*. First, the Real ID Act turns state DMV workers into agents of the federal government, specifically the DHS, which seems to be unconstitutional under the holding in *Printz* because it is a violation of state sovereignty. Next, under the holding in *New York*, a state would have a plausible claim that Congress overstepped its powers by not providing adequate funding for the Act's provisions and then imposing a punishment on that state's citizens. A state's claim that Congress imposed an unfunded mandate under UMRA does not seem likely to succeed because of the security exception and the other loopholes of UMRA that Congress has become adept at exploiting. Finally, there does not seem to be a colorable claim that Congress lacks the power to impose the Real ID Act on the states under the interstate commerce clause because driver's license standards are likely to be characterized as having a substantial effect on interstate commerce.

CONCLUSION

The Real ID Act was implemented as a means of improving national security and preventing illegal immigration. Yet, its provisions establish a de facto national identity card that is being vehemently opposed by the states. The provisions requiring state DMVs to verify breeder documents and to establish informational databases will likely prove costly. The timeframe for implementation is approaching rapidly and yet the states have not received the final guidelines from the DHS. These guidelines could still require the states to include biometric data on their driver's licenses and identity cards, although the DHS has only released the NPRM and has not yet issued the final guidelines. Biometric technology is already being included in U.S. passports and at seaports through the TWIC program. These programs could be used as a model for integrating the technology.

The states should bring a claim opposing the Real ID Act. The most promising claims are to pursue a challenge under *Printz* to the burdens placed on state DMV workers as a violation of federalism and the separation of powers, or to the imposition as an unconstitutional form of conditional spending under *New York*. Any state challenge under the Unfunded Mandate Reform Act is likely to be undermined by

the security exception contained in UMRA. The Real ID Act could reshape the role of the states in national security, whether they comply willingly or not. Regardless, if all state challenges fail, it seems that the U.S. will at last have a national ID, even if it is only a de facto one.

A GLOBAL FIRST AMENDMENT?

KAYDEE SMITH*

INTRODUCTION

The Internet once held the promise of a utopian marketplace of ideas. It existed without borders and offered information to all who had a computer and a connection. Lawmakers from around the world, including some from the United States, feared this ultimate freedom and worried about the laws within their boundaries.¹ Meanwhile, technology companies disregarded territorial laws and fiercely maintained their autonomy, employing two principal arguments. First, these companies argued they had no physical way to monitor the monster of the Internet.² Second, technology companies argued that the Internet should be autonomous and international free speech rights should protect their actions regardless of their ability to physically control their reach.³ Today, most of the largest U.S. technology companies have succumbed to following not only U.S. law, but also the laws of nations around the world.⁴ With innovations in technology, regulating the previously unregulated Internet has become possible.⁵

In hopes of spreading American-style democracy and free speech around the globe, the United States wants to stop domestic technology companies from yielding to “totalitarian regimes” or “Internet-restricting” countries.⁶ In 2006, the U.S. House of Representatives (“House”)

* J.D., University of Colorado Law School (2008). The author would like to thank Professor Paul Ohm of the University of Colorado Law School for advice that sparked the topic of this note and Micah Schwalb, Justin Pless, and Conor Boyle for their helpful editing.

1. *See infra* Part I.

2. *See id.*

3. *See id.*

4. *See, e.g.*, JACK GOLDSMITH & TIM WU, WHO CONTROLS THE INTERNET?: ILLUSIONS OF A BORDERLESS WORLD (2006).

5. *Id.*

6. Global Online Freedom Act of 2007, H.R. 275, 110th Cong. [hereinafter GOFA]. “Internet-restricting” countries are defined in GOFA: “A foreign country shall be designated as an Internet-restricting country if the President determines that the government of the country is directly or indirectly responsible for a systematic pattern of substantial restrictions on Internet freedom during the preceding 1-year period.” *Id.* § 105(a). The act also lists countries that are “Internet-restricting” until the President makes his determination. These are Belarus, Cuba, Ethiopia, Iran, Laos, North Korea, the People’s Republic of China, Tunisia,

introduced two bills to deal with this growing problem: the Global Online Freedom Act (“GOFA”) and the Global Internet Freedom Act (“GIFA”).⁷ Although neither bill was enacted in 2006, GOFA was re-introduced in 2007 and is still under consideration in 2008.⁸ GOFA is a lengthy bill aimed at prohibiting technology companies from assisting Internet-restricting countries with censorship programs.⁹ The bill includes both civil and criminal penalties.¹⁰ Unfortunately, GIFA has fallen off Congress’s to-do list and has not been reintroduced. A bill similar to GIFA should be adopted instead of a bill with GOFA’s aggressive, unrealistic tactics.

GIFA was a relatively short bill that would have provided 50 million dollars to counteract Internet jamming by totalitarian regimes.¹¹ The bill defined Internet jamming as “jamming, censoring, blocking, monitoring, or restricting Internet access and content by using technologies such as firewalls, filters, and ‘black boxes.’”¹² GIFA further focused on ways that technology and resolutions of the United Nations Human Rights Commission could stop Internet jamming.¹³

This Note explores whether there is a need for U.S. action to advocate a Global First Amendment and, if so, what that action should be. In this analysis, this Note also explores U.S. technology companies’ relationships with China. China is the best case study in this situation because its censorship policies and interaction with U.S. companies have been at the forefront of this debate.¹⁴ Further, this Note focuses on the actions of Yahoo, Google, Microsoft, and Cisco Systems in that market because their actions have been under fire recently.

As technology companies know, Chinese business is good for the United States and its ideals. The Chinese market is the newest, largest, and possibly most lucrative e-market in the world. Technology companies have taken and will continue to take the necessary steps to

and Vietnam. *Id.* § 105(a)(3). The Center for Democracy & Technology notes that absent from the list are allies of the United States in Iraq such as Libya, Syria, Saudi Arabia, and Uzbekistan, even though these countries also restrict their citizens’ access to the Internet. Memorandum from Paula Bruening & Leslie Harris, Ctr. for Democracy & Tech. (July 12, 2006), *available at* <http://www.cdt.org/international/censorship/20060712cdt.pdf>.

7. H.R. 4780, 109th Cong. (2006); Global Internet Freedom Act of 2006, H.R. 4741, 109th Cong. [hereinafter GIFA].

8. GOFA, *supra* note 6.

9. *Id.*

10. *Id.*

11. GIFA, *supra* note 7.

12. *Id.* § 6.

13. *Id.*

14. *See, e.g.*, Jonathan Zittrain & Benjamin Edelman, Empirical Analysis of Internet Filtering in China (Apr. 2003) (Research Publication, Berkman Center for Internet & Society, Harvard Law School), *available at* <http://cyber.law.harvard.edu/sites/cyber.law.harvard.edu/files/2003-02.pdf>.

enter the Chinese market. They will not support an unrealistic law banning them from doing business in China. Not only will the maintenance and enhancement of the U.S. technology companies' positions in China help the United States economically, they will also keep a needed line of communication regarding democracy and free speech open. Therefore, the bill Congress enacts needs the support of the technology companies it is aimed at "protecting."¹⁵

A bill like GOFA, with idealistic goals that are unlikely to be supported by the technology community of the United States, is not the route the United States should take. In contrast, the aims of GIFA—developing technology to outsmart totalitarian regimes and pushing the global community to do the same—are more effective means to protect the transmission of the ideals of democracy and free speech in countries like China. A bill like GIFA would be more effective because domestic technology companies would back the bill. The bill will only be effective if actually supported by those who have to follow its mandates. Furthermore, China and other totalitarian regimes cannot avoid the impact of a law like GIFA. It might force these nations to address Internet freedom issues and work with the United States and the United Nations to commit to viable solutions. A law supportive of research and communication with technology companies and other Internet stakeholders is Congress's best option.

However, before passage of any bill, Congress should thoroughly analyze other solutions, such as self-regulation, because the U.S. government might not be able to solve this problem through legislation. Until the United States can act, technology companies should undertake self-regulation. Ultimately, the best way to curb free speech violations is through passage of a bill similar to GIFA and industry self-regulation.

Since the Internet was created, the friction between Internet free speech and territorial laws has been simmering. This Note discusses whether the Internet is ready for a step towards a solution. Part I of this Note discusses the development of the Internet and the corresponding need for a bill to promote democracy and free speech on the Internet. Part II outlines the two bills considered by Congress. By discussing the possible consequences of the bills, this section questions whether the United States should take action at this time and whether the United States has the authority to take such action. Part III explores options outside of the legal realm that could help alleviate both lawmakers' and free speech activists' concerns, while not expanding the United States' control in Internet governance. Finally, the Note argues that Congress should adopt a bill such as GIFA, in addition to supporting self-

15. GOFA, *supra* note 6, at § 201.

regulation until the bill can be passed, because this route is the moderate and most realistic course—a course that will win not only the support of U.S. companies, but also the support of those outside the United States.

I. BACKGROUND: HOW WE GOT TO THIS POINT

The Internet started out as uncharted territory with no controllers and no boundaries. When it began, people believed that the Internet would transcend the laws of individual countries and that the Internet community would create its own system of self-governance.¹⁶ Just ten years ago, governments had few choices regarding Internet content regulation: they could allow the free flow of information into their jurisdictions, prohibit all access to the Internet, or attempt to control the entire Internet.¹⁷ Technology companies rested on arguments of free speech and inadequate technology to claim that they did not have to and could not control their content. In only ten years, this vision of the Internet has changed.

The first indication of this impending transformation was Yahoo's fight with the French government over Nazi memorabilia. In April 2000, the French government began prosecuting Yahoo and Yahoo France for online auctions of Nazi memorabilia, a practice that is illegal in France.¹⁸ Yahoo staunchly denied the French court's right to restrict Yahoo's online content, which was accessed through servers in California.¹⁹ Yahoo also claimed that there was no technical way to comply with French orders to restrict French users' access to the content.²⁰ This argument had been relied on by the technology community as the basis for the unrestricted Internet, but French experts argued that Yahoo could identify 90% of French users through the combined use of geographical identification of IP addresses ("Geo-ID") and a question asking for one's nationality before accessing a Web page.²¹ The technology of Geo-ID firms forever changed the ability of technology companies to argue that identifying their users was impossible.²²

16. See GOLDSMITH & WU, *supra* note 4, at vii; David R. Johnson & David Post, *Law and Borders – The Rise of Law in Cyberspace*, 48 STAN. L. REV. 1367, 1378-92 (1996).

17. Johnson & Post, *supra* note 16, at 1394.

18. *Yahoo! Inc. v. La Ligue Contre Le Racisme et L'Antisemitisme*, 433 F.3d 1199, 1202 (9th Cir. 2006).

19. GOLDSMITH & WU, *supra* note 4, at 2-7. "Confronted by an obscure activist complaining about hate speech and invoking French law, [Yahoo] shrugged its high-tech shoulders." *Id.* at 2.

20. *Yahoo!*, 433 F.3d at 1203.

21. *Id.*

22. GOLDSMITH & WU, *supra* note 4, at 58-63. Geo-ID firms use technology that traces information's journey to determine the server from which the information originated.

In early 2001, Yahoo decided to voluntarily change its policy with respect to Nazi memorabilia and this action seems to have quelled the French government's prosecution of Yahoo.²³ When Yahoo brought the French orders to a U.S. court to determine if they could be enforced in the United States on First Amendment grounds, the U.S. Court of Appeals for the Ninth Circuit declined to answer the question because it said the case was not ripe without further action by France, as Yahoo had already seemingly complied.²⁴ Accordingly, the *Yahoo* case established two principles that countries now continue to capitalize upon. First, technology companies are physically and technologically able to identify their users. Second, such companies might be willing to compromise their dedication to U.S. free speech rights and abide by the laws of another nation.

Instead of a distinct body of law developing solely to govern the world of cyberspace, as some might have hoped and others had predicted,²⁵ laws regulating speech on the Internet have come to reflect each individual nation's existing speech law.²⁶ Nations have been successful in enforcing their Internet laws within their boundaries.²⁷ For example, the *Yahoo* case demonstrates that the French government was able to enforce its regulations; the Online Child Protection Act shows that the United States has also attempted to enforce its own regulations on the Internet; and the compliance of Yahoo and Google with Chinese regulation shows that China is successfully restricting access to the Internet through a combination of technology, law, and citizen education.²⁸

Id. at 60. A network of many databases locates the user with 99 percent accuracy in determining the user's country. *Id.* at 61. Geo-ID firms were not all bad for the Internet companies. The technology also aided Internet companies in their advertising. With this technology, companies can also advertise local products to individual users based on their location, which is the reason Cyril Lionel Houri first developed Geo-ID. *Id.* at 59.

23. *Yahoo*, 433 F.3d at 1205.

24. *Id.* at 1221.

25. GOLDSMITH & WU, *supra* note 4, at 27; Johnson & Post, *supra* note 16, at 1378-92.

26. John B. Morris, Jr. et. al., *The Global Nature of Speech on the Internet – What Kind of Speech is Most Likely to be Regulated?*, in 2 INTERNET LAW AND PRACTICE § 24:61 (2007); see also Markus Müller, *Who Owns the Internet? Ownership as a Legal Basis for American Control of the Internet*, 15 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 709, 724 (2005) (arguing that the United States will have a hard time attempting to regulate the Internet in other countries).

27. See, e.g., *The Internet in China: A Tool for Freedom or Suppression?: J. Hearing Before the Subcomm. on Africa, Global Human Rights and International Operations and the Subcomm. on Asia and the Pacific of the H. Comm. on International Relations*, 109th Cong. 103 (2006) [hereinafter *The Internet in China Hearing*], available at <http://www.foreignaffairs.house.gov/archives/109/26075.pdf>.

28. Zittrain & Edelman, *supra* note 14.

A. *The Situation in China*

Since 1994, the first year Chinese citizens had access to the Internet, China has restricted Web content inside its boundaries.²⁹ From a technological standpoint, China uses a system of routers and software programs known as the “Great Firewall of China.”³⁰ This system pores over the Internet for specific keywords relating to political ideologies and historical events that China has banned from discussion and then filters these forbidden topics out.³¹ Legally, national agencies control information that comes into China from the outside world.³² In late 2005, China set new regulations affecting news providers, including entities dubbed “Internet News Information Services.”³³ This new step demonstrates that China has begun regulating its citizens’ electronic and print news sources with the same laws. These laws prohibit:

[J]eopardizing the security of the nation, divulging state secrets, subverting state power, or jeopardizing the integrity of the nation’s unity; harming the honor or the interests of the nation; inciting hatred against peoples, racism against peoples, or disrupting the solidarity of peoples; disrupting national policies on religion, propagating evil cults, and propagating feudal superstitions; spreading rumors, compiling and promulgating false news, disturbing social

29. OpenNet Initiative: Bulletin 012, China Tightens Controls on Internet News Content Through Additional Regulations, <http://opennet.net/bulletins/012/> (last visited Apr. 10, 2008).

30. Richard Clayton, Steven J. Murdoch, & Robert N. M. Watson, Ignoring the Great Firewall of China 1 (June 2006) (Paper Presented at the 6th Workshop on Privacy Enhancing Technologies), available at <http://www.cl.cam.ac.uk/~rnc1/ignoring.pdf>.

31. *Id.*

It is straightforward to determine that the keyword-based blocking is occurring within the routers that handle the connections between China and the rest of the world. These routers use devices based upon intrusion detection system (IDS) technology to determine whether the content of packets matches the Chinese Government’s filtering rules. If a connection from a client to a webserver is to be blocked then the router injects forged TCP resets (with the RST flag bit set) into the data streams so that the endpoints will abandon the connection. Once blocking has begun, it will remain in place for many minutes and further attempts by the same client to fetch material from same website will immediately be disallowed by the injection of further forged resets.

Id. at 1.

32. “Race to the Bottom”: Corporate Complicity in Chinese Internet Censorship, 18 HUMAN RIGHTS WATCH, Aug. 2006, available at <http://www.hrw.org/reports/2006/china0806/china0806web.pdf> [hereinafter *Race to the Bottom*].

33. *Id.* “Internet News Information Services” are organizations “involved in electronically transmitting content to the public that satisfies the expansive definition [given by the Chinese] of ‘News Information.’” OpenNet Initiative, *supra* note 29. Thus, the definition encompasses anyone who provides any news content on the Internet, including individuals. OpenNet Initiative, *supra* note 29.

order, or disrupting social stability; spreading obscenity, pornography, gambling, violence, terror, or abetting the commission of a crime; insulting or defaming third parties, infringing on the legal rights and interests of third parties; inciting illegal assemblies, associations, marches, demonstrations, or gatherings that disturb social order; conducting activities in the name of an illegal civil organization; and any other content prohibited by law or rules.³⁴

These regulations give the Chinese government the broad power to censor anything it finds subversive.

With foreign companies, China has not taken the French route. Instead of suing companies, they have negotiated with them, and these companies have agreed to play by China's rules to gain access to the Chinese e-market. Both Yahoo and Google admit to filtering words such as "democracy," "human rights," and others from their search results in China.³⁵ Spokespeople for both companies contend that they are only adhering to the laws and customs of other nations.³⁶ Yahoo used a similar argument after giving the Chinese government information leading to the imprisonment of journalist Shi Tao.³⁷ After the Chinese government warned journalists not to emphasize the anniversary of the Tiananmen Square massacre, Tao sent an email to a U.S. journalist about the warning.³⁸ Tao was sentenced to ten years in prison for this action.³⁹ Information provided by Yahoo may have also led to the imprisonment of a Chinese civil servant, Li Zhi, who criticized local government officials online.⁴⁰ Similarly, Microsoft has filtered certain words that offend the Chinese government from its MSN Spaces blog service and

34. Congressional – Executive Commission on China Virtual Academy, Provisions on the Administration of Internet News Information Services, Art. 19, <http://www.cecc.gov/pages/virtualAcad/index.phpd?showsingl=24396> (last visited Apr. 10, 2008) (internal numbering omitted), *cited & quoted in* OpenNet Initiative, *supra* note 29.

35. Tom Zeller, Jr., *Internet Firms Facing Questions About Censoring Online Searches in China*, N.Y. TIMES, Feb. 15, 2006, at C3.

36. *Id.*; Robert Firpo-Cappiello, *Search Engine Update*, 11 No. 5 INTERNET L. RESEARCHER 9 (2006); Erica Werner, *House Committee Head Lambasts Yahoo Inc.*, BREITBART.COM, Nov. 6, 2007, http://www.breitbart.com/article.php?id=D8SO2NP06&show_article=1.

37. *See, e.g.*, James Heffernan, Comment, *An American in Beijing: An Attorney's Ethical Considerations Abroad with a Client Doing Business with a Repressive Government*, 19 Geo. J. Legal Ethics 721 (2006). On November 6, 2007, at a House Committee Hearing, Yahoo General Counsel, Michael Callahan, admitted that some Yahoo employees knew that China wanted information on Tao for disclosing "state secrets." Werner, *supra* note 36. In a previous committee meeting, Callahan had said that Yahoo didn't know the nature of the charges against Tao when it gave China the information. *Id.*

38. Heffernan, *supra* note 37.

39. *Id.*

40. Zeller, *supra* note 35.

shut down at least one blog at the request of the Chinese government.⁴¹ On the technical side, Cisco Systems sells its surveillance equipment to China, which uses the hardware to censor the Internet and other communications within its borders.⁴²

These companies have a strong incentive to bargain with China because China has a powerful bargaining chip on its side—the Chinese economic market. China has a population of over 1.3 billion with over 162 million Chinese accessing the Internet.⁴³ China's e-market is even more enticing to U.S. companies because its citizens are young, have disposable income, and want to buy Western products via the Internet.⁴⁴ Yahoo, Google, and Microsoft's advertisers want access to this market.⁴⁵

Another advantage aiding China in the bargaining process is that China does not need the Yahoo's and Google's of the world. China's homegrown search engine, Baidu, is the fifth most popular Web site in the world and has over one hundred million users.⁴⁶ Baidu relies on its expertise in Chinese language and culture to hang on to its customer base.⁴⁷ If U.S. technology companies refuse to bargain with China, China could cut them out of the market completely, and its citizens would still have ample Internet access. Although withdrawal of U.S. technology companies from the Chinese e-market would leave a hole, it would be eagerly filled with homegrown Chinese companies. In fact, because of the difficulty of entering the market in the first place, both Google and Yahoo have teamed with local Chinese companies. Google "has a small stake" in Baidu, and Yahoo holds 40% of Alibaba, a Chinese e-commerce company.⁴⁸ Yahoo's daily Chinese operations are now controlled by Alibaba and people have accused Yahoo of using this merger to withdraw its presence and responsibility from the Chinese

41. *Id.*

42. *Id.*; Foreign Press Center Briefing, Reporters Without Borders (Feb. 28, 2006), available at <http://fpc.state.gov/fpc/62387.htm>.

43. See China Population Information and Research Center, China Population, <http://www.cpirc.org.cn/en/eindex.htm> (last visited Apr. 10, 2008) (Chinese population counter). As of July 2007, China had 162 million Internet users (31.7% annual growth rate), but with only a 12.3% penetration rate. See CHINA INTERNET NETWORK INFORMATION CENTER, STATISTICAL SURVEY REPORT ON THE INTERNET DEVELOPMENT IN CHINA (2007), available at <http://www.cnnic.cn/download/2007/20thCNNICreport-en.pdf> [hereinafter CNNIC].

44. Sean Hargrave, *Chinese Ecommerce: Fortune Awaits*, NEW MEDIA AGE, Jan. 27, 2005, at 23.

45. See generally *id.*

46. Clare Goff, *International Search: Eastward Ho!*, NEW MEDIA AGE, June 1, 2006, at 21; see also Shu-Ching Jean Chen, *China is No. 2 Online*, FORBES.COM, Jan. 12, 2007, http://www.forbes.com/business/2007/01/12/china-internet-stats-biz-cx_jc_0112china.html.

47. Goff, *supra* note 46.

48. *Id.*; Zeller, *supra* note 35.

market.⁴⁹

With power over technology and the law, shrewd control over the Chinese people completes the effective censorship of the Chinese Internet. China has learned to appease its citizens. It gives them what they want from the Internet—mainly entertainment⁵⁰—and has taught them not to push the limits.⁵¹ It even subtly pushes them in the right direction when it feels the need. For example, the Chinese government, under a program called “Let the Winds of a Civilized Internet Blow,” recruited 500 student volunteers as moderators to sign in to school Internet forums anonymously at Shanghai Normal University.⁵² The moderators introduce acceptable discussion themes, point “negative conversations” in the right direction, and report anything they find offensive to the university webmaster.⁵³ The moderators see their role as guidance counselors, more than as spies or censors.⁵⁴ This program illustrates how Chinese citizens are more amenable to censorship when compared to Americans and shows acquiescence in their way of life. They are not looking for rescue by the U.S. Congress.

B. Worldwide Reaction to the Situation in China

The U.S. technology companies’ actions in China have not gone unnoticed. Human rights groups such as Amnesty International, Reporters without Borders, and Human Rights Watch have protested the activities of U.S. technology companies, but so far no concrete steps have been taken to prohibit the behavior.⁵⁵ Working with the Chinese

49. William Thatcher Dowell, *Internet, Censorship, and China*, 7 GEO. J. INT’L AFF. 111 (2006); see also Werner, *supra* note 36.

50. David Barboza, *Internet Boom in China is Built on Virtual Fun*, N.Y. TIMES, Feb. 5, 2007, at A1. “And in China, the No. 1 priority for Internet users is entertainment; in the U.S., it’s information. That’s why Google is dominant in the U.S., but Tencent rules China.” *Id.* at A4 (quoting Richard Ji, Analyst, Morgan Stanley). The article continues to explain how Tencent, a site that combines social networking, video sharing, and an online virtual world, thrives in China and U.S. companies fall short mainly because they are not in touch with what Chinese Internet users want. *Id.*

51. Although the government does not prosecute mass groups of Internet users who break small laws, it will punish one egregious case and use that person as an example to all not to test the waters. Perry Keller, *China’s Impact on the Global Information Society*, in REGULATING THE GLOBAL INFORMATION SOCIETY 265, 268 (Christopher T. Marsdsen ed., 2000).

52. Howard W. French, *As Chinese Students Go Online, Little Sister is Watching*, N.Y. TIMES, May 9, 2003, at A3.

53. *Id.*

54. *Id.*

55. See Irrepressible.info, <http://irrepressible.info/> (last visited Apr. 10, 2008) (Amnesty International’s campaign); Press Release, Reporters Sans Frontières, Government Unblocks Access to Wikipedia’s English-Language Version (Oct. 12, 2006), available at http://www.rsfb.org/article.php?id_article=15374 (example of the activism of Reporters Without Borders); *Race to the Bottom*, *supra* note 32 (Human Rights Watch perspective).

government is still a business decision made by these technology companies, although that might change soon.

On February 15, 2006, in between the introduction of the Global Internet Freedom Act of 2006 on February 14th and the Global Online Freedom Act of 2006 on February 16th, the House held a hearing on the issue entitled “The Internet in China: A Tool for Freedom or Suppression?”⁵⁶ Representatives from Google, Yahoo, Microsoft, and Cisco Systems gave testimony at the hearing. The companies elaborated on the same theme: complying with local laws and a small presence in China is better for bringing about democracy than no presence at all.⁵⁷ The House put Yahoo under further pressure at a more recent hearing entitled “Yahoo, Inc.’s Provision of False Information to Congress,” where Representatives pounded Yahoo’s C.E.O. and General Counsel about inaccuracies in its General Counsel’s statements at the first hearing.⁵⁸ At this hearing, Yahoo apologized for its actions directly to Tao’s mother, but it did not endorse GOFA, like the Representatives had wanted.⁵⁹

The State Department has also identified the issue as a problem. Secretary of State Condoleezza Rice announced the creation of the Global Internet Freedom Task Force (“GIFT”) in February 2006, and GIFT released its strategy in December 2006.⁶⁰ The Task Force is taking a slow, yet responsible approach to addressing the myriad of issues the problem presents. Its strategy is based on monitoring, responding to threats, and advancing Internet freedom.⁶¹ First, monitoring Internet freedom means that the United States will continue to report on Internet freedom in the annual country reports on human rights, with an additional section in future reports describing how the Internet restrictions occur, the legal authority for the restrictions in that country, and the government entities that carry out those restrictions.⁶² The future reports will also add information about the penalties in each

56. *The Internet in China Hearing*, *supra* note 27.

57. *Id.*

58. *Yahoo! Inc.’s Provision of False Information to Congress: Hearing Before the H. Comm. on Foreign Affairs*, 109th Cong. (2007); *see also* Postings of Declan McCullagh to The Iconoclast, http://www.news.com/8301-13578_3-9811598-38.html (Nov. 6, 2007) [hereinafter Postings of Declan McCullagh].

59. Postings of Declan McCullagh, *supra* note 58.

60. Press Release, U.S. Dep’t of State, Bureau of Democracy, Human Rights, and Labor, Global Internet Freedom Task Force (GIFT) Strategy: A Blueprint for Action (Dec. 28, 2006), *available at* <http://www.state.gov/g/drl/rls/78340.htm>.

61. *Id.*

62. Paula Dobriansky, Under Secretary for Democracy & Global Affairs, U.S. Dep’t of State, Global Internet Freedom Task Force Presentation (Dec. 20, 2006), *available at* <http://www.state.gov/g/rls/rm/78142.htm>.

country for exercising free speech rights through the Internet.⁶³ Second, the response to threats against Internet freedom will focus on working with international partners and the technology industry to address the problem, including addressing the problem with leaders during other international meetings with the United States.⁶⁴ Third, advancing Internet freedom will entail promoting access to the Internet.⁶⁵ GIFT announced that it has spent over \$250 million in its efforts thus far in bringing the Internet to developing countries and these efforts will continue.⁶⁶

GIFT is part of the State Department and does not work directly with Congress. Although legislative action on Internet freedom is important to GIFT and the issues are highly intertwined, GIFT and Congress have different aims and may be working in different directions on these issues. Any action or findings by GIFT will not necessarily translate into a law from Congress, and a law from Congress will not change GIFT's goals. GIFT has broad, but laudable ideals. Whether these ideals will transform into action is yet to be seen because the Task Force has only been talking thus far. One of GIFT's most promising goals yet is to develop a secure site for journalists and human rights defenders in closed countries.⁶⁷ Ideas like this one will help make positive changes, but some may be frustrated by ideas and want action. Congress is trying to take more immediate action.

II. LEGISLATIVE ACTION

U.S. Representatives and Senators from all shades of the political spectrum are calling for some kind of solution to prevent China from censoring the Internet.⁶⁸ During the current session, Congress may pass a bill that could put these calls into law. Congressman Christopher Smith (R - NJ) reintroduced GOFA on January 8, 2007.⁶⁹ Although Congress has not taken major action on GOFA, it is still under consideration in 2008.⁷⁰ Unfortunately, GIFA has yet to be reintroduced and seems to be a low priority compared to GOFA.

The first law in this area must be effective in bringing greater access to the Internet for Chinese citizens. If the law only prevents U.S.-based

63. *Id.*

64. *Id.*

65. *Id.*

66. *Id.*

67. *Id.*

68. Libby George, *H.R. 4780 - Global Online Freedom Act of 2006*, CONG. Q. BILL ANALYSIS, July 14, 2006.

69. *Smith Reintroduces the Global Online Freedom Act*, GOV'T TECH., Jan. 9, 2007, <http://www.govtech.net/news/news.php?id=103194>.

70. H.R. 275, 110th Cong., 154 CONG. REC. H818 (2008).

companies from entering the Chinese market, the U.S. will lose two opportunities: the opportunity to bring greater Internet access to Chinese citizens and the opportunity for its technology companies (and its goods producers through the technology companies) to enter the world's largest economic market. The insights of the American companies that are working in China are important to this decision and the success of the law. Considering both GOFA and GIFA, the tools provided in GIFA work towards a long-term solution that would enable U.S. companies to continue doing business in China. GOFA is an overzealous attempt to take a bold stand on the issue, but the efforts could take away all hope of working with China and its citizens. Therefore, Congress should pass a bill resembling GIFA because it will not force U.S. technology companies out of China for good; instead it will allow U.S. technology companies to stand strong in China and gradually introduce free speech ideals.

Introduction of free speech principles could follow the path of the gradual introduction of free-market principles into China's economy. Slow growth in China's general economy, mirroring U.S. free-market principles, has been beneficial for both Chinese and U.S. citizens, although Americans always push for a "big bang."⁷¹ In comparison to Americans, Chinese citizens are much more likely to accept gradual change.⁷² Because it is a Chinese system, the best way to change it is to work with the accepted norms of the Chinese people.

Two bills have been introduced in the House: a "big bang" bill that advocates quick, radical change and a gradual bill that recognizes that slow change is effective change. The more aggressive bill, GOFA, operates under the basic assumption that U.S. technology companies must comply with the Universal Declaration of Human Rights.⁷³ GOFA has provisions for redirecting the policy of the United States, maintaining minimum corporate standards, and prohibiting sales of surveillance equipment to China.⁷⁴ The bill would shape policy by creating an Office of Global Internet Freedom to coordinate the many mandates of the bill as well as give the President the power to designate "Internet-restricting" countries.⁷⁵ The "Minimum Corporate Standards for Online Freedom" prohibit a search engine from operating computer hardware and from filtering out certain terms in Internet-restricting

71. Barry Naughton, *From Plan to Market: China's Gradualist Approach*, in CHINA IN THE NEW MILLENNIUM: MARKET REFORMS AND SOCIAL DEVELOPMENT 87, 88 (James A. Dorn ed., 1998).

72. *Id.*

73. GOFA, *supra* note 6.

74. *Id.*

75. *Id.* §§ 101, 104, 105.

countries.⁷⁶ The bill also would require each company to provide a report to the Office of Global Internet Freedom on foreign officials' requests for censorship.⁷⁷ It would outlaw giving technology companies' users' personally identifiable information to Internet-restricting countries.⁷⁸ It further would provide a private right of action and civil penalties against the companies of up to \$2 million or an individual punishment for willful violation of up to \$100,000 or five years in jail.⁷⁹ Violation of the search engine provisions would carry a fine of up to \$10,000 for the company or up to \$10,000 and one year in jail for individuals who willfully violate the law.⁸⁰ Finally, the bill would provide for a feasibility study about the exportation of technology to Internet-restricting companies for the purpose of Internet censorship.⁸¹

GIFA took a technological approach, attacking the problem not by prohibiting activity, but by trying to counteract the actions of the Internet-restricting governments.⁸² GIFA also would have established an Office of Global Internet Freedom under the International Broadcasting Bureau.⁸³ The first task of the Office would be to report to Congress on the state of Internet jamming in other nations and the technology these nations use to accomplish Internet jamming.⁸⁴ Only Internet jamming that violates the Universal Declaration of Human Rights would be subject to the bill, so there would be some discussion of which type of Internet jamming the United States is working against.⁸⁵ The Office would be given \$50 million for two years.⁸⁶ The bill also would have directed the United States to submit a resolution to the United Nations at the next meeting to address this issue.⁸⁷ Finally, the bill would have required deployment of anti-Internet jamming technology as soon as possible.⁸⁸

GOFA has received more press attention and is backed by fourteen human rights groups.⁸⁹ Its sponsor, Representative Smith, is a vocal

76. *Id.* §§ 201 - 207.

77. *Id.* § 204.

78. *Id.* § 202.

79. GOFA, *supra* note 6, at § 206.

80. *Id.*

81. *Id.* § 301.

82. GIFA, *supra* note 7.

83. *Id.* § 4(a).

84. *Id.* § 4(c).

85. *Id.* § 4(d).

86. *Id.* § 4(e).

87. *Id.* § 5(2).

88. GIFA, *supra* note 7, at § 5(3).

89. *Human Rights Crusaders Launch Web Freedom Campaign*, WARREN'S WASH. INTERNET DAILY, July 21, 2006.

advocate for these immediate changes.⁹⁰ The bill has bipartisan support, although real action has stalled.⁹¹ GIFA is less well-known, does not pack as much political punch, and has yet to be re-introduced this session, but it has the tools to make changes that will last.

A. Is the United States Ready for the Consequences of Legislation?

Although Congress could pass one, both, or neither bill, the actual bills are less important than the ideas for which each stands. The United States needs a law that will aid its technology companies in providing access to ideas of democracy and free speech, while also allowing those companies to actually enter the markets of Internet-restricting countries.

In fact, Google, Yahoo, Microsoft, and Cisco Systems asked for such a tool at the Congressional hearing on the subject.⁹² For example, Google Vice President for Corporate Communications and Public Affairs Elliot Schrage suggested both a “role for joint industry action” and a “role for government.”⁹³ He reaffirmed Google’s commitment to their slogan, “Don’t be evil,” which has been questioned recently because of the company’s activity in China, and said Google continues to disclose its filtering to Chinese users, maintains its users’ privacy, and continues access to the Chinese-language Google.com service.⁹⁴ Although Google has shown more concern than other technology companies about its image in this context, each company echoed Google’s sentiments to some degree at the Congressional hearing.⁹⁵

Only Microsoft directly addressed the possibility of Congress “enacting legislation that effectively forces [Microsoft] to withdraw from China.”⁹⁶ It is hard to discern from the testimony whether these companies think that a law forcing them to forget the Chinese market is a real possibility, but it seems that the companies’ representatives were not begging for forgiveness or for the rejection of any impending law. Instead, the companies seem to be calmly urging moderate change with the aid of the international community.

In the most recent congressional hearing on the issue, Yahoo expressed regret that its actions led to the imprisonment of Tao, but it still did not endorse GOFA.⁹⁷ Although Yahoo now recognizes its error

90. *The Internet in China Hearing*, *supra* note 27 (opening statement of Rep. Christopher Smith), *available at* http://www.house.gov/list/press/nj04_smith/opchinahearing.html.

91. H.R. 275, 110th Cong., 154 CONG. REC. H818 (2008).

92. *The Internet in China Hearing*, *supra* note 27.

93. *Id.* at 67.

94. *Id.* at 70.

95. *Id.*

96. *Id.* at 61.

97. Werner, *supra* note 36.

in giving information about Tao to the Chinese government, Representatives Smith and Chris Lantos held Yahoo CEO, Jerry Yang, and General Counsel, Michael Callahan, completely responsible for China's abuse of the Internet.⁹⁸ The Representatives' one-sided "grilling" led Internet bloggers to post Yahoo-sympathetic blogs, accusing the Representatives of being hypocritical about Yahoo's response to Chinese law when the U.S. currently wants the companies to behave in a similar way when the U.S. requests information for anti-terrorism purposes.⁹⁹

Agreeing with the need for modest, sensible change in the international community does not mean the United States would be allowing powerful technology companies to lead the way, while putting human rights issues in the backseat. Instead, it is a realistic acknowledgement that a drastic measure could lead to rapid disaster. Disaster could result if Congress jumps into a bill such as GOFA. U.S. technology companies could be effectively forced out of the Chinese market by the mandates of GOFA before the problem is fully developed. Right now, China needs U.S. technology companies less than the technology companies need the Chinese market. This situation is a broader problem than Congress anticipates. Therefore, the solution to the problem cannot be instantaneous, but will require research and investment. Slow change is important for three reasons, without even considering industry support. First, this problem is still developing and should be fully explored before Congress takes a step that it might regret. Second, China and nations like it will do without instead of accepting a free Internet inside their borders. Third, U.S. companies need the Chinese market, not the other way around.

First, Congress needs more information about this problem before it can truly help technology companies protect democracy and free speech on the Internet. The United States is not the only entity concerned about the future of the Internet—various stakeholders have different ideas and goals for progress on the Internet and Congress should take these stakeholders into account.¹⁰⁰ Stakeholders of the Internet include ordinary household users around the world, companies that provide access to the Internet and the infrastructure of the Internet, companies that use the Internet as an intra-company tool and a way to communicate with customers, non-profit organizations that use the Internet for fundraising and recruiting, the media, Internet interest groups, and national and local governments.¹⁰¹ U.S. lawmakers should

98. Postings of Declan McCullagh, *supra* note 58.

99. *Id.*

100. RICHARD SPINELLO, CYBERETHICS: MORALITY AND LAW IN CYBERSPACE 31-35 (2001).

101. *Id.*

be careful to keep other stakeholders in mind when making decisions that affect the global Internet: "Indeed, it can be plausibly argued that there is a moral obligation to deploy Internet-related technologies and to develop rules and policies for cyberspace in a conscientious manner that manifests respect for the rights and legitimate interests of these stakeholders."¹⁰² Other stakeholders may see a bold move by Congress as a step back for the democratic process because it does not take other interested groups into consideration.

When considering these stakeholders, Congress should also address whether it should legislate in this area at all or whether it should explore a different sort of Internet governance such as self-governance or an international governing body.¹⁰³ GIFT is already heading in the right direction and its work could help Congress make a more informed decision. Any bill passed should provide an allocation of funds to ensure a report on this issue is created. A law creating rules for U.S. companies will affect all the stakeholders of the Internet indirectly because many Internet stakeholders rely on U.S. companies for their Internet access and information. A U.S. law could become the norm, but Congress must ask whether it wants to be seen as pushing its ideals onto other governments.

The Internet is still young, and continuous development changes the Internet's problems from day-to-day. For example, Nitin Desai, the chair of the United Nations Internet Governance Forum, described the infancy of Internet debates with a useful analogy. He compared the current debates about the Internet to debates about the chemical composition of ink and the design of paper when the printer was invented—illustrating that people don't know where the industry is headed right now and could be worrying about the wrong problems.¹⁰⁴ Congress does not want to pass a law that will become quickly dated like many other recent technology laws.¹⁰⁵ More time and research will allay these problems and produce better results.

Second, China will do without and can do without U.S. technology companies. The U.S. Congress is being quite self-righteous if it thinks that the U.S. technology companies have enough clout in China to change Chinese laws and regulations by withholding their services.¹⁰⁶

102. *Id.* at 35.

103. *See infra* Part III.

104. K.C. Jones, *UN Forum Focuses on Internet's Future*, TECHWEB TECH. NEWS, Oct. 12, 2006, <http://www.techweb.com/wire/ebiz/193300316>. For more information on the Forum, see The Internet Governance Forum (IGF), <http://www.intgovforum.org/> (last visited Apr. 10, 2008).

105. Urs Gasser, *Regulating Search Engines: Taking Stock and Looking Ahead*, 8 YALE J. L. & TECH. 201, 225 (2006).

106. *See id.* at 226. For example, Microsoft's Managing Director of Federal

China has its own companies that will take the place of those forced out.¹⁰⁷ Joseph Wang, a China Derivatives Researcher and Software Developer at QuantLib, suggests that China would “secretly jump for joy” if Congress passed GOFA because it would allow Chinese domestic companies to expand.¹⁰⁸ He said that China allows U.S. technology companies now because of various World Trade Organization commitments it has made, not because it needs their technology expertise.¹⁰⁹

In terms of search engine popularity, U.S. companies are still not the most popular in China.¹¹⁰ In 2006, Baidu, a Chinese search engine, had at least 56.8% of the market share.¹¹¹ Google followed with 32.8% of the market, while Yahoo had less than 5% of the market.¹¹² However, Google’s apparently strong market position actually dropped from past years,¹¹³ while Baidu has shown continued growth with revenues from the fourth quarter of 2006 increasing 136.1% from the fourth quarter of 2005.¹¹⁴ Recent reports from Baidu show that it has 63.7% of the Chinese market as of October 2006 and Google only has 19.2%, but these reports have been denied by Google.¹¹⁵ Baidu relies on two Chinese surveyors for its information: iResearch and the Chinese Internet Network Information Center (“CNNIC”). Google has questioned the methodology used by these centers.¹¹⁶ The CNNIC’s most recent report shows that Baidu has 74.5% of the market and Google has 14.3%, although in the “High End User Market,” the two are much closer with 47.72% and 42.32% respectively.¹¹⁷ Whatever the

Government Affair, Jack Krumholz, said that the bill could create more restrictions or force a total pull-out from China. Anne Broache, *House Panel OKs Global Rules for U.S. Net Firms*, CNET NEWS.COM, June 22, 2006, http://www.news.com/House-panel-OKs-global-rules-for-U.S.-Net-firms/2100-1028_3-6087112.html.

107. See *supra* Part II.A (discussing Baidu and Alibaba).

108. Email from Joseph Wang, China Derivatives Researcher & Software Developer, QuantLib, to author (Jan. 12, 2007) (on file with author).

109. *Id.* China became part of the WTO on December 21, 2001. For various commitments made, see Press Release, World Trade Organization, WTO Successfully Concludes Negotiations on China’s Entry (Sept. 17, 2001), available at http://www.wto.org/English/news_e/pres01_e/pr243_e.htm.

110. Goff, *supra* note 46, at 21.

111. Loren Baker, *Google & Baidu Dominate China Search Market*, SEARCH ENGINE J., Apr. 3, 2006, <http://www.searchenginejournal.com/?p=3208>.

112. *Id.*

113. *Id.*

114. *Baidu Posts Quarterly Search Engine Revenue Increase*, CHINATECHNEWS.COM, Feb. 15, 2007, <http://www.chinatechnews.com/2007/02/15/5005-baidu-posts-quarterly-search-engine-revenue-increase/>.

115. *Last week in China – A Lot of Baidu and a Bit of Microsoft and Google*, SEARCH ENGINE J., Dec. 17, 2006, <http://www.searchenginejournal.com/?p=4135>.

116. *Id.*

117. CHINA INTERNET NETWORK INFORMATION CENTER, 2007 SURVEY REPORT

precise numbers, Baidu is the clear leader in the Chinese Internet search market.¹¹⁸

For many Americans, it is hard to imagine a company more successful than Google, but American and Chinese Internet users are very different and Google has yet to capture what Chinese Internet users want. Chinese Internet users do not rely on their highly-censored Internet for information or business communication; instead, they use the Internet for entertainment and discussion.¹¹⁹ The success that Google has found in the Chinese markets stems from “white-collar urban professionals in the major Chinese cities, aspirational types who follow Western styles and sprinkle English words into conversation.”¹²⁰ These people like U.S. products and are not tough converts for U.S. companies. A harder crowd to win over is the teenagers who see nothing wrong with downloading MP3s and videos for free from Chinese sites, those who play in virtual worlds for hours in Internet cafes, and those who value Chinese companies because of nationalistic tendencies.¹²¹ While U.S. technology companies try to break through to the Chinese market, they do not have the power to pull their services as a threat to the Chinese government.

In addition, the Chinese government’s system of filtering would not change with U.S. companies leaving the market. China’s filtering system is backed up by a team of more than thirty thousand “Internet spies” and a national culture that looks down upon dissent.¹²² It reinforces its position with self-regulation—not every Chinese citizen is aching to search for terms like democracy and human rights.¹²³ Although it is impossible to determine the number of citizens who find China’s practices oppressive, Wang argues that most Chinese citizens don’t care much about their censorship because they can do most of what they want.¹²⁴ Many Chinese citizens feel like they have already been

ON SEARCH ENGINE MARKET IN CHINA (2007). “High End Users” are “non-student users aged 25 and above, receiving Bachelor’s Degree and above, having a monthly income of over 3,000 yuan.” *Id.* Therefore, this market may be the prime market for American companies and the “High End Users” would be disappointed if they pulled out of China. However, the majority of Chinese users do not fall into this category.

118. However, Google was ranked number one in terms of quality during a study by Keynote. Press Release, Keynote Systems, Google Poses Strong Challenge to Leader Baidu in China Search Engine Market (Jan. 18, 2006), *available at* http://www.keynote.com/news_events/china/06jan18.html.

119. Clive Thompson, *Google’s China Problem (And China’s Google Problem)*, N.Y. TIMES, Apr. 23, 2006.

120. *Id.*

121. *Id.*; *see also* Barboza, *supra* note 50.

122. Dowell, *supra* note 49.

123. *Id.* “Many Chinese people share a cultural disinclination to disclose information outside established personal and institutional networks.” Keller, *supra* note 51.

124. Email from Joseph Wang, *supra* note 108; *see also* Thompson, *supra* note 119.

transformed by the Internet and they are not pushing their luck: "If the Internet is bringing a revolution to China, it is experienced mostly as one of self-actualization" ¹²⁵ China has not prosecuted anyone for reading information; its main concerns are organizations and Web posters, which are easier to monitor. ¹²⁶ The Chinese government will actively prosecute individuals to teach lessons to all, but will not prosecute vast numbers of individuals. ¹²⁷ Self-censorship does a far better job than a formal government censorship program. ¹²⁸ Plus, China is already trying to placate its citizens' never-ending appetite for information on the Internet and has started at least 150 new Web sites. ¹²⁹

Some experts predict that the Chinese system will eventually bust because the size of the Internet will literally overwhelm it, but this would be the progress of time, not instant regulation. ¹³⁰ Wang, however, disagrees with this prediction altogether. He argues that China's control is maintainable because it is light enough to let Chinese citizens do most of the Internet activities they want to do. ¹³¹

Chinese citizens are comfortable with the way their government works. ¹³² Through GOFA, Congress wants to attack the free speech problem in the American way—directly and with a "big bang," ¹³³ however, this type of change is not the Chinese way. Congress could learn much about how to approach change in China by looking at the gradual growth of China's free-market economy. ¹³⁴ It teaches two lessons. First, Chinese culture is more receptive to gradual change than rapid revolution. ¹³⁵ Second, the free-market economy has introduced levels of democratic thinking previously thought impossible in totalitarian China. ¹³⁶ A gradual and well-developed plan for introduction of U.S. Internet ideals of democracy and free speech should follow the same path as the free-market economy—slow growth gradually opening new territory. China's shift to a market economy has been characterized by some problems, but it has continued heading in

125. Thompson, *supra* note 119.

126. *Id.*

127. Known as "killing the chicken to frighten the monkeys," this technique is often used to ensure that Chinese citizens follow the Chinese laws. See Keller, *supra* note 51, at 265.

128. Thompson, *supra* note 119.

129. *Id.*

130. Barboza, *supra* note 50; Dobriansky, *supra* note 62; Thompson, *supra* note 119.

131. Email from Joseph Wang, *supra* note 108.

132. *Id.*; Thompson, *supra* note 119.

133. BARRY NAUGHTON, GROWING OUT OF THE PLAN: CHINESE ECONOMIC REFORM 311 (1995).

134. *Id.*

135. *Id.*

136. *Id.*

this direction despite the negatives.¹³⁷ Not only has China's experimentation brought economic success, it also has given China the confidence to continue in the same direction with a more narrow role for the state in economic planning.¹³⁸ This confidence might allow U.S. technology companies to push the limits of Internet freedom *if* Americans play by China's rules and *if* they are there to do so. With the adoption of a bill like GOFA, U.S. technology companies will not get the opportunity to help expand Chinese free speech rights because the bill could force the companies out of China. GIFA or a similar bill could give U.S. companies the tools to succeed in China by researching both international free speech efforts and technological ways to counteract China's strong censorship machine.

Finally, U.S. companies need the Chinese market more than the Chinese market needs them. As discussed above, the Chinese Internet market has the capability to exist without U.S. technologies. This uneven bargaining power is largely responsible for why the companies have agreed to Chinese regulation and why a strict U.S. law will not be effective. China has 162 million people online, second only to the United States.¹³⁹ These users spent an average of \$22 a month online in 2006, a 47% increase from 2005.¹⁴⁰ With a population of 1.3 billion, China has a seemingly unlimited potential for growth.¹⁴¹ It is predicted that Asian Internet users will outnumber total users in Europe and North America within five years.¹⁴² If China does not have the technology it needs and the United States will not supply it, another nation will. Other nations do not have the qualms that U.S. politicians have about a Chinese threat.¹⁴³ Instead they welcome a large, powerful nation that could balance the power of the United States.¹⁴⁴ Whether China acquires its technology from its own programs or European, Japanese, Israeli, or Russian companies, it can live without U.S. companies and Congress would be making a mistake by excluding its companies—and

137. Gary H. Jefferson & Thomas G. Rawski, *Enterprise Reform in Chinese Industry*, 8 J. ECON. PERSP. 47, 66 (1994).

138. *Id.*

139. CNNIC, *supra* note 43.

140. Chen, *supra* note 46.

141. CIA — The World Fact Book — China, <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html#People> (last visited Apr. 10, 2008); *see also* China Population Information and Research Center, *supra* note 43.

142. Derek Gatopoulos, *U.S. Control of Internet Remains Touchy*, MSNBC.COM, Oct. 26, 2006, <http://www.msnbc.msn.com/id/15430428/> (quoting an Oct. 9th, 2006 speech by Nitin Desai, Chair of the United Nations Internet Governance Forum).

143. JAMES MCGREGOR, ONE BILLION CUSTOMERS: LESSONS FROM THE FRONT LINES OF DOING BUSINESS IN CHINA 185-87 (2005).

144. *Id.*

its big business supporters—from the Chinese market.¹⁴⁵

U.S. leaders will not admit that China has the ultimate bargaining power, arguing that China's system will eventually break down. Addressing countries that give their citizens economic freedom but not political freedom, Paula Dobriansky, the U.S. Under Secretary for Democracy and Global Affairs, said that these countries will have to give their citizens political freedom "in the long run" (which would include freedom on the Internet).¹⁴⁶ Right now, China shows no indications of fulfilling this proclamation. However, the same could have been said for the free-market economy in China not long ago. For now, China's Internet growth has been achieved without giving its citizens access to illegal online content or the freedom to voice their anti-government opinions online.¹⁴⁷ However, the presence of U.S. companies and their control (instead of control vested in Chinese companies) could eventually bring more democratic principles to China. Just as the free-market economy has replaced the planned economy in China, former inflammatory economic views are now the exact approach the Communist government of China espouses. Although an about-face on free speech rights is unlikely in the near future and possibly unlikely in the distant future, as Chinese consensus on the positive aspects of the Internet grows, Chinese citizens might feel more free to branch out. For example, according to an avid Chinese blogger, China has already changed drastically since the Internet came to China in the late nineties.¹⁴⁸ Before the Internet, the only "opinions" people read about—on politics, clothes, or music—were in the state-controlled media.¹⁴⁹ Now every Chinese citizen can have an opinion and publish it (even if it can't be political).¹⁵⁰ This change was a fundamental difference in the way an average Chinese citizen lived his life in the past ten years.¹⁵¹ In the next ten years, other changes could be just as radical.

B. Is the United States Overstepping Its Bounds?

With many nations objecting to the United States' control over the Internet Corporation for Assigned Names and Numbers ("ICANN"), Congress should question whether it wants to become more active in Internet governance on the content side.¹⁵² The United States already

145. *Id.*

146. Dobriansky, *supra* note 62.

147. Chen, *supra* note 46.

148. Thompson, *supra* note 119.

149. *Id.*

150. *Id.*

151. *Id.*

152. Müller, *supra* note 26, at 726.

has more influence in Internet decisions on the technical side than any other nation.¹⁵³

One of the United States' first attempts to regulate Internet content was driven by concern over the protection of minors. The Internet opened a new world to criminals who wanted access to children. Congress quickly passed the Child Online Protection Act and sought the cooperation of technology companies to aid in its regulation.¹⁵⁴ Congress's desire to prevent certain Americans from viewing content they shouldn't see stands in contrast to its goals of protecting free expression of the Internet in other nations who are doing the same.¹⁵⁵ The State Department even recognized this paradox:

The United States is determined to [maximize] the free flow of information over the [I]nternet and [minimize] success by repressive regimes in censoring information and silencing legitimate debate in this global town hall. Nonetheless, we oppose illicit online activities, such as copyright infringement, child pornography crimes, and criminal incitement to commit violent acts.¹⁵⁶

For example, the United States and other Western nations have been actively attempting to enforce copyrights on the Internet. Pushed by movie and music producers, Congress and the courts acted quickly to "protect" the rights of copyright holders, even before acting to prevent pornography from entering American families' homes.¹⁵⁷ Now, Congress is hearing the agenda of free speech activists in the debate over GOFA and GIFA, but it still may not be the right time.

Although both bills presented in the House focus on protecting the Universal Declaration of Human Rights, GOFA also makes a special provision for search engines to maintain access to U.S. government-sponsored sites.¹⁵⁸ This provision shows the commonality of all governments—they want to use the Internet to promote themselves and their values. If an Internet-restricting country will not allow a U.S.-sponsored site in their country, the country may lose all the benefits of the U.S. technology company's service when the company must conform

153. *Id.*

154. Gasser, *supra* note 105, at 217-18.

155. *Id.*

156. Josette Shiner, Comment, *Why Global Internet Freedom Matters*, FIN. TIMES, May 5, 2006, available at <http://www.ft.com/cms/s/2/b2a89236-db8d-11da-98a8-0000779e2340.html>; see also Gasser, *supra* note 105, at 218 ("Thus, there has been a desire on the part of Congress to limit access by certain classes to content on the one hand, and preserve the free expression of content on the other.")

157. See LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD 199 (2001).

158. GOFA, *supra* note 6.

to this part of GOFA. This provision raises an important question: should the citizens of an Internet-restricting country lose all access to U.S.-based Internet services just because their government will not allow a U.S. government site?¹⁵⁹ The technology companies' answer is "no."¹⁶⁰ They advocate that these citizens are better off with access to U.S. Internet services conforming to Internet-restricting governments than with no access to this service at all.¹⁶¹ Their theory is that if they can get part of the way in the door, eventually, they can get all the way in. Support for this theory can be found in the gradual acceptance of a free-market economy in China and U.S. companies' subsequent economic success there.

Also showing the commonality of all governments in this area is the House Foreign Affairs Committee's most recent hearing on the subject. At the hearing, the Representatives belabored the issue of Yahoo bending to the Chinese government despite obvious parallels to the U.S. system for obtaining information about alleged terrorists.¹⁶² At the base of the problem is the question of who should control the global Internet. Congress wants U.S. companies to ignore the Chinese government and subscribe to GOFA. However, the mandates of GOFA are so strict that they could cut U.S. companies out of China permanently.

At first glance, both the restrictions on Internet content designed to protect children and the proposed laws to support democracy and free speech seem harmonious and necessary. However, once Congress starts regulating the Internet on a global scale, it might be hard to draw the line. For example, the Ninth Circuit declined to answer the question of whether the French government could stop Yahoo from selling Nazi memorabilia, but if it had decided the question in favor of U.S. law, there might have been an outcry from other nations.¹⁶³ The First Amendment protects this type of speech in the United States, but it is not unreasonable for a government to want it censored. Under GOFA, this censorship of Nazi material probably would not be the type of infraction that would violate the Universal Declaration of Human Rights and earn France the label of an Internet-restricting country.¹⁶⁴ This distinction

159. Memorandum from Paula Bruening & Leslie Harris, *supra* note 6.

160. *The Internet in China Hearing*, *supra* note 27.

161. *Id.*

162. Posting of Sarah Lai Stirland to Threat Level, Yahoo Foreign Affairs Committee Hearing Members Blast Yang, Callahan (Nov. 6, 2007), <http://blog.wired.com/27bstroke6/2007/11/yahoo-foreign-a.html>.

163. *Yahoo!*, 433 F.3d at 1221 (stating that the existence an extraterritorial right under the First Amendment is uncertain).

164. Universal Declaration of Human Rights, G.A. Res. 217A (III), at 71, U.N. Doc. A/810 (Dec. 10, 1948), available at <http://www.unhchr.ch/udhr/> (follow English language version hyperlink) (balance Article 19 with Article 29). The vagueness of the Declaration shows that it might be difficult to define what a government may or may not prohibit on the

might be so because the harm done by the Nazis was more prevalent in Europe and France's control of Nazi memorabilia could be compared to the stricter pornography laws of the United States. Acceptance of nudity and pornography is greater in Europe than in the United States and acceptance of highly inflammatory free speech is greater in the United States than Europe. What one culture finds repulsive, another might view as free speech or, more likely, what is illegal in one nation is legal in another.¹⁶⁵ Had the fight over Nazi memorabilia gone on, the international community might have rallied behind France. Regulation of Internet content on an international level should be approached slowly so that the United States does not look like a hypocritical bully in the process. American ideals are laudable, but they are not the only ones that are worthy of protection.

At the same time, if GOFA passes, U.S. Internet companies might fight the bill (supposedly protecting the First Amendment) with the First Amendment.¹⁶⁶ A bill that forces companies to publish information, to use their free speech rights when they do not want to, could harm their First Amendment rights just as much as a bill that forces one not to publish information. The First Amendment not only protects what people choose to say, but also what people choose not to say.¹⁶⁷

Governing the Internet raises unavoidable jurisdictional issues.¹⁶⁸ How can a country exert control over something that is not within its boundaries—something that is arguably not within any country's boundaries and within all countries' boundaries at the same time?¹⁶⁹ Legislation is of no effect if it cannot be enforced.¹⁷⁰ In this respect, the United States might be the best regulator of the Internet content of U.S. companies because these companies are subject to U.S. laws—but to what extent? These issues are mainly outside the scope of this Note, but

Internet. Americans should not be the final judges of this interpretation.

165. See LESSIG, *supra* note 157, at 190 (discussing iCraveTV).

166. Email from Joseph Wang, *supra* note 108.

Ironically, I could imagine in the very unlikely case that the bill passes is that [it] would be subject to a First Amendment challenge. If Google wants to censor its website at the request of the Chinese government in order to make money in China, one could argue that it has a constitutional right to do so.

Id.

167. See *Wooley v. Maynard*, 430 U.S. 705 (1977). "A system which secures the right to proselytize religious, political, and ideological causes must also guarantee the concomitant right to decline to foster such concepts." *Id.* at 714.

168. See *generally* HENRIK SPANG-HANSEN, *CYBERSPACE & INTERNATIONAL LAW ON JURISDICTION* (2004).

169. See Clyde Wayne Crews Jr. & Adam Thierer, *Introduction to WHO RULES THE NET?: INTERNET GOVERNANCE AND JURISDICTION* xv, xvi - xix (Adam Thierer ed., 2003) (discussing whether the Internet is a separate place or whether it should be subject to the same rules of the "offline world").

170. *Id.*

suggest that foreign nations might object to a strict U.S. law. Without consensus among countries, each country might develop its own GOFA or GIFA and technology companies would have to sift through a mess of laws they could be subject to if they have assets in a specific country or if they target the citizens of a specific country.¹⁷¹

III. POSSIBILITIES WITHOUT THE LAW

Proponents and opponents of both bills support other means to achieve the goal of free speech and democracy on the Internet. Congressional regulation might be unnecessary if the Internet companies self-regulate.¹⁷² For example, Reporters without Borders has offered six suggestions for self-regulation including banning the location of servers in certain countries, blocking search engines from filtering out certain words, prohibiting companies from selling filtering software, and regulating those who sell monitoring technology to certain countries or who train people on Internet surveillance and censorship in those countries.¹⁷³ These proposals are similar in many ways to GOFA and also seem overly idealistic. Nevertheless, they could serve as starting points to discuss the options. The strongest idea Reporters without Borders has is the recognition that government and industry should work together as they did when confronting child pornography on the Internet.

Congress has worked with Internet companies to censor child pornography and other explicit material in the United States. At a recent Congressional briefing on combating the sexual exploitation of children, leaders recognized the help they receive from Internet companies in this regard.¹⁷⁴ This recognition shows that exerting control over the Internet is much easier if the government has the help of the Internet companies. The government and the Internet companies should work together as they have in other countries, such as Germany, where there is a voluntary

171. WHO RULES THE NET?, *supra* note 169, at 440. For “Default Jurisdictional Rules,” see *Achieving Legal and Business Order in Cyberspace: A Report on Global Jurisdiction Issues Created by the Internet*, 55 Bus. Law. 1801 (2001).

172. See SPINELLO, *supra* note 100, at 35 (listing three options for Internet governance). The first option is the model that the United States seems to be pursuing with GOFA: direct state intervention. The second is an international organization that would control the management of both the technicalities and the substance of the Internet. The third is self-regulation. *Id.*

173. *Corporate Responsibility: Reporters Without Borders Urges Internet Users and Bloggers to Support Its Recommendations on Freedom of Expression*, REPORTERS SANS FRONTIÈRES, Oct. 1, 2006, http://www.rsf.org/article.php3?id_article=16121.

174. *U.S. Senator Sam Brownback (R-KS) Holds a Briefing on Combating the Sexual Exploitation of Children*, FDCH CAP. TRANSCRIPTS, Sept. 27, 2006, available at 2006 WLNR 16820665.

code of conduct that search engines follow.¹⁷⁵

The Electronic Frontier Foundation has suggested such a code with the following guidelines: (1) Internet companies should keep user-identifier information only so long as necessary to do their job, so they are technologically incapable of providing this data when it is asked for; (2) Internet companies should disclose the censorship they do participate in and should keep detailed records of censorship requests so that the information will come out eventually; (3) Internet companies should not pretend they don't know when their services are used for the suppression of human rights; (4) Internet companies should offer Secure Socket Layer ("SSL") encryption for all sites to prevent governments from being able to track users; and (5) Internet companies should support innovation that will lead to the inability of governments to censor this content.¹⁷⁶ These goals are realistic and combat censorship from a different level—through honesty and technology. They do not impose harsh restrictions on Internet companies, but make sure that they are held accountable for their actions in the long run.

Congress could also start by taking smaller steps than even GIFA proposed. For example, adding filtering technologies to the list of products that companies have to file with the State Department before exporting would bring transparency to a practice that seems suspicious.¹⁷⁷ Greater transparency in general, by collecting data on what types of words are censored or which sites are illegal, would also improve relationships between the U.S. companies that want to do business in China and the U.S. politicians who are calling for action.

An international community or an organization with no territorial ties could also come together to influence Internet-restricting nations to open their borders and relax strict speech regulations. This organization might have more authority in some nations because the organization (ideally) would not have any single country's agenda on hand and would operate as a sort of Internet United Nations.¹⁷⁸ This model has its share of problems as well, starting with how the organization would be able to control its Internet citizens in the first place.¹⁷⁹ This organization could

175. Freiwillige Selbstkontrolle Multimedia-Diensteanbieter, Subcode of Conduct for Search Engine Providers, http://www.fsm.de/en/SubCoC_Search_Engines (last visited Apr. 10, 2008).

176. Letter from Danny O'Brien, Electronic Frontier Foundation, to the H. Subcomm. on Africa, Global Human Rights, and International Operations (Feb. 15, 2005), available at <http://www.eff.org/deeplinks/2006/02/code-conduct-internet-companies-authoritarian-regimes>.

177. Xeni Jardin, Op-Ed, *Exporting Censorship*, N.Y. TIMES, Mar. 9, 2006, at A23.

178. SPINELLO, *supra* note 100, at 36.

179. *Id.*

also become controlled by factions with ulterior motives.¹⁸⁰

A private solution has the positive effect of not coming from the U.S. government. This route might be better than U.S. legislation because many nations are growing tired of the United States controlling the Internet.¹⁸¹ An attempt at respecting the governments of other nations could build relationships for future Internet endeavors. The private route would also be favorable for U.S. companies because they could maintain their positions in China and attempt to gain more of the market. U.S. companies in China walk a fine line between maximizing profits and minimizing criticism from both Chinese customers and American activists—the Chinese are still skeptical about U.S. exploitation and the Americans criticize companies for moving to China and allowing the abuse of human rights.¹⁸² Self-governance would allow U.S. companies to attempt to placate both sides, although the fine line will always exist. Finally, the private route would not set the Chinese government against the U.S. government and would allow the technology companies the ability to continue to push the limits in China.

CONCLUSION

Congress should not take action on the Global Online Freedom Act and should reintroduce the Global Internet Freedom Act or a similar bill. A bill modeled after GIFA would dedicate money to solve this problem in the long term and it would take the time necessary to deal with the complexities of the global Internet structure and its stakeholders. In addressing the problem at the next United Nations meeting and in establishing an office to monitor the issue, GIFA would actually make progress. This bill supports a commitment by the United States government to address the problem, but it does not overreact to the issue before legislators and policymakers see the big picture. If technology can circumvent the “Great Firewall of China,” there will be no need to use U.S. search engines as bait to make China allow free Internet access. China won’t bite and U.S. companies will be worse off.

Until Congress can pass a bill like GIFA, self-regulation is the most viable option. Democracy and free speech on the Internet are not on the top of Congress’s agenda while the war in Iraq continues. This issue seems to be an issue that only comes to the forefront sporadically, but technology companies should still do their part. With more transparency in their processes, technological development, and a Code of Conduct, the companies could stay in China and conform with human rights laws.

180. *Id.*

181. Müller, *supra* note 26, at 726.

182. *Id.*

They should become as transparent as possible so that Internet users know what they are receiving from a search engine. They should monitor the requests of repressive regimes so that they may aid the world in counteracting their attempts. Although hard to draw the line, they should try to enter the Chinese market without giving up all of their values. For example, Yahoo can still redeem itself if it stops collecting user data and takes responsibility for its past mistakes.¹⁸³ Future advances in technology could also help U.S. companies avoid having to make censorship decisions by circumventing the Great Firewall of China.

Along with passage of the Global Internet Freedom Act, the government and the technology companies should work together to develop a Code of Conduct that makes Internet companies, once again, the purveyors of a new world for their users. This new world may be a relatively minor change for some of the users, but by taking smaller steps together, democratic governments and capitalist companies may be able to make progress in Internet-restricting countries.

183. Perhaps Yahoo can redeem itself, in part, by settling the lawsuit against it for the imprisonment of Shi Tao.