
VOICE OVER INTERNET PROTOCOL: ENDING UNCERTAINTY AND PROMOTING INNOVATION THROUGH A REGULATORY FRAMEWORK

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[V]oice over Internet Protocol is a fundamental change in the architecture, the service and the costs underlying traditional telephony. As a result, you have to question whether or not the traditional regulation and regulatory structure applies.

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Imagine you are Henry Ford in the early 20th century. Your innovation, the automobile, although still in its infancy, is changing the traditional notions of transportation. Now imagine regulators saying: since your product transports people, you must be regulated either like railroads or like the horse and buggy, but refuse to specify which one. The automobile is similar to both antiquated modes of transportation in that it carries people; in fact, the automobile is motorized like the railroad, but it uses roads, rather than railroad tracks, like the horse and buggy. The automobile has the form of the railroad in that it is motorized, yet it performs the function of the horse and buggy because it transports people on roads. The automobile, however, defies categorization under the two current regulatory categories: It cannot be both, but it is not exclusively either.

Against this backdrop, you are struggling to improve your product, expand your operations, and price your product to spur consumer adoption, but there is looming uncertainty. First, the federal government may tax your automobile for an unrelated national initiative to expand the railroad westward. Simultaneously, the state government may tax you for the upkeep of the local horse and buggy roads. Also, the dominant railroad industry wants you to pay a fee every time you cross their tracks. Finally, a federal regulatory agency is requiring

¹ Declan McCullagh, *The Technologist Who has Michael Powell's Ear*, CNET-NEWS.COM, at http://news.com.com/The+technologist+who+has+Michael+Powells+ear/2008-1033_3-5388746.html (Sept. 30, 2004).

your automobiles to meet the safety standards applicable to railroads, even though those standards do not logically apply to the automobile.

After you earmark funds for taxes, usage fees, and legal fees associated with meeting regulations, it would be hard to devote money to research and development, marketing, facilities, labor, or lowering the price for consumers. In addition, attracting investors is difficult because of the looming uncertainty in the regulatory scheme.²

The regulatory problems faced by the convergence of the railroad and the horse and buggy in the automobile is almost identical to the current state of affairs with Voice over Internet Protocol ("VoIP"), a technology that will revolutionize telecommunications the same way that automobiles changed transportation.³ Similar to e-mail, VoIP transmits data packets over the Internet; yet, similar to the telephone, VoIP functions as a voice communications medium.⁴ The current debate revolves around how VoIP should be regulated under the two existing options: telephone laws or Internet laws.⁵ Like the automobile, VoIP is an innovation superceding current regulations and cannot be shoe-horned into one category or meshed into both.⁶

In order to encourage innovation, regulators must provide certainty through a skeleton regulatory framework incorporating the highest priority issues, while refraining from regulating areas that could stifle growth for a short time period so that the industry itself may provide solutions.⁷ The industry will then have the proper foundation upon which this technology can be constructed and

² See generally Ken Brown & Almar Latour, *Phone Industry Faces Upheaval as Ways of Calling Change Fast*, WALL ST. J., Aug. 25, 2004, at A1 (comparing VoIP's disruption of the telecommunications industry to the automobile's disruption of the railroad industry after WWII and describing VoIP as a technology that can improve communications).

³ *Id.*

⁴ Survey, *From Pipes to Services*, ECONOMIST, Oct. 11, 2003, at 17, 17-18 [hereinafter *Pipes*] (describing how data is broken into packets and transmitted over the Internet).

⁵ See generally *In re Fed.-State Joint Bd. on Universal Serv.*, Report, 13 FCC Rcd. 11501, para.14 (1998) [hereinafter *Universal Service Report*] (analyzing VoIP under the classifications of the 1996 Telecommunications Act in terms of VoIP's telecommunication function and Internet form).

⁶ See Shaun P. Montana, *An Approach to the International Regulatory Issues of IP Telephony*, 8 B.U. J. SCI. & TECH. L. 682, 705 (2002) ("Instead of trying 'to fit the square peg that is IP telephony into the round hole that is traditional regulation,' an appropriately shaped 'hole' for a regulatory scheme can be designed to properly fit the 'peg' that is IP telephony."); see also Brown & Latour, *supra* note 2 (comparing VoIP's disruption of the telecommunications industry to the automobile's disruption of the railroad industry after WWII).

⁷ See Roy Mark, *Lawmakers Urge FCC to Regulate VoIP*, at www.internet-news.com/bus-news/print.php/3418141 (Oct. 6, 2004) (describing lawmakers' efforts to provide certainty to the regulatory debate and prevent states from implementing individual requirements for VoIP providers).

improved.⁸ Further substantive regulation should only be a reaction to important unresolved issues once the technology has evolved.

I. INTRODUCTION

This comment begins with a brief description of the technological characteristics of VoIP and its relation to the telephone. Then, it traces the contours of the VoIP regulatory debate. Currently, regulation is limited to two options: heavy regulation vis-à-vis the existing telephone framework, or light regulation, more comparable to the Internet.⁹ As such, this comment concludes that if VoIP is regulated like a telecommunications service from its infancy, innovation will be stifled and the cost to consumers will be high.¹⁰ Conversely, if VoIP is regulated like an Internet service, the industry will rapidly grow, and thereby lower costs to the consumer. The downside to this, however, is that some critical social issues, such as VoIP access for persons with disabilities as well as law enforcement issues – which are traditionally tackled by telecomm regulation – may be ignored.¹¹

The federal government must act assertively and establish a national regulatory framework in order to set parameters for the growth of the VoIP industry.¹² A skeleton framework has the advantage of prioritizing only the critical issues, which industry competition cannot solve on its own, while allowing innovations to sort out secondary issues during a regulatory moratorium.

This policy recommendation offers the best of both worlds: a better product for consumers and the protection of important social initiatives. Unfettered by overregulation and free from regulatory uncertainty, the VoIP industry will be able to provide solutions to social issues more efficiently than under existing

⁸ See *id.* (quoting Congressman Charles Pickering, saying if the FCC asserts jurisdiction, it would “ensure a greater degree of market certainty and prevent a misguided approach to regulating VoIP, spurring private innovation which will create competition and cost savings for consumers.”).

⁹ See *Universal Service Report*, *supra* note 5 (analyzing VoIP under the classifications of the 1996 Telecommunications Act for VoIP’s telecommunications function and Internet form).

¹⁰ See Cynthia L. Webb, *Figuring Out the Rules for VoIP*, WASH. POST, at <http://www.washingtonpost.com/ac2/wp-dyn/A47624-2004Oct20> (Oct. 20, 2004) (describing the remarks of FCC Chairman Michael Powell’s plans to exert jurisdiction in order “to avoid stifling the emerging market [of VoIP].”).

¹¹ See McCullagh, *supra* note 1 (discussing the goals remaining consistent for universal service: access to persons with disabilities and access to law enforcement).

¹² *FCC Holds VoIP Forum*, TECH. LAW. J. (Dec. 1, 2003), at <http://www.tech-lawjournal.com/topstories/2003/20031201.asp> (last visited Nov. 4, 2004) (describing the testimony of John Hodulik, the Wireline Telecommunications Analyst at UBS Securities, advocating a regulatory framework to foster growth in the VoIP industry).

laws.¹³ At the end of the moratorium, policymakers can evaluate the progress relating to social goals and implement effective reactive regulations instead of burdening the industry from the start and preventing innovation. Allowing VoIP to flourish could also provide truly universal access for both rural residents and the urban poor, enhance the communication options for persons with disabilities, and improve 911 emergency services while revolutionizing communication.

II. VOIP: ITS DEFINITION AND IMPORTANCE

Since “Scottish-born audiologist Alexander Graham Bell invented the telephone in 1876,”¹⁴ voice has primarily been transported using circuit-switched technology over the public switched telephone network (“PSTN”).¹⁵ PSTN, or “plain old telephone service” (“POTS”),¹⁶ uses this traditional circuit-switched technology, which dedicates a fixed amount of bandwidth for the duration of the call¹⁷ while the transmission passes through a number of switches.¹⁸ The telecomm industry invested heavily in adding and maintaining copper and optical cables carrying these transmissions as well as massive switching computers that open and close the dedicated connections.¹⁹ The dedicated circuit produced by this infrastructure results in a high quality call; but it increases costs for providers who must add capacity to meet increasing demand.²⁰

VoIP, otherwise known as “Internet Telephony” or “IP telephony,” serves the function of a telephone call by transmitting voice. Yet with VoIP, the voice takes a form similar to an e-mail, where data packets for the call are transmitted via the Internet.²¹ Unlike POTS, VoIP does not dedicate an analog circuit for the duration of the call.²² VoIP breaks down voice, as well other types of data such as fax, e-mail, and video, into data packets of digital bits that are individually addressed and transmitted through numerous routers to a final desti-

¹³ See *id.* at ¶ 30 (listing examples of VoIP providers meeting social goals without the imposition of regulations provided by John Billock, of Time Warner Cable).

¹⁴ Reports, *The Shape of Phones to Come*, ECONOMIST, Mar. 24, 2004, at 24 [hereinafter *Phones*] (explaining the history of POTS).

¹⁵ Chérie R. Kiser & Angela F. Collins, *Regulation on the Horizon: Are Regulators Poised to Address the Status of IP Telephony?*, 11 COMMLAW CONSPECTUS 19, 19 (2003).

¹⁶ See, e.g., *id.* at 19; see also Montana, *supra* note 6, at 683; see also Konrad L. Trope & Paula K. Royalty, *Current Legal Issues Surrounding the Regulation of Voice over Internet Protocol*, 16 No. 5 J. PROPRIETARY RTS. 10, 10 (2004).

¹⁷ *Phones*, *supra* note 14, at 24.

¹⁸ See Kiser & Collins, *supra* note 15, at 23.

¹⁹ *Phones*, *supra* note 14, at 24-25.

²⁰ *Id.* at 25-26.

²¹ See Trope & Royalty, *supra* note 16, at 10 (describing VoIP as “mak[ing] phone calls through their computers over the Internet.”); see also Pipes, *supra* note 4 at 17-18.

²² See *Phones*, *supra* note 14, at 25.

nation.²³ The packets are separated, routed to the paths that complete the journey in the shortest period of time, and are finally reassembled at their destination using real time transport protocol.²⁴ In addition to maximizing bandwidth capacity, VoIP is more efficient than POTS because the data is multi-directional or bi-directional; whereas POTS is unidirectional and does not allow the recipient to transmit.²⁵

VoIP is an umbrella term encompassing any voice transmission that uses the Internet and is offered in three forms: "computer-to-computer, telephone-to-computer (and vice versa), and phone-to-phone."²⁶ Within these general categories, there are subcategories based on the methods used to transmit the data packets: (a) providers use of the public Internet; (b) providers exploitation of private networks; (c) provider transmission entirely over the Internet; and (d) provider transmission over the Internet and the PTSN.²⁷ Regardless of the VoIP form used, former FCC Chairman Michael Powell said, "All ... will enhance our ability to communicate with each other."²⁸

Telecomm providers initially disregarded VoIP because the circuit switching was imperfect and resulted in choppy transmissions.²⁹ However, since transmission quality has improved over time and prices remained significantly lower than POTS,³⁰ more consumers are beginning to use VoIP.³¹ Worldwide, VoIP has grown from 0.2% of international calls in 1998 to an estimated 12.8% in 2003.³² In the United States, telecomm providers have seen their number of subscribers decline for "the first time since the Great Depression."³³

²³ See Kiser & Collins, *supra* note 15, at 21; see also Trope & Royalty, *supra* note 16, at 10 (discussing new forms of VoIP integrating voice, fax, e-mail, images, and other data forms into one communications system).

²⁴ See *Phones*, *supra* note 14, at 24-25; see also Kiser & Collins, *supra* note 15, at 21 (discussing the use of real time transport protocol allowing data packets to be reassembled quickly enough that the voice transmission occurs instantaneously).

²⁵ See Trope & Royalty, *supra* note 16, at 10 (discussing VoIP's efficient use of capacity).

²⁶ Kiser & Collins, *supra* note 15, at 21.

²⁷ *Voice Over Internet Protocol (VoIP): Hearing Before the S. Commerce, Sci. & Transp. Comm.*, 108th Cong. (2004) (statement of Michael Powell, chairman of the FCC).

²⁸ See *id.*; see also Anne Marie Squeo, *Martin Is Named Chairman Of FCC, Succeeding Powell*, WALL ST. J., Mar. 16, 2005, at A4 (stating that Kevin Martin was selected by President Bush to succeed Michael Powell as the chairman of the FCC in March of 2005).

²⁹ See *Phones*, *supra* note 14, at 25.

³⁰ See Eric De Regnaucourt, *Net Effect: Lower Phone Bills*, WALL ST. J., at <http://online.wsj.com/article-print/0,,SB10923395633490048,00.html> (Aug. 13, 2004) (discussing VoIP quality equaling POTS, the significant savings to consumers compared to POTS and that many consumers have unknowingly used VoIP through low-cost phone cards).

³¹ See *Pipes*, *supra* note 4, at 18.

³² Kurt Lyall & Katharine Nester, *VoIP: A Market Introduction*, FIRSTPARTNER, LTD., 5, available at http://www.vonage.com/media/pdf/res_06_09_04.pdf (2004).

³³ Brown & Latour, *supra* note 2 (describing decreasing number of POTS connections for "the first time since the Great Depression").

Conversely, VoIP has spread to more than 400,000 U.S. households in 2004 and is projected to be in 12.1 million households by 2009.³⁴

The future usage estimates are astounding and appear to be realistic.³⁵ There are hundreds of VoIP start-ups positioning to grasp market share including Net2Phone, Inc., Level(3) Communications, Inc., and 8x8, Inc., and more are popping up since the barriers of entry are so low.³⁶ The largest “pure play” VoIP provider is Vonage Holdings Corp. (“Vonage”), which hosts half of all consumer VoIP connections in the United States.³⁷ Also, other industries have added VoIP to supplement their offerings. Telecomm giant AT&T Corp. has abandoned its residential long distance service, once its flagship, and replaced it with CallVantage VoIP service.³⁸ Other big players in the telecomm industry such as Verizon Communications, Inc. and SBC Communications, Inc. are rolling out a VoIP services to complement their wireless offerings.³⁹

Many analysts believe that the dominant VoIP providers of the future will not be start-ups or telecomm companies but rather cable providers.⁴⁰ Cable company networks are already capable of supplying VoIP and the service can be offered to customers with little additional cost to the cable companies.⁴¹ The existing VoIP infrastructure ensures that cable providers will retain, if not increase, their already significant market share.⁴² Moreover, customers may be more willing to make the transition to VoIP because they can access the “triple play” of broadband Internet connection, cable, and now VoIP while using one provider and paying one bill.⁴³ In the long-run, competition between companies seeking to gain VoIP market share will benefit consumers through a wide range of low-cost alternatives to meet consumer communication needs.⁴⁴

Telecomm companies, cable companies, and other start-up companies might be looking to VoIP for strategic growth in the long-term; but in the short-term, these companies are seeking profit.⁴⁵ In 2004, the market for consumer VoIP stands at approximately \$517 million, and it is projected to be \$1.92 billion in

³⁴ See Roger Cheng, *Battle Is On for Web-Calling Market*, WALL ST. J., Oct. 20, 2004, at C2 (placing the number of total connections—business and residential—at 800,000 by the end of 2004).

³⁵ See *id.* (describing the estimates that 800,000 VoIP connections will be in place by the end of 2004 and the VoIP market is estimated to be worth \$9.5 billion by 2008).

³⁶ See *Pipes*, *supra* note 4.

³⁷ Cheng, *supra* note 34 (discussing privately-held Vonage, based in New Jersey, as the largest VoIP provider).

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² Cheng, *supra* note 34.

⁴³ *Id.* (“Cable companies’ networks are already equipped to provide VOIP services.”).

⁴⁴ See *id.* (discussing how AT&T and Vonage have been in a price war).

⁴⁵ See *id.*

2005 and \$9.5 billion in 2008.⁴⁶ In addition to capturing market share, VoIP technology also saves telecomm companies from investing in and maintaining additional infrastructure because VoIP uses capacity more efficiently than circuit switching. As providers begin targeting consumers and meeting their collective needs in price, service, and convenience, an increasing number of residences and businesses will be using VoIP. The increased usage of VoIP has transformed the technology from the realm of the “home hobbyist” into mainstream adaptation for residential and commercial use.⁴⁷ This has spurred an important debate over how VoIP should be regulated.

III. THE UNCERTAIN LANDSCAPE OF VOIP REGULATION

Currently, VoIP is unregulated by the FCC like other Internet applications.⁴⁸ However, VoIP’s increasing growth has heightened the debate over how to govern this technology.⁴⁹

A. Current Regulation of VoIP

Under existing laws, VoIP could be regulated either by its Internet form or by its telecommunications function.⁵⁰ The VoIP regulatory debate hinges on how the service is defined under The Communications Act of 1996 (“the 1996 Act”).⁵¹ POTS is considered “telecommunications”⁵² or a “telecommunications service”⁵³ under the 1996 Act, whereas e-mail and other Internet applications are considered an “information service.”⁵⁴ Congress established these catego-

⁴⁶ *Id.*

⁴⁷ See Lyall & Nester, *supra* note 32 (describing the increased usage of VoIP worldwide).

⁴⁸ See Kiser & Collins, *supra* note 15, at 23.

⁴⁹ *Id.* (“As the technology for VoIP advances, creating more cost-effective offerings with minimal quality of service distinctions, each of these regulators will be forced to re-examine existing regulatory policies.”).

⁵⁰ See *In Re Federal-State Joint Board on Universal Service, Report to Congress*, 13 FCC Rcd. 11501, 11541-44 (1998) (analyzing VoIP under the classifications of the 1996 Communications Act for VoIP’s telecommunications function and Internet form).

⁵¹ Kiser & Collins, *supra* note 15, at 23.

⁵² 47 U.S.C. §153(43) (2000) (defining “telecommunications” 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.”).

⁵³ *Id.* §153(46) (defining “telecommunications service” as “[t]he 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.”).

⁵⁴ *Id.* §153(20) (defining “information service” as “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications . . .”); see also Kiser & Collins, *supra* note 15, at 23 (discussing the terms used in the Telecommunications Act).

ries to protect information services from burdensome telecomm regulations.⁵⁵

The categorization of VoIP determines the level of regulation the burgeoning technology must meet since telecommunication services, unlike information services, are highly regulated.⁵⁶ Telecomm laws have evolved over the past hundred years to protect consumers, restrict the power of monopolies, and pay for governmental initiatives.⁵⁷ Compliance with these regulations alone is a large cost of doing business for telecomm companies. In addition, POTS is subject to many taxes levied by state, federal, and foreign governments and fees charged by domestic and foreign corporations.⁵⁸ For instance, telecomm companies are federally mandated to “contribute” approximately 7.2% of company revenues to a universal service fund.⁵⁹ If it is determined that VoIP is a telecommunications service, then providers will be “dragged into the labyrinth of filing requirements and subsidization schemes that characterize telecommunications regulation.”⁶⁰ Conversely, if VoIP is determined to be an information service, then providers will not have to pay these fees and tariffs or comply with state and federal regulations that govern POTS.⁶¹

In the absence of a clear directive from federal regulators, states have reacted differently by regulating VoIP providers as “telecommunications services” or “Internet services.”⁶² The result has been a regulatory arbitrage, which only adds to the uncertainty for VoIP providers.⁶³ While some states, like Colorado, have abstained from regulating VoIP providers until there is clarification from Congress or the FCC, other states, like Minnesota, have imposed telephone regulations on VoIP providers.⁶⁴ States have valid reasons for wanting to regulate VoIP, such as protecting their citizens through 911 ser-

⁵⁵ See *Vonage Holdings Corp. v. Minn. Pub. Util.’s Comm’n*, 290 F. Supp.2d 993, 994 (D. Minn. 2003) (“Congress . . . differentiated between ‘telecommunications services,’ which may be regulated, and ‘information services,’ which like the Internet, may not.”).

⁵⁶ See Kiser & Collins, *supra* note 15, at 23.

⁵⁷ See, e.g., *id.* at 24-25, 30, 32, 40-41 (discussing POTS regulations addressing access to persons with disabilities, universal service, 911 emergency services, and access to law enforcement).

⁵⁸ See, e.g., *id.* at 24-25 (discussing local access charges and government fees such as universal service).

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ See Trope & Royalty, *supra* note 16, at 10.

⁶² Chérie R. Kiser & Angela F. Collins, *Regulatory Considerations For Cable Provided Voice Over Internet Protocol Services*, in *Practicing Law Institute Patents, Copyrights, Trademarks, and Literary Property Course Handbook Series* (2004), available at WL 777 PLI/Pat 735, 744.

⁶³ *Voice Over IP: Hearing Before the Senate Comm. on Commerce, Sci. & Tech.*, 108th Cong. (2004) (statement of Kevin Werbach) [hereinafter Werbach Statement] (referring to the many possible outcomes of combining legacy telecom regulations and Internet regulations as “regulatory whack-a-mole”).

⁶⁴ Kiser & Collins, *supra* note 62, at 751-52.

vices, preserving competition by not giving VoIP an advantage, and stabilizing or recouping tax revenue. However, the broader purpose of improving services offered to consumers, which Congress has articulated, supercedes many of the issues regulators are targeting for resolution.

Other countries facing the challenge of how to regulate VoIP have approached the problem with different solutions.⁶⁵ For example, the European Union (“the EU”) is temporarily regulating VoIP as an Internet service, although this may change as consumer protection issues arise.⁶⁶ In contrast, Canada has temporarily chosen to regulate VoIP according to existing rules for telephones, which creates a heavy burden for VoIP providers.⁶⁷ On a different level, at least twenty-seven countries, including Cuba, Egypt, Israel, South Africa, Mexico, Pakistan, and Panama, have either banned VoIP or have no VoIP policy because their governments fear the loss of revenue from incumbent telecomm companies.⁶⁸ The United States regulatory landscape is currently more analogous to the EU’s than Canada’s: VoIP is currently being regulated similarly to information services, but this may change as social issues are addressed.⁶⁹ The United States is not alone in struggling to balance social issues with the loss of POTS revenue.⁷⁰

B. The Ultimate Question of Regulating VoIP: Can Existing Regulations Apply?

The question of VoIP regulation is more complicated than simply assigning the term “telecommunications service” or “information service” to the technology. First, the regulatory structure of telecommunications cannot be physically adapted to VoIP because telecommunications regulations are based on location and VoIP transcends location.⁷¹ Second, should VoIP be regulated as an infor-

⁶⁵ See, e.g., Lyall & Nester, *supra* note 32 (discussing how countries have dealt with regulating VoIP).

⁶⁶ *Id.*

⁶⁷ See *id.*; see also Montana, *supra* note 6 (describing the Canadian regulatory scheme requiring VoIP providers to pay into the universal service fund).

⁶⁸ See Montana, *supra* note 6 (discussing the twenty-seven countries as of April 2002, that had either outlawed VoIP or had no VoIP policy); see also Lyall & Nester, *supra* note 32; see also Amy Guthrie, *VoIP Is On Hold in Mexico*, WALL ST. J., Aug. 11, 2004, at B2 (describing how VoIP is banned in Mexico because of the threat to former government telephony monopoly).

⁶⁹ See Kiser & Collins, *supra* note 15, at 19 (stating that VoIP is currently “not burdened with the same regulatory obligations” of POTS).

⁷⁰ See Montana, *supra* note 6 (describing the varying treatment of VoIP and emphasizing that many countries’ policies toward VoIP are separate from general IP policy).

⁷¹ Werbach Statement, *supra* note 63 (stating, “[t]he legacy telecom regulatory framework is based on the idea of a call that originates and terminates between subscribers at defined locations, through a circuit established by one or more carriers. None of these con-

mation service, important policy concerns would be neglected.⁷² Third, one of the only certainties in this debate is that change is inevitable. VoIP is still in its infancy and if it is regulated either as a telecommunications service or an information service, the future issues will not be adequately addressed by present regulations.⁷³

Telecomm regulations are grounded in location and duration. A call made through the telephone “originates and terminates” in a specified location and is carried by a dedicated circuit for a finite amount of time.⁷⁴ VoIP, however, has no determinable location.⁷⁵ Therefore, even if VoIP is defined as a telecommunications service, none of the telecomm regulations translate to an Internet-based technology where location is irrelevant.⁷⁶

Since VoIP cannot be physically regulated as a telecommunications service, then should it be defined as the only other option under the 1996 Act: an information service? If this approach is pursued, then social issues, like universal service and access to persons with disabilities; and security issues, like wire-tapping and 911 access would be neglected. Where telecomm regulation has evolved to address and pay for these issues, information services have not. Therefore, if VoIP is defined as an information service, the growing technology would become an increasing threat to important consumer interests as its usage grows.

VoIP is a relatively new technology that is still in its functional infancy.⁷⁷ In an uncertain debate, the only certainty is change.⁷⁸ Encapsulating this sentiment, Duane Ackerman, the chairman and chief executive of BellSouth Corporation stated: “Our industry and our business is going to change more in the next five years than it has during the last 20 combined.”⁷⁹ If VoIP does not presently fit into either definition as set forth by the Act, its future innovations certainly will not because the industry is constantly evolving.

What remains is a futile debate: there are shortcomings under the only two

cepts necessarily endures in an IP world”).

⁷² See, e.g., McCullagh, *supra* note 1 (discussing the goal of universal service remaining consistent, but the technology to implement that goal is changing).

⁷³ See Congressman Charles Pickering, *Competitive Telecommunications: At a Fork in the Road*, 12 COMMLAW CONSPECTUS 1, 2 (2003) (“As evidenced by the events of the past seven years, change is inevitable, particularly in telecom, and advances in technology will constantly facilitate that change.”).

⁷⁴ Werbach Statement, *supra* note 63.

⁷⁵ *Id.* (stating “none of these [legacy telecom regulations] necessarily endures in an IP world”).

⁷⁶ *Id.*

⁷⁷ See Trope & Royalty, *supra* note 16, at 11.

⁷⁸ See Pickering, *supra* note 73 (“As evidenced by the events of the past seven years, change is inevitable, particularly in telecom, and advances in technology will constantly facilitate that change.”).

⁷⁹ See Brown & Latour, *supra* note 2.

existing definitions, and these shortcomings would be exacerbated as VoIP changes and usage skyrockets. Besides preventing growth, “[a]pplying the full legacy regulatory regime to VoIP ... simply to ensure that particular social policy objectives are met, would be a colossal case of the tail wagging the dog.”⁸⁰ In contrast, information services regulations should not apply because important social objectives cannot be overlooked.⁸¹ Therefore, policymakers must balance these two interests and that balance cannot be struck using existing laws. FCC Commissioner Michael Copps stated that “[i]t’s incumbent on [the Commission] to identify good policy going forward and not just shoehorn VoIP into statutory terms or regulatory pigeonholes without adequate justification. It’s no slam dunk that the old rules even apply.”⁸² On the contrary, it appears to be a “slam dunk” that the old rules *cannot* apply. The objective moving forward is formulating an effective regulatory framework allowing for innovation while preserving, and possibly improving, important social objectives.

The need for a new regulatory framework specific to VoIP does not take away from the success of the 1996 Telecommunications Act.⁸³ The 1996 Act succeeded because it spurred investment, increased competition, and, ultimately, benefited the consumer by providing a better, less expensive telephone service.⁸⁴ However, the primary purpose of the 1996 Act was telecommunications, and the telecommunications rules should not apply to VoIP technology.⁸⁵ Congress must replicate the success of the 1996 Act by implementing a regulatory framework for VoIP that will spur investment, increase competition, and benefit the consumer.

C. The Role of Courts in VoIP Regulation

Federal guidance regarding VoIP’s regulatory posture has been wanting. In 1998, however, the FCC issued the Stevens Report⁸⁶ classifying VoIP traffic in

⁸⁰ Werbach Statement, *supra* note 63.

⁸¹ *See, e.g.*, McCullagh, *supra* note 1 (discussing the goal of universal service remaining consistent, but the solutions to achieve that goal changing with the technology of VoIP).

⁸² Press Release, Federal Communications Commission, Opening Remarks of Michael J. Copps, FCC Voice Over Internet Protocol Forum, at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-241765A1.pdf (Dec. 1, 2003).

⁸³ *See* Pickering, *supra* note 73 (“No one can deny that the 1996 Act sparked a tremendous amount of investment in the telecommunications (‘telecom’) industry. Since enactment, competitors have invested more than \$71 billion in new telecom facilities . . .”).

⁸⁴ *See id.* (describing competition as benefiting the consumer by offering more choices).

⁸⁵ *See* Randolph Beard, *The Financial Implications of the UNE-Platform: A Review of the Evidence*, 12 COMMLAW CONSPECTUS 5, 5 (2003) (describing the primary purpose of the 1996 Act as promoting competition in the telecommunications marketplace).

⁸⁶ *In re* Federal-State Joint Board on Universal Service, *Report to Congress*, 13 FCC Rcd. 11501 (1998).

“three categories: computer-to-computer, computer-to-phone, and phone-to-phone.”⁸⁷ The commission found the first two classifications are “information services,” and the final classification is a “telecommunications service.”⁸⁸ Accordingly, the minimal regulation of information services should be applied to computer-to-computer and computer-to-phone VoIP services, and the heavy regulation of telecommunications should be applied to phone-to-phone VoIP services.⁸⁹

The Stevens Report is currently one of the only federal guidelines for the treatment of VoIP and could act as a temporary regulatory framework until Congress acts,⁹⁰ but some states and some courts have refused to follow the guidelines it sets forth. In *Vonage Holdings Corp. v. Minnesota Public Utilities Commission*,⁹¹ the United States District Court of Minnesota followed the guidance of the Stevens Report, however, the Ninth Circuit in *Brand X Internet Services v. Federal Communications Commission*⁹² did not. These conflicting rulings add to the uncertainty of VoIP regulation, rather than offering guidance.

1. Vonage Holdings Corp. v. Minnesota Public Utilities Commission

*Vonage Holdings Corp. v. Minnesota Public Utilities Commission*⁹³ highlights the debate raging over regulation but fails to provide a definitive solution. The case addressed whether Vonage, a VoIP service, provided a telecommunications service or an information service under the 1996 Telecommunications Act.⁹⁴ The Minnesota Public Utilities Commission attempted to regulate Vonage like other telecommunications providers under the “quacks like a duck” theory,⁹⁵ and requested taxes and a 911 plan.⁹⁶ Vonage countered that its

⁸⁷ Position Paper, Level(3) Communications, Telecom Regulation and Voice Over IP (Feb. 16, 2004).

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *See id.* (“[T]he Stevens Report continues to serve as a de facto regulatory framework for federal VoIP regulation today.”).

⁹¹ 290 F. Supp. 2d 993, 994 (D. Minn. 2003).

⁹² 345 F.3d 1120 (9th Cir. 2003), *cert. granted*, 543 U.S. (U.S. Dec. 3, 2004) (No. 04-281).

⁹³ 290 F. Supp. 2d 993, 994 (D. Minn. 2003).

⁹⁴ *Id.*; *see generally* Jared Weaver, *Major Court Decisions, 2003*, 12 COMMLAW CONSPECTUS 115, 117 (2004) (summarizing *Vonage Holding Corp. v. Minnesota Pub. Util.'s Comm'n*).

⁹⁵ *Vonage Holdings Corp.*, 290 F. Supp. 2d at 1001 (“The court acknowledges the attractiveness of the MPUC’s simplistic ‘quacks like a duck’ argument, essentially holding that because Vonage’s customers make phone calls, Vonage’s service must be telecommunications services.”).

⁹⁶ *Id.*

product was an information service, not a telecommunications service and, therefore, should remain unregulated as per Congressional intent and the Stevens Report.⁹⁷

In holding that Vonage provides an information service,⁹⁸ the district court found that, "state regulation would effectively decimate Congress's mandate that the Internet remain unfettered by regulation."⁹⁹ Vonage should therefore not be regulated by the state of Minnesota as a telecommunications service, pay taxes to the state, or be forced to file a 911 plan.¹⁰⁰ However, this holding has a narrow scope: it only applies to a service similar to Vonage and only in Minnesota.¹⁰¹

Vonage illustrates the ongoing debate between various levels of state and federal governments and the courts regarding the regulation of VoIP.¹⁰² The debate will continue until Congress establishes a clear framework.¹⁰³ The *Vonage* court agreed with the Stevens Report and ruled consistently with Congress's intent to leave information services unregulated.¹⁰⁴ However, the Ninth Circuit disagreed in *Brand X Internet Services v. FCC*.¹⁰⁵ Therefore, VoIP providers will have costly and uncertain legal challenges in every state choosing to regulate VoIP.¹⁰⁶ *Vonage* fails in providing certainty because the law it is interpreting cannot be applied consistently to VoIP.¹⁰⁷ The court's analysis is reasonable, but as *Brand X* shows, there are multiple reasonable interpretations for technology evolving ahead of the law.¹⁰⁸

⁹⁷ *Id.*

⁹⁸ *See id.* ("The court concludes that Vonage is an information service provider.")

⁹⁹ *Id.*

¹⁰⁰ *See id.* (granting Vonage's request for injunctive relief).

¹⁰¹ *Vonage Holdings Corp.*, 290 F. Supp. 2d at 1001; *see also* Trope & Royalty, *supra* note 16, at 15 (describing how the circuits are split, and stating "[t]he courts, and the FCC, at the moment, are 'stuck' with applying potentially outdated definitions . . ."); *see generally* Weaver, *supra* note 94.

¹⁰² *See* Trope & Royalty, *supra* note 16, at 15 (describing the split in the federal circuits over how VoIP should be treated and citing *Vonage*).

¹⁰³ *See* Kiser & Collins, *supra* note 62, at 748 ("[P]ending a definitive ruling from the FCC on the classification of VoIP services, states remain free to make their own determinations regarding the level of regulation applicable to Internet telephony services.")

¹⁰⁴ *See* *Brand X Internet Services v. FCC*, 345 F.3d 1120, 1121 (9th Cir. 2003) ("Congress has expressed a clear intent to leave the Internet free from undue regulation so that this growth and exploration may continue.")

¹⁰⁵ *Id.* at 1132.

¹⁰⁶ *See* Mark Sullivan, *VoIP Vendors Want Freedom*, PC WORLD (July 8, 2004) at <http://www.pcworld.com/news/article/0,aid,116828,00.asp> (last visited Nov. 2, 2004) (quoting CEO and cofounder of Vonage, Jeffery Citron: "We spend a lot of time and money internally dealing with the regulatory requirements for 51 different jurisdictions.")

¹⁰⁷ *See* Trope & Royalty, *supra* note 16 (describing how the circuits are split, and stating "the courts, and the FCC, at the moment, are 'stuck' with applying potentially outdated definitions . . .").

¹⁰⁸ *Brand X Internet Services*, 345 F.3d at 1120; *see also* *Vonage Holdings Corp. v.*

In an attempt to foster certainty among VoIP providers, the FCC declared on November 9, 2004 that Vonage and similar services should not be “subject to traditional state public utility regulation.”¹⁰⁹ While this decision was helpful in momentarily sheltering VoIP providers from regulation and promoting investment, “several municipalities [plan] to impose debilitating fees on the nascent VoIP industry.”¹¹⁰ Without a comprehensive regulatory framework from Congress, contradictory court decisions and toothless FCC declarations will not provide the VoIP industry the proper foundation for growth.

2. *Brand X Internet Services v. FCC*

Brand X Internet Services v. FCC demonstrates the courts’ role in creating uncertainty when clear regulation from Congress is lacking.¹¹¹ *Brand X* sought to classify the cable modem platform as either a cable service, a telecommunications service or an information service.¹¹² The case relates to the VoIP debate because the cable modem platform, like VoIP, fits into multiple categories and controversy exists regarding its regulation.¹¹³ Moreover, cable providers are becoming one of the major providers of VoIP through the cable modem platform.¹¹⁴

Brand X’s historical background is important to understand. First, in *AT&T v. City of Portland*,¹¹⁵ the Ninth Circuit held that the “cable modem service did not qualify as a ‘cable service’ and that it contained both information service and telecommunication service components.”¹¹⁶ Not long after the Ninth Cir-

Minnesota Pub. Util.’s Comm’n, 290 F. Supp. 2d 993, 994 (D. Minn. 2003) (“This case illustrates the impact of emerging technologies evolving ahead of the regulatory scheme intended to address them.”).

¹⁰⁹ Press Release, Federal Communications Commission, FCC Finds that Vonage Not Subject to Patchwork of State Regulations Governing Telephone Companies, at <http://www.fcc.gov> (Nov. 9, 2004).

¹¹⁰ See Jeff Pulver, *Cities Plot a New Tax Raid Against the Web*, WALL ST. J., Dec. 31, 2004, at A11.

¹¹¹ *Brand X Internet Services v. FCC*, 345 F.3d 1120 (9th Cir. 2003).

¹¹² *AT&T Corp. v. City of Portland*, 216 F.3d 871 (9th Cir. 2000).

¹¹³ See *Brand X Internet Services*, 345 F.3d at 1125 (describing Brand X as a provider of the cable modem platform, which provides broadband Internet access to consumers); see generally, Megan Wilson, *Major Court Decisions*, 12 COMMLAW CONSPECTUS 115, 116 (2004) (summarizing *Brand X Internet Services v. FCC*) (describing how there are components of each category).

¹¹⁴ See Cheng, *supra* note 34 (predicting cable companies as becoming one of the largest VoIP providers because the cost for cable companies is low and customers benefit by consolidating services).

¹¹⁵ 216 F.3d 871 (9th Cir. 2000).

¹¹⁶ See *Brand X Internet Services*, 345 F.3d at 1125 (9th Cir. 2003). (This decision was for the purposes of a merger approval and distinct from later cases regarding state regulation).

cuit's decision, the Eleventh Circuit and district court in the Eastern District of Virginia handed down contradictory rulings regarding the classification of the cable modem platform.¹¹⁷ The FCC responded to the split by issuing a Notice of Inquiry "to determine what regulatory treatment, if any, should be accorded to ... the cable modem platform."¹¹⁸ Based on comments from state and local governments and industry officials resulting from the Notice of Inquiry, the FCC issued a declaratory ruling and concluded that, "cable modem service ... is properly classified as an interstate information service, not a cable service."¹¹⁹

It is in this setting that *Brand X* came before the Ninth Circuit.¹²⁰ In reviewing the FCC's interpretation of the statute, the court began by giving deference to the *Chevron U.S.A., Inc. v. National Resources Defense Council, Inc.* two-step formula.¹²¹ The first step for the reviewing court is to look at the statute and "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."¹²² If the statute is ambiguous, "the question for the court is whether the agency's answer is based on a permissible construction of the statute."¹²³ Therefore, a court must follow an agency's reasonable interpretation, if the statute is silent or ambiguous.¹²⁴

Although the *Brand X* court enunciated the *Chevron* two-step test, it found that the test does not apply because the *AT&T* ruling is binding on the circuit.¹²⁵ If the *Brand X* court had applied the *Chevron* test, it would have been difficult to find the FCC's ruling unreasonable considering the extensive Notice of In-

¹¹⁷ See *Gulf Power Co. v. FCC*, 208 F.3d 1263, 1277-78 (11th Cir. 2000) (holding that the cable modem platform included both telecommunications components and cable service components); *MediaOne Group, Inc. v. County of Henrico*, 97 F. Supp. 2d 712, 714-15 (E.D. Vir. 2000) (holding that the FCC could not regulate pole attachments for Internet services because they did not qualify as telecommunications services).

¹¹⁸ *In re Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, 15 F.C.C.R. 19287, 19287 (2000).

¹¹⁹ Declaratory Ruling & Notice of Proposed Rulemaking, 17 F.C.C.R. 4798, 4802 (2002); see generally *Brand X Internet Services*, 345 F.3d at 1126 (discussing the events preceding the *Brand X* ruling).

¹²⁰ See, e.g., Federal-State Joint Board on Universal Service, *Report to Congress*, 13 FCC Rcd. 11501 (1998) (contradicting the Ninth Circuit's ruling in *AT&T*); see also *Gulf Power Co.*, 208 F.3d at 1277 (contradicting the Ninth Circuit's ruling in *AT&T*); see also *MediaOne Group, Inc.*, 97 F. Supp. 2d at 714-15 (contradicting the 9th Circuit's ruling in *AT&T*).

¹²¹ *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-843 (1984).

¹²² *Id.*

¹²³ *Id.* at 843.

¹²⁴ *Id.* at 843-844.

¹²⁵ *Brand X Internet Services*, 345 F.3d at 1127-1131; see generally, Wilson, *supra* note 113.

quiry process and the state of the law regarding VoIP.¹²⁶ However, the court did not explore the reasonableness of the FCC ruling, and instead relied exclusively on the *AT&T* ruling that “cable broadband service was not a ‘cable service’ but instead was part ‘telecommunications service’ and part ‘information service.’”¹²⁷

By following the *AT&T* decision and disregarding the FCC’s, the *Brand X* court increased uncertainty.¹²⁸ The FCC found in the Stevens Report, “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.”¹²⁹ Indeed, Congress intended information services to remain unregulated, but allowed for telecommunications service regulation.¹³⁰ These categories must be mutually exclusive; otherwise, any regulation of an information service runs counter to Congress’s intent.¹³¹

The Telecommunications Act of 1996 established categories of technologies, and assigned regulatory specifications addressing the needs of those categories.¹³² The cable broadband platform, like VoIP, has evolved beyond the regulatory classifications supplied by the 1996 Act.¹³³ *Brand X* addresses the vacuum existing in current regulations: the cable modem platform is an information service, but the need exists for some traditional telecommunication regulation.¹³⁴ There is currently no mechanism under the 1996 Act because these categories are mutually exclusive. But the *Brand X* court attempts to create it through reliance on the *AT&T* ruling.¹³⁵ Consequently, the court’s interpretation results in further uncertainty because the requirements of these categories can be arbitrarily imposed, and the scope of the ruling does not account for the diverse and evolving technology.¹³⁶ Comprehensive Congressional action is therefore necessary to end the uncertainty while addressing the issues

¹²⁶ See, e.g., *Vonage Holdings Corp. v. Minnesota Pub. Util.’s Comm’n*, 290 F. Supp. 2d 993, 994, 998 (D. Minn. 2003) (finding the FCC’s ruling reasonable).

¹²⁷ *Brand X Internet Services*, 345 F.3d at 1132.

¹²⁸ *Id.*

¹²⁹ *In re Federal-State Joint Board on Universal Service, Report to Congress*, 13 FCC Rcd. 11501, 11522 (1998); see also *Vonage Holdings Corp.*, 290 F. Supp.2d at 994, 1000 (following the guidelines of the Stevens Report).

¹³⁰ See *Vonage Holdings Corp.*, 290 F. Supp.2d at 994 (“Congress has expressed a clear intent to leave the Internet free from undue regulation so that this growth and exploration may continue.”).

¹³¹ See *id.* (“Congress also differentiated between ‘telecommunications services,’ which may be regulated, and ‘information services,’ which like the Internet, may not.”).

¹³² 47 U.S.C. §§151-615 (2000).

¹³³ See *Vonage Holdings Corp.*, 290 F. Supp. 2d at 994 (discussing VoIP as a technology that is evolving faster than the laws intended to regulate it).

¹³⁴ *Brand X Internet Services v. FCC*, 345 F.3d 1120, 1132 (9th Cir. 2003).

¹³⁵ *Id.*

¹³⁶ *Id.*

technology has created.

D. Costs of the Existing Regulatory Landscape

1. Traditional POTS Fees and Uncertainty

VoIP regulation has cost implications for the providers in the form of fees and regulatory compliance that are ultimately passed on to the consumer.¹³⁷ Currently, VoIP costs less than POTS because providers have low overhead, low infrastructure costs, and are not paying traditional POTS fees.¹³⁸ This cost gap would be significantly narrowed if VoIP were regulated like POTS.¹³⁹ However, VoIP would still have a marginal price advantage because it is a more efficient form of transmitting voice, but the growth rate would be significantly hindered.¹⁴⁰

Beyond the possible tangible cost in the form of fees, the regulatory uncertainty has increased the cost of compliance for what has been described as a “regulatory patchwork.”¹⁴¹ In the absence of a unified federal directive, some states are arbitrarily regulating VoIP in a manner similar to POTS, requiring providers to direct funds to compliance instead of innovation.¹⁴² By extension, VoIP companies must then wage costly court battles that may only achieve narrow victories.¹⁴³ Jeffery Citron, the CEO and co-founder of Vonage, comments, “We spend a lot of time and money internally dealing with the regulatory requirements of 51 different jurisdictions.”¹⁴⁴ Mr. Citron also addressed the other major problem with VoIP regulation, “[T]he uncertainty in the regulatory environment has impeded our ability to raise investment capital.”¹⁴⁵ Regulatory uncertainty directly impacts innovation by hampering investment, and, therefore decreasing the amount of available capital that can be used for research and development.¹⁴⁶ Wall Street analysts are acting cautiously because

¹³⁷ See Sullivan, *supra* note 106, at 2.

¹³⁸ See *Voice Over IP: Hearing Before the Senate Commerce Committee* (Feb. 24, 2004) (statement of Michael Powell).

¹³⁹ See, e.g., Kiser & Collins, *supra* note 15, at 22-23 (discussing the almost 8% of revenue that telecom companies pay into universal service, which would be a large cost increase should VoIP providers be required to pay into universal service).

¹⁴⁰ See Trope & Royalty, *supra* note 16, at 10 (describing the efficiency of VoIP because it maximizes the bandwidth of the connection unlike circuit-switched transmissions).

¹⁴¹ See Sullivan, *supra* note 106.

¹⁴² *Id.*

¹⁴³ *Vonage Holdings Corp. v. Minnesota Pub. Util.’s Comm’n*, 290 F. Supp. 2d 993, 1002 (D. Minn. 2003).

¹⁴⁴ See Sullivan, *supra* note 106.

¹⁴⁵ *Id.*

¹⁴⁶ LEVEL(3) COMMUNICATIONS, POSITION PAPER, February 16th, 2004 (on file with the

of the possibility that VoIP providers will soon have to pay fees similar to POTS and those fees could be retroactive.¹⁴⁷

2. *Opportunity Costs and Foreign Competition*

Continued uncertainty precludes the consumer from taking full advantage of VoIP. Ron Vidal, Senior Vice President of Level(3) Communications notes, "VoIP providers, and their customers, continue to live in a kind of regulatory no-man's-land, with no clear direction from legislators. This regulatory uncertainty, if it is prolonged, may undermine VoIP deployment in this country."¹⁴⁸

A vital issue adding an element of urgency to the regulatory debate is the ability and ease for companies to establish VoIP services abroad.¹⁴⁹ If a foreign company provides a superior product at a lower price, American consumers will flock to it, effectively superceding whatever regulatory authority the federal government has.¹⁵⁰ As former FCC Chairman Michael Powell warns, "[i]f we do not create the proper regulatory climate in the United States, it is quite possible our local calls will be routed through Canada and Mexico at cheaper rates, rather than through Kansas or Montana. We must adopt the right policies to foster investment, innovation and competition."¹⁵¹ Indeed, if the regulatory debate over taxes and fees does not shift to the best way to provide a regulatory environment promoting innovation, policymakers could miss a significant regulatory opportunity.¹⁵² The following proposed solution is aimed at ending the current regulatory uncertainty, promoting investment, fostering innovation, and accomplishing social objectives by providing a regulatory framework, which allows for initial growth now and includes the option of postponing regulation.

IV. PROVIDE CERTAINTY AND PROMOTE INNOVATION THROUGH A SKELETON REGULATORY FRAMEWORK

The costs mentioned in the previous section highlight the importance of es-

author) [hereinafter Level(3)].

¹⁴⁷ *Id.*

¹⁴⁸ See Sullivan, *supra* note 106 (quoting Ron Vidal, of Level 3 Communications, describing the uncertainty of each state treating VoIP differently and no clear direction from legislators).

¹⁴⁹ See *Voice Over IP: Hearing Before the Senate Commerce Committee* (Feb. 24, 2004) (statement of Michael Powell).

¹⁵⁰ See, e.g., Cheng, *supra* note 34 (discussing consumer usage increasing because of low prices).

¹⁵¹ *Voice Over IP: Hearing Before the Senate Commerce Committee* (Feb. 24, 2004) (statement of Michael Powell).

¹⁵² *Id.*

establishing a national regulatory framework that will not control, but rather empower industry, promote investment, accelerate innovation, and generally improve how people communicate.¹⁵³

A. A Proposed Regulatory Solution

The proposed regulations seek to match the goals set forth in the Telecommunications Act of 1996, while applying them to VoIP.¹⁵⁴ Congress sought to provide a “pro-competitive, de-regulatory national policy framework” designed to promote the “deployment of advanced telecommunications and information technologies to all Americans by opening all telecommunications markets to competition.”¹⁵⁵ Indeed, these proposals will provide a regulatory framework promoting innovation and investment in VoIP.

These regulations will also take into account recent developments by policymakers with regard to VoIP such as statements made by former FCC Chairman Michael Powell and other FCC decision makers, Senate bill S.2281 proposed by Rep. John Sununu (“VoIP Regulatory Freedom Act”),¹⁵⁶ and a letter written by Congressman Charles Pickering and signed by sixty-one other members of Congress (“Pickering letter”).¹⁵⁷ Policymakers overwhelmingly agree that something has to be done addressing social issues raised by VoIP regulation.¹⁵⁸ These regulations will accomplish the social objectives but will not overburden the VoIP industry with unnecessary regulations.¹⁵⁹

1. Defining VoIP

First, VoIP must be defined as “any voice transmission utilizing the Internet.” This definition should encompass its many current forms and provide room for possible future forms. Currently, there are hundreds of VoIP providers offering various services for free or for a fee, using the public Internet or a private network, and using a computer attachment, a dedicated handset, or the

¹⁵³ See, e.g., McCullagh, *supra* note 1 (discussing how new technology requires reevaluation of traditional goals).

¹⁵⁴ Pub. L. 104-104, 110 Stat. 56 (1996).

¹⁵⁵ H.R. CONF. REP. NO. 104-458, at 113 (1996).

¹⁵⁶ VOIP Regulatory Freedom Act of 2004, S. 2281, 108th Cong. (2004).

¹⁵⁷ See Letter from Charles Pickering, (R-Miss), to Michael Powell, Chairman, FCC (Oct. 5, 2004) (on file with the author) [hereinafter Pickering Letter]; see generally Roy Mark, *Lawmakers Urge FCC to Regulate VoIP*, at www.internetnews.com/bus-news/article.php/3418141 (Oct. 6, 2004) (summarizing the Pickering letter as the signatories urging the FCC to take action to end uncertainty).

¹⁵⁸ See, e.g., McCullagh, *supra* note 1.

¹⁵⁹ *Id.*

traditional telephone for implementing the service.¹⁶⁰ Consumers are able to choose from these many services as well as their connection to the Internet: cable, fixed wireless, satellite, or WiFi.¹⁶¹ Regardless of the service or the method of accessing the Internet, the general definition set forth above will be broad enough to encompass innovations and allow for the future forms of VoIP.

The general definition can be further broken down into the classifications set forth in the Stevens Report: computer-to-computer, computer-to-phone, and phone-to-phone.¹⁶² Sub-categorization is necessary to effectively target phone-to-phone telephony, which burdens the PSTN more than the other forms.¹⁶³ As usage increases, phone companies may be overwhelmed by providers using the regulation to avoid access charges instead of providing an enhanced service.¹⁶⁴ Therefore, phone-to-phone VoIP should be regulated like a telecommunications service under the 1996 Act. Conversely, computer-to-computer and computer-to-phone telephony should be separated because they maximize the efficiency that Internet telephony offers while minimizing the burden to the PSTN.¹⁶⁵ This sentiment reflects the Stevens Report's reasoning, but it could not be accurately implemented under the 1996 Act, because the only available options were the all or nothing classifications of telecommunications services or information services.¹⁶⁶ This framework provides the vehicle for differentiating general types of Internet telephony and regulating them accordingly.

This proposed framework is largely consistent with the definition of VoIP used by the VoIP Regulatory Freedom Act.¹⁶⁷ In fact, the VoIP Regulatory Freedom Act uses the same general definition encompassing a wide range of VoIP services and allowing room for innovations, but it immediately excludes phone-to-phone VoIP from the new framework.¹⁶⁸ Instead, the proposed framework groups all VoIP together and then breaks them down into subcategories. Both approaches treat phone-to-phone VoIP like a telecommunications service, but the VoIP Regulatory Freedom Act leaves that type of VoIP sepa-

¹⁶⁰ See *Voice Over IP: Hearing Before the Senate Commerce Committee* (Feb. 24, 2004) (statement of Michael Powell).

¹⁶¹ *Brand X Internet Services v. FCC*, 345 F.3d 1120 (9th Cir. 2003).

¹⁶² See generally Federal-State Joint Board on Universal Service, Report to Congress, 13 FCC Rcd. 11830,11583 (1998); see also Level(3), *supra* note 146.

¹⁶³ See Federal-State Joint Board on Universal Service, Report to Congress, 13 FCC Rcd. 11830 at 1583 (1998).

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

¹⁶⁷ VOIP Regulatory Freedom Act of 2004, S. 2281, 108th Cong. (2004).

¹⁶⁸ *Id.* at §10(a)(6)(A) ("The terms 'Voice-over-Internet-protocol application' and 'VOIP application' mean the use of software, hardware, or network equipment for real-time 2-way or multidirectional voice communications over the public Internet or a private network utilizing Internet protocol . . .").

rated under the 1996 Act.¹⁶⁹ The proposed framework groups all VoIP forms and uses the subcategories of the Stevens Report to determine that phone-to-phone VoIP should be regulated under the 1996 Act as a telecommunications service.¹⁷⁰ Therefore, the VoIP Regulatory Freedom Act has provided certainty for two of the three VoIP categories, whereas the proposed framework provides for all three categories and accounts for future phone-to-phone VoIP changes.¹⁷¹

2. Establishing Federal Jurisdiction

Once VoIP has been defined, a skeleton regulatory framework must be established using regulatory prioritization to achieve the goal of promoting innovation and ending uncertainty. This framework should exercise the federal government's exclusive jurisdiction over VoIP, establish a three-year moratorium on all access charges, taxes, and regulatory requirements for VoIP providers, and clearly state the goals of the three-year regulatory moratorium.

The most important initial step is to end the regulatory patchwork of the states and declare, as sixty-two members of Congress requested in the Pickering letter, that the federal government and its regulatory agencies have exclusive jurisdiction over VoIP.¹⁷² The Pickering letter stated, "it simply makes no sense to impose a collage of 52 different regulatory regimes on a service that has an inseverable interstate (and international) component."¹⁷³ The VoIP Regulatory Freedom Act asserts the same federal jurisdiction and prohibits state regulation of VoIP.¹⁷⁴

The Pickering letter requests federal preemption by delegating all regulatory authority to the FCC,¹⁷⁵ whereas the VoIP Regulatory Freedom Act exerts federal jurisdiction and delegates specific authority to the FCC.¹⁷⁶ Both methods achieve the objective of ending the uncertainty of each state imposing different VoIP regulations.¹⁷⁷ The Pickering letter advocates the FCC declaring jurisdiction as a temporary measure until legislation like the VOIP Regulatory Free-

¹⁶⁹ *Id.*

¹⁷⁰ See Federal-State Joint Board on Universal Service, *Report to Congress*, 13 FCC Rcd. 11501 (1998).

¹⁷¹ VOIP Regulatory Freedom Act of 2004, S. 2281, 108th Cong. (2004).

¹⁷² Pickering Letter, *supra* note 157.

¹⁷³ *Id.*

¹⁷⁴ VOIP Regulatory Freedom Act of 2004, S. 2281, 108th Cong. (2004).

¹⁷⁵ Pickering Letter, *supra* note 157.

¹⁷⁶ *Id.*; see also VOIP Regulatory Freedom Act of 2004, S. 2281, 108th Cong. (2004).

¹⁷⁷ Pickering Letter, *supra* note 157 ("[I]t simply makes no sense to impose a collage of 52 regulatory regimes on a service that has an inseverable interstate (and international) component.").

dom Act can be enacted.¹⁷⁸

The FCC may declare jurisdiction as “a federal agency acting within the scope of its congressionally delegated authority [to] ... pre-empt state regulation.”¹⁷⁹ As the Pickering letter suggests, this would be a viable, temporary option until Congress acts through a more comprehensive bill exerting federal jurisdiction.¹⁸⁰ The Pickering letter views the uncertainty caused by state regulation as an issue that requires immediate action.¹⁸¹

Congress is granted the authority to preempt state law by the Supremacy Clause of Article VI of the Constitution.¹⁸² Congress has already expressed the intent to occupy the entire field of Internet regulation, but a bill will prevent ambiguity and firmly establish a comprehensive regulatory structure for VoIP.¹⁸³ Moreover, Congress is within its authority to preempt state regulation because VoIP is an interstate offering.¹⁸⁴ Indeed, Congress must assert federal jurisdiction to end the uncertainty of state regulation.¹⁸⁵

3. Developing a Skeleton Regulatory Framework Using Regulatory Prioritization and a Three-year Moratorium

Upon establishment of federal jurisdiction, the framework should state that VoIP providers will not pay access charges, taxes, or be required to meet other traditional telephone regulations for a period of three years. This regulatory moratorium would, in effect, treat VoIP like an information service under the Act, but retain the ability to legislate important social interests addressed by telecommunications regulations after that time.¹⁸⁶ Under the 1996 Act, there is only the option of one or the other; however, these proposed regulations

¹⁷⁸ *Id.*

¹⁷⁹ *Louisiana Pub. Serv. Comm'n v. FCC*, 476 U.S. 355, 369 (1986).

¹⁸⁰ Pickering Letter, *supra* note 157.

¹⁸¹ *Id.*

¹⁸² *Louisiana Pub. Serv. Comm'n*, 476 U.S. 355, 368-369 (1986) (“Pre-emption occurs when Congress, in enacting a federal statute, expresses a clear intent to pre-empt state law ... when there is outright or actual conflict between federal and state law ... where compliance with both federal and state law is in effect physically impossible ... where there is implicit in federal law a barrier to state regulation ... where Congress has legislated comprehensively, thus occupying an entire field of regulation and leaving no room for the States to supplement federal law ... or where the state law stands as an obstacle to the accomplishment and execution of the full objectives of Congress.”).

¹⁸³ *See Vonage Holdings Corp. v. Minnesota Pub. Util.'s Comm'n*, 290 F. Supp. 2d 993, 994 (D. Minn. 2003) (“Congress has expressed a clear intent to leave the Internet free from undue regulation so that this growth and exploration may continue.”).

¹⁸⁴ *See* Pickering Letter, *supra* note 157 (describing VoIP as having an inseparable interstate component).

¹⁸⁵ *Id.*

¹⁸⁶ *See Voice Over IP: Hearing Before the Senate Commerce Comm.* (Feb. 24, 2004) (statement of Michael Powell, former chairman, FCC).

achieve the innovative landscape of information services and the social objectives of telecommunications regulation.¹⁸⁷

The regulatory moratorium allows for development of the technology. During that period, policymakers can study the most effective way to achieve social goals as the medium matures and usage increases. These objectives will continue to be served over the three-year period and innovations could preclude the need for further regulation at that time.¹⁸⁸ Additionally, taxes and fees can be assessed at the end of that period, if necessary, to accurately compensate for the proportional loss of revenue.¹⁸⁹

The one exception to the regulatory forbearance is requiring a security procedure allowing law enforcement access to wiretap VoIP calls.¹⁹⁰ All of the other social objectives have intrinsic economic incentives for VoIP providers to supply solutions.¹⁹¹ Making VoIP calls accessible to law enforcement has no economic incentive but serves a vital role in national security and public safety.¹⁹²

The regulatory moratorium should also provide for last resort, or doomsday, provisions allowing legislation within that three-year period. These provisions would allow for emergency regulation in unforeseen instances where there is a compelling government interest regarding national security or the economy.

4. Stating the Goals of the Moratorium

Finally, the framework should clearly state the moratorium's objectives and that these objectives may be legislated at the end of the three-year period. Namely, innovations and industry best practices should be targeted at resolving social issues that the telecomm industry was unable to achieve without a legislative impetus. VoIP, given the opportunity to innovate and the direction of social objectives, may accomplish these goals without burdensome regulation.¹⁹³ In addition, this regulatory framework will foster innovation in important social areas and may ultimately improve the quality beyond what current regulation was unable to achieve.¹⁹⁴

These proposed regulations are consistent in theory with the VoIP Regula-

¹⁸⁷ *Id.*

¹⁸⁸ See discussion *infra* Part IV.b.

¹⁸⁹ See, e.g., McCullagh, *supra* note 1 (discussing mechanisms for recouping lost universal service revenue).

¹⁹⁰ See discussion *infra* Part IV.b.iv.

¹⁹¹ See discussion *infra* Part IV.b.i, ii, iii.

¹⁹² See, e.g., McCullagh, *supra* note 1.

¹⁹³ See, e.g., FCC Chairman Michael Powell, Remarks at WISPCON (Oct. 27, 2004) (describing Wireless Internet Service Providers supplying broadband connections to rural areas without subsidies) (transcript on file with the author).

¹⁹⁴ See discussion *infra* Part IV.b.i – iii.

tory Freedom Act; however, there are some key differences.¹⁹⁵ Both approaches agree that the federal government should assert jurisdiction through a regulatory framework.¹⁹⁶ Both approaches also agree that VoIP services should not be subject to telecom taxes or access charges.¹⁹⁷ However, the VoIP Regulatory Freedom Act only provides industry with 180 days to provide a 911 emergency services solution and a plan for VoIP providers to pay into universal service.¹⁹⁸ As explained below, the VoIP industry has the potential to provide solutions to social issues, but some innovations may take longer than 180 days.

B. Application of the Proposed Regulatory Solution to Important Social Issues

1. Universal Service

Universal service is a government initiative that has been in existence almost as long as the telephone itself.¹⁹⁹ Universal Service proposes to give all Americans phone access, and it particularly targets rural areas and urban poor.²⁰⁰ The general model is that all telephone users, especially those in densely populated areas, pay a fee that goes into a fund for rural expansion and maintenance or urban subsidies.²⁰¹ All telecom providers are required to contribute a certain percentage of income that is adjusted quarterly based on universal service needs, but VoIP providers do not pay into the universal service fund.²⁰²

In rural areas, providing and maintaining POTS infrastructure is expensive on a per capita basis when compared to cities and suburbs with higher populations.²⁰³ Therefore, the universal service fund grants incentives to phone companies for expanding infrastructure to the rural population.²⁰⁴ In urban areas, universal service funds are given to residents who have access to the infra-

¹⁹⁵ VOIP Regulatory Freedom Act of 2004, S. 2281, 108th Cong. (2004).

¹⁹⁶ *Id.*

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

¹⁹⁹ See Kiser & Collins, *supra* note 62, at 761.

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² See *id.* at 761-62; see also Brian Blackstone, *Telecom Union Urges FCC Caution On Internet Telephony*, WALL ST. J., at http://online.wsj.com/article_print/0,,BT_CO_200-41029_009197,00.html (Oct. 29, 2004) (discussing the Communications Workers of America union requesting that the FCC require VoIP providers make contributions to the universal service fund).

²⁰³ See *id.* (describing universal service as supporting telecommunications service in "high-cost, rural areas").

²⁰⁴ See Kiser & Collins, *supra* note 62, at 761.

structure but cannot afford the service.²⁰⁵

VoIP providers and users do not currently pay into the universal service fund despite the existing need.²⁰⁶ As the number of VoIP users increase, the available funds available for universal service decrease.²⁰⁷ The fear is that, if gone unchecked, access for the rural population and the urban poor will decrease.²⁰⁸ However, this fear is unfounded because, despite the increasing rate of VoIP usage, it amounts to a relatively small three percent of total phone use.²⁰⁹ Universal service should not be critically affected for some time under existing usage.

While universal service is effective, some criticize it as bulky: a lot of money is being charged to consumers that could be applied more effectively.²¹⁰ The advent of VoIP should be seen as a positive for universal service. VoIP could be the impetus for streamlining universal service, and thus lowering the fee charged to consumers, while simultaneously improving a service available to all Americans. Universal service's important goal can be accomplished without its service fund contributions burdening VoIP for a period of three years. If the industry creates solutions, then the need for contributions will be lessened. If solutions cannot be provided, the current system will sustain universal service, and VoIP providers may be forced to contribute at that time.²¹¹

If a regulatory framework were in place shielding VoIP users from paying universal service charges for three years, the current system would not fail. Rural infrastructure and access to urban poor could still be accomplished despite steadily increasing VoIP usage. The result of regulatory certainty is increasing investment in service providers allowing for further research and development. These innovations could improve universal service for both the rural population and the urban poor. Indeed, plans currently exist to blanket

²⁰⁵ See *id.*

²⁰⁶ See *id.* at 761-62; see also Blackstone, *supra* note 202 (stating that VoIP providers are not required to pay into the universal service fund).

²⁰⁷ See Kiser & Collins, *supra* note 62, at 762.

²⁰⁸ See Blackstone, *supra* note 202 (discussing the Communications Workers of America fear that VoIP providers not paying into the universal service fund could result in rate increases for rural and low-income consumers).

²⁰⁹ See *Pipes*, *supra* at note 4 (discussing that VoIP use is less than 3% of connections, but that usage is growing).

²¹⁰ See Kiser & Collins, *supra* note 62, at 762.

²¹¹ Cf. McCullagh, *supra* note 1 (proposing two plans for recouping universal service revenue as VoIP usage increases: first, customers using higher speed connections pay a higher fee than those with a dial-up connection, and, second, consumers pay a for obtaining a phone number). These proposals would replace the lost revenue into the universal service fund, but there is no value added to consumers because POTS fees are being replaced with VoIP fees. A three-year moratorium allows VoIP providers to decrease the need for universal service and, therefore, decrease the burden on consumers. The goal of universal service will be sustained during that period, and, if VoIP providers are unable to decrease the burden on universal service, fees can be imposed at that time.

cites such as Philadelphia and San Francisco with Wi-Fi access.²¹² Part of these initiatives in other cities will be to provide low-income citizens with low-cost Wi-Fi enabled phones.²¹³ As for the rural population, innovations such as VoIP satellite technology or broadband over fixed wireless may provide solutions.²¹⁴

When asked if the same universal service assumptions make sense for VoIP, Robert Peppers, chief of Policy Development for the FCC replied, "In a world where your local calling area is the United States, I don't think so."²¹⁵ Just as the idea of local and long distance has changed with VoIP, so has the idea of rural and urban. What has remained constant is the need for universal service. Mr. Pepper stated that "we have to find new mechanisms to support the goal. The goal does not change. We want affordable phone service for everybody."²¹⁶ Industry may provide mechanisms to support the goal of universal service through technological developments that will decrease the burden on consumers.²¹⁷

The economics of rural expansion has changed with VoIP. For POTS providers, the cost of rural expansion outweighs the benefit without governmental incentives because the service only goes to a small population spread throughout wide areas in comparison to more densely populated areas.²¹⁸ Taken collectively, however, the rural market is a huge, untapped resource. The VoIP provider that brings a better service to the rural market will not need governmental incentives because the potential profit is enormous.²¹⁹ For VoIP providers, a lower cost of expansion to rural areas would reduce the burden of contributing

²¹² See David Caruso, *Philly Considers Wireless Internet for All*, ASSOCIATED PRESS, September 1, 2004 (on file with the author) (describing Philadelphia's plan to blanket the city with free Wi-Fi and New York's plan to do the same plus provide low cost phones to low-income residents); see also Reuters, *San Francisco Aims for Free Citywide WiFi* (Oct. 22, 2004), at <http://www.cnn.com/2004/TECH/internet/10/22/san.francisco.reut/index.html> (last visited Nov. 4, 2004) (discussing the plans of San Francisco to provide free Wi-Fi access for the entire city so that all residents have access to a broadband connection).

²¹³ See Caruso, *supra* note 212. Philadelphia, following the lead of other cities and universities, is considering spending about \$10 million to blanket 135 square miles with WiFi and offering it to their citizens as a public service. *Id.* New York is exploring a similar deal whereby an equipment provider would make cheaper phones available to residents of neighborhoods where less than 5% of residents have home phones. *Id.*

²¹⁴ See, e.g., McCullagh, *supra* note 1.

²¹⁵ *Id.*

²¹⁶ *Id.*

²¹⁷ See Kiser & Collins, *supra* note 15, at 22-23 (citing over 7% of telecomm revenue goes to universal service fund).

²¹⁸ See FCC Chairman Michael Powell, Remarks at WISPCON (Oct. 27, 2004) (transcript on file with the author) (addressing a convention of Wireless Internet Service Providers (WISPs): applauding WISPs for providing broadband in rural communities where no access was possible before and noting that the cost to providers is low).

²¹⁹ See *id.*

to the universal service fund.²²⁰

As Robert Pepper stated, “Wireless ISPs – WISPs – are ... providing broadband service in urban and also rural areas without subsidy. They are being deployed very rapidly and at a low cost. They break even with relatively low penetration rates. They can operate on mountaintops. They can operate in inner cities and neighborhoods.”²²¹ VoIP may potentially achieve the important goal of universal service through technological innovations and the collective economic impetus of the rural market.²²²

After the three-year moratorium, VoIP providers will probably have to pay into universal service because industry developments will not solve all of the issues. The need for universal service will still exist, and POTS funds will decrease as VoIP usage increases.²²³ However, the burden on consumers will be decreased and the potential benefit far outweighs the potential downside.²²⁴ In the worst-case scenario, universal service will continue to use POTS funds for three years and VoIP providers will contribute after the end of that time. VoIP innovations have already increased universal service without fees and more innovations are forthcoming.²²⁵ The three-year moratorium proposal simply extends, for a finite period of time, a policy that is already in place.²²⁶ It provides certainty and incentives for VoIP providers to establish solutions for universal service.

For the rural population, this innovation is not simply a matter of saving the average consumer money but improving education, the standard of living, and possibly saving lives.²²⁷ With access to VoIP and other broadband-enabled services, students and teachers will have access to expanded information, everyone would be able to communicate and transact business at the same speed available in urban areas, and doctors can access the resources of well-funded

²²⁰ See, e.g., McCullagh, *supra* note 1.

²²¹ *Id.*

²²² See *id.*

²²³ See generally *id.* (discussing how the goal of universal service will always exist, but the means for achieving that goal will change with the technology).

²²⁴ See FCC Chairman Michael Powell, Remarks at WISPCON (Oct. 27, 2004) (transcript on file with the author).

²²⁵ See McCullagh, *supra* note 1 (discussing WISPs bringing broadband service to rural areas without the need for universal service subsidies); see also Caruso, *supra* note 212 (describing New York’s plan to provide free Wi-Fi enabled phones for low-income residents).

²²⁶ See Kiser & Collins, *supra* note 62, at 761-762 (stating that VoIP providers are not paying into the universal service fund).

²²⁷ FCC Chairman Michael Powell, Remarks at WISPCON (Oct. 27, 2004) (describing the goals driving rural broadband deployment: improving access to education, improving medical services, improving economic development, and improving community ties) (transcript on file with the author).

urban hospitals and doctors.²²⁸ Since there are certain capabilities not currently offered to rural customers, the goal of universal access has not yet been achieved, even though Americans enjoy better access than other countries.²²⁹ Universal access can only be accomplished when people in rural areas have access to the same technologies as those in other areas.

Burdening the VoIP industry at a time when it is poised to provide solutions for universal service only hurts consumers. Instead, policymakers should allow a three-year moratorium on universal service contributions so that VoIP can accomplish the goal of improving universal service while reducing consumer cost.

2. Access to Persons with Disabilities

Like universal service, ensuring access to persons with disabilities is a critical issue regarding VoIP regulation.²³⁰ Currently, §255 of the Communications Act mandates that POTS providers to make their service accessible to persons with disabilities.²³¹ A debate has ensued as to whether this applies to VoIP providers under a broad interpretation of telecommunications providers.²³² VoIP providers may fit into this category and an eventual mandate of this type of compliance may be necessary.²³³ However, requiring VoIP providers to meet current standards could prevent innovation in other areas.²³⁴ VoIP has the potential to improve upon current, mandated standards for accessibility by providing a better alternative for persons with disabilities.²³⁵

While current access from POTS is sufficient, it could be improved with VoIP innovations.²³⁶ For instance, videophones are a useful tool for many, but they are only available to businesses and residential consumers that can afford

²²⁸ See *id.*

²²⁹ See Amy Guthrie, *VoIP Is On Hold in Mexico*, WALL ST. J., Aug. 11, 2004, at B2 (discussing the fact that only one in six Mexican residents have access to a telephone).

²³⁰ See Kiser & Collins, *supra* note 15, at 30-31 (discussing the actions of the FCC and industry in addressing the issue of access to persons with disabilities).

²³¹ 47 U.S.C. §255(c) (2000).

²³² See Kiser & Collins, *supra* note 15, at 30-31 (discussing the debate over whether VoIP is required to meet access to persons with disabilities standards under the Act, if telecommunications providers are interpreted broadly).

²³³ See *id.* at 31 (describing action taken by the industry, but stating that regulations could be required in the future if industry cannot meet goal of access to persons with disabilities).

²³⁴ See *id.* (describing the FCC's choice not to regulate this area since the industry is taking steps to address it).

²³⁵ See *id.* (discussing the option that the FCC can always mandate access to persons with disabilities needs that industry does not address).

²³⁶ See *id.* (discussing industry's role in achieving solutions and the government's role in mandating access in areas that industry does not provide).

them. However, the technology needs improvement and access depends on others having the same video technology which is very costly.²³⁷ With the widespread adoption of VoIP and innovations, persons with disabilities could have affordable access to videophone technology drastically improving their ability to communicate.²³⁸ Moreover, voice transmissions could be translated into e-mail and read instead of heard.²³⁹

Telephone technology has been slow to evolve and meet these needs without the motivation of regulations. On the other hand, the VoIP industry has been quick to try and address that problem not only out of societal concern, but also because the services being developed will have widespread consumer appeal.²⁴⁰ The FCC has already promised to address those areas that industry does not solve by innovation.²⁴¹

If VoIP providers are not forced to meet current accessibility standards, persons with disabilities will continue to have access via existing telephones, and there is a potential that access will be markedly improved.²⁴² VoIP industry leaders and the FCC are dedicated to ensuring accessibility.²⁴³ By clearly stating that one goal behind a three-year moratorium is accessibility, VoIP providers will work to achieve this for both social and economic reasons. If innovations do not provide solutions within three years, regulators can apply the additional framework of requirements.

3. 911 Emergency Services

Another important issue regarding the regulation of VoIP is 911 emergency services. This issue is two-fold. First, VoIP users may not be able to place an emergency call in power outages. Second, 911 operators may not be able to locate the caller in the same manner now available through POTS.²⁴⁴

The electricity that POTS lines carry, allowing calls to be made even in power outages, is not generally available from VoIP providers.²⁴⁵ Therefore,

²³⁷ See Marlon A. Walker & Almar Latour, *The Videophone Goes Mass Market*, WALL ST. J., Aug. 24, 2004, at D1 (discussing "Videocalling" becoming mainstream).

²³⁸ See *id.*

²³⁹ See *id.* (describing the variety of functions available under VoIP phones).

²⁴⁰ See Kiser & Collins, *supra* note 15, at 30-31 (discussing the actions of industry in addressing access to persons with disabilities issues).

²⁴¹ See *id.* ("Chairman Powell . . . stated that the [FCC] will continue to focus on accommodating special needs, especially in areas the market will not address effectively.").

²⁴² See *id.* (discussing the FCC holding of regulation to determine what solutions VoIP providers can innovate).

²⁴³ See *id.* at 30 (describing VoIP providers dedication to resolving access issues).

²⁴⁴ See *id.* at 40-41.

²⁴⁵ See Kiser & Collins, *supra* note 15.

service outages occur when the power goes out.²⁴⁶ However, in some states, cable VoIP providers supply a backup power source for users.²⁴⁷ As usage increases, all VoIP providers will have to supply similar solutions.²⁴⁸

Despite VoIP's power outage issue, data systems like VoIP can be beneficial in emergencies because they use capacity efficiently and the Internet Protocol bypasses damaged switches.²⁴⁹ Data systems were the only functioning devices during the September 11th attacks.²⁵⁰ Before the World Trade Center collapsed, service was lost because the POTS switching station went down.²⁵¹ Cellular service was also inoperable because capacity was exceeded.²⁵² Data systems were operable, even during extraordinary periods of usage, because the capacity was used more efficiently than the voice systems of POTS and cellular.²⁵³ As the VoIP industry works to address power outage problems, the service is valuable in other situations where efficient use of capacity is crucial.

A more urgent issue than power outages that policymakers and VoIP providers are addressing is the ability of 911 emergency services to locate a VoIP caller.²⁵⁴ VoIP users are able to dial 911 and convey their location in the case of an emergency.²⁵⁵ If the person is unable to communicate, however, the operator may not have the ability to locate the caller or determine a call back number because of VoIP's ubiquitous nature.²⁵⁶ The benefit of the Internet hav-

²⁴⁶ See *id.*

²⁴⁷ See *id.* at 40.

²⁴⁸ See *id.* at 25 (describing VoIP outages as an issue that becomes increasingly important as VoIP becomes a substitute for POTS); see also Jesse Drucker, *Wi-Fi + VOIP = ?*, WALL ST. J., July 26, 2004, at R10 (discussing battery life on Wi-Fi VoIP phones as an issue that is currently being addressed).

²⁴⁹ See NAT'L COMM'N ON TERRORIST ATTACKS UPON THE UNITED STATES, STAFF REPORT NO. 14, at http://www.fas.org/irp/congress/2004_rpt/staff_statement_14.pdf (last visited Nov. 4, 2004) [hereinafter 9/11 REPORT]; see also Dylan Tweney, *The Internet Emerges as the Most Reliable Way to Communicate*, BUSINESS 2.0, Sep. 27, 2001, at <http://www.business2.com/b2/subscribers/articles/0,17863,514028,00.html> (describing the design of the Internet Protocol for data packets to take the optimal route and bypass damages switches) [hereinafter Tweney].

²⁵⁰ See 9/11 REPORT, *supra* note 249 (stating "Blackberries worked well during the day of September 11 when other means of communication were failing. This was because the control channel on the wireless [data] network had a great deal more capacity than the wireless voice channel."); see also Tweney, *supra* note 249 (discussing the POTS service being disrupted in Manhattan, but the Internet still functioning properly).

²⁵¹ See 9/11 REPORT, *supra* note 249; see also Tweney, *supra* note 249 (discussing the Verizon switching office being damaged on September 11th and disrupting phone service).

²⁵² See 9/11 REPORT, *supra* note 249.

²⁵³ See *id.*

²⁵⁴ See Kiser & Collins, *supra* note 62, at 772 (describing the FCC acknowledging the technical difficulties in obtaining a call back number and locating the caller).

²⁵⁵ See *id.* at 771 (describing the availability since 2001 for VoIP users to access 911 emergency services).

²⁵⁶ See *id.* at 771-772.

ing no location and lowering long distance bills also acts as a burden to emergency services in locating callers. For instance, a man from Texas with a California area code may be using his phone in Maine. That is a benefit for consumers because long distance bills are lowered and the same number may be used anywhere with a broadband connection, but the 911 services may be unable to locate that consumer in an appropriate amount of time if he is not using the service from the address where the service is registered.

The states have traditionally regulated access to emergency services by requiring all POTS carriers to make 911 available to its users.²⁵⁷ However, this is a national issue because VoIP has no quantifiable borders like POTS. In order to ensure access to emergency service for all users, federal regulators must ensure that systems will be in place. Currently, without federal action, different states are taking different approaches. The regulatory framework proposed in this Comment will assert federal jurisdiction, allow VoIP providers a period of three years to create solutions, and give regulators the ability to set a national standard for VoIP emergency services after three years.

One motivating factor that no amount of regulation could encourage is the liability of VoIP providers.²⁵⁸ As strong as the state and national interest is for keeping consumers safe, VoIP providers want to shield themselves from liability in the event that a user is unable to connect to 911 or be located.²⁵⁹

Disclaiming 911 service, as most providers currently do, is a start, but it is unlikely to prevent liability.²⁶⁰ Presently, many providers are offering a niche service that is used in conjunction with POTS or cellular; however, if VoIP is offered as a seamless substitute for POTS or cellular, the likelihood of liability is increased.²⁶¹ Therefore, providers are developing solutions protecting users and themselves from liability.

Vonage is an example of industry innovating solutions to the 911 issue.²⁶² Until October 2004, a Vonage telephone number was not associated with that customer's physical location, and Vonage was incapable of determining a user's precise geographic location.²⁶³ As a result, Vonage requires its users to register their location before dialing 911.²⁶⁴ This is an improvement, but this approach can be flawed if the caller's location at the time of the call differs

²⁵⁷ See *id.* at 40-41.

²⁵⁸ See *id.*

²⁵⁹ See Kiser & Collins, *supra* note 15 (discussing liability of providers).

²⁶⁰ See *id.*

²⁶¹ See *id.* at 41.

²⁶² Press Release, Vonage, Vonage(R) Completes Successful 'Enhanced 9-1-1' Trial for VoIP Users With Rhode Island Public Safety, at http://biz.yahoo.com/pr-news/041014/nyth010_1.html (Oct. 14, 2004) [hereinafter Vonage Press Release].

²⁶³ *Id.*

²⁶⁴ *Id.*

from the registered location.

In October 2004, Vonage successfully completed a test run in Rhode Island that allows emergency services to pinpoint a caller's location as well as determine a callback number.²⁶⁵ Vonage accomplished this by dedicating a server that treats 911 calls differently from all other calls.²⁶⁶ This server is able to communicate with a special router from Rhode Island emergency services to establish a caller's location and callback number just like a caller using POTS.²⁶⁷ Vonage plans on rolling out this service to more markets soon, but it does require the cooperation of the state and local authorities.²⁶⁸ Therefore, while the federal government should be the main regulator across markets for consistency, achieving adequate 911 service requires state involvement.²⁶⁹

If providers continue to offer VoIP as a secondary service until a resolution can be reached, liability will be lessened.²⁷⁰ Effectively regulating emergency services calls for tabling this issue for a short period of time while allowing for providers to innovate solutions like Vonage. However, this must be a stated goal of the regulatory forbearance with the implication that failure to provide emergency services after that period of time will result in federal regulation.

It is likely that this issue will be addressed at the federal level because the FCC considers VoIP an interstate service.²⁷¹ Additionally, having one consistent standard for 911 emergency services that all VoIP providers and states must follow will prevent the uncertainty of each state providing a different solution.²⁷² The federal government must work together with state governments because the states, after all, provide the first responders who are at the core of emergency services.²⁷³

Also in development are dual mode phones that have both cellular and VoIP capabilities.²⁷⁴ The VoIP function is used when Wi-Fi is available in a city,

²⁶⁵ *Id.*

²⁶⁶ *Id.*

²⁶⁷ Vonage Press Release, *supra* note 262.

²⁶⁸ *Id.*

²⁶⁹ *See id.* (discussing need for states to cooperate . . . and that Rhode Island is the first state to show genuine concern for protecting its citizens).

²⁷⁰ *See* Kiser & Collins, *supra* note 62, at 772 (describing VoIP providers' liability increasing if the service is offered as a primary offering without 911 emergency services).

²⁷¹ *See* Pickering Letter, *supra* note 157 (describing VoIP as having an insurmountable interstate component).

²⁷² *See, e.g., Voice Over IP: Hearing Before the Senate Commerce Comm.*, 108th Cong. (Feb. 24, 2004) (statement of Kevin Werbach) (referring to the many possible outcomes of combining legacy telecom regulations and Internet regulations as "regulatory whack-a-mole").

²⁷³ *See* Kiser & Collins, *supra* note 62, at 744-45 (discussing the interests of both state and federal governments in ensuring access to emergency services).

²⁷⁴ The technology of cellular and Wi-Fi dual mode phones is viable, and will be commercial availability soon. *See* Brown & Latour, *supra* note 2, at A2; *see also* Jesse Drucker, *Wi-Fi + VOIP = ?*, WALL ST. J., July 26, 2004, at R10 (discussing Motorola Inc.'s plans to

campus, or business, and the cellular function is used at all other times.²⁷⁵ Dual mode phones could solve the 911 issue because a user dialing 911 could be automatically switched to the cellular service which already has the capability of locating the caller. This technology is already under development and is another example of VoIP providers innovating solutions.²⁷⁶

In addition to providing the existing level of 911 service, VoIP can potentially improve emergency services. Currently, 911 operators rely solely on voice communications via POTS, but VoIP could provide emergency personnel with additional data transmissions such as video of the scene or vitals of the injured person. This would enable them to better assess the situation. Videophones are already available that would provide first responders with more information regarding the scene of the emergency and allow them to prepare more adequately.²⁷⁷ Peripheral equipment could be invented that measures vitals of the person in the emergency and transmit that data to emergency personnel. Therefore, while there may be issues with 911 in VoIP's current state, the evolution of the technology could improve how emergency services are administered.

Emergency services are an issue that providers are moving quickly to fix, but regulators need to be mindful of it because there is certainly a vital state and federal interest in consumers having the ability to access emergency services. If regulators allow VoIP providers time for innovation, users will soon have the same level of service that is currently available under 911, and the possibility for enhanced applications that could save lives.

4. Access to Law Enforcement and CALEA

One of the largest questions surrounding the regulation of VoIP is whether or not the service must meet the standards of the Communications Assistance for Law Enforcement Act (CALEA).²⁷⁸ Congress passed CALEA in 1994 to make POTS more accessible to law enforcement agencies in carrying out

sell phones combining Wi-Fi VoIP with GSM cellular technology in 2004); *see also* Jay Wrolstad, *RIM Intros Souped-Up BlackBerry for Mobile Enterprise*, NEWSFACTOR.COM, at http://www.newsfactor.com/story.xhtml?story_title=RIM-Previews-Wireless-BlackBerry&story_id=27665&category=mobent (Oct. 18, 2004) (discussing Research In Motion (RIM), the maker of the BlackBerry, testing a the new BlackBerry 7270 that combines cellular capability and Wi-Fi VoIP. The new model should be available in 2005).

²⁷⁵ *See* Drucker, *supra* note 274 (discussing the goal of Motorola Inc.'s dual mode technology "to create a single device that consumers use inside to displace their wired phones, and then use outside on cellular networks.").

²⁷⁶ *See id.*; *see also* Brown & Latour, *supra* note 2; Wrolstad, *supra* note 274.

²⁷⁷ *See* Walker & Latour, *supra* note 237.

²⁷⁸ 47 U.S.C. §§1001-1010 (2000).

court-ordered wiretaps.²⁷⁹ Robert Pepper, chief of FCC Policy Development, stated, “the intent of CALEA, back when Congress passed it, was to essentially enlist the traditional carriers to make it technically easier to get information that law enforcement needs when it has a court order to do so.”²⁸⁰ Whether CALEA should apply to VoIP services is being addressed by policymakers. The goal of fighting crime and preventing terrorism is certainly still present, but policymakers must decide if CALEA is the proper form of regulation, or alternatively new regulations that accomplish the same goal.

Many privacy advocates, especially those who are generally uneasy about wiretapping, believe VoIP should not be required to meet CALEA because the risk exists for law enforcement to intercept data packets from individuals who are not subject to a court order.²⁸¹ Conversely, the Justice Department, FBI, and DEA have argued that VoIP should fall under CALEA to prevent criminals and terrorists from bypassing the wiretapping of POTS.²⁸²

Former FCC chairman Michael Powell stated that the goal of the FCC is “to ensure that law enforcement agencies have all of the electronic surveillance capabilities that CALEA authorizes to combat crime and terrorism.”²⁸³ He also warned that over regulation in this area could prevent innovation.²⁸⁴ The FCC, attempting to balance security and industry growth, has taken the position that VoIP services that touch the publicly switched telephone network are subject to CALEA, while service that do not touch this network, also known as peer-to-peer services, are not subject to CALEA.²⁸⁵ Other than peer-to-peer VoIP, the FCC did not think that CALEA applied under the statutory definition.²⁸⁶ This issue is still open for debate, however, and may change with future action from Congress or the FCC.²⁸⁷ Robert Pepper believes that the burden is on law

²⁷⁹ Elizabeth Price, *FCC Nears Ruling On Net Phone Taps*, WALL ST. J., Aug. 5, 2004, at D3.

²⁸⁰ McCullagh, *supra* note 1. The issue is not whether or not law enforcement can wiretap, but how easily the information they need is accessible.

²⁸¹ *US FCC Seeks Wiretap Access To Calls Via Internet*, DOW JONES NEWSWIRE, Aug. 4, 2004 [hereinafter DOW JONES NEWSWIRE]; see also Letter from ACLU to the Senate Commerce, Science and Transportation Committee (July 21, 2004) (on file with the author).

²⁸² Price, *supra* note 279.

²⁸³ See generally *id.*; see also DOW JONES NEWSWIRE, *supra* note 281. Chairman Powell did not say that CALEA should be applied, only that the tools available under CALEA should be provided to law enforcement. *Id.* The regulatory framework in this article supports the need for CALEA-type legislation that will begin to assist law enforcement immediately.

²⁸⁴ See DOW JONES NEWSWIRE, *supra* note 282; see also Letter from ACLU to the Senate Commerce, Science and Transportation Committee (July 21, 2004) (on file with the author).

²⁸⁵ See McCullagh, *supra* note 1 (summarizing the current state of CALEA and its role moving forward, Robert Pepper stated, “the voice over IP services that do not touch the [public phone network] . . . are not subject to CALEA.”).

²⁸⁶ *Id.*

²⁸⁷ *Id.*

enforcement to make all peer-to-peer services and activities fit under CALEA.²⁸⁸ He added, “just because these things are not subject to CALEA, it doesn’t mean that law enforcement is not capable of getting access under court order to information that they need.”

Law enforcement agencies have the ability to wiretap the Internet and have been able to do so for over ten years.²⁸⁹ However, CALEA, or similar legislation, would make wiretapping faster, easier, and less costly for law enforcement. As Mr. Pepper stated, “clearly, the law enforcement community believes that it is not sufficient to be able to do what they need to do for very legitimate law enforcement purposes.”²⁹⁰

Everyone, including government agencies such as the FCC, agrees that preventing terrorism and other crimes is crucial. Wiretapping is one weapon in the law enforcement arsenal to achieve this goal.²⁹¹ The balance between burdening VoIP providers and preventing terrorism is made more complicated because wiretapping VoIP services is a difficult technical matter.²⁹² CALEA may not be the most efficient method for achieving that balance, and Robert Pepper and others agree that CALEA should not apply to all VoIP services.²⁹³ Until Congress acts, however, CALEA is the only regulatory option under existing laws for assisting law enforcement.

As previously discussed in the proposed regulatory solutions, wiretapping is the only issue which is not granted a three-year regulatory moratorium. Wiretapping presents many different problems than universal service, access to persons with disabilities, and 911 emergency services. First, some VoIP services are already subject to CALEA provisions.²⁹⁴ Continuing this requirement or

²⁸⁸ *Id.*

²⁸⁹ *See id.* (describing that law enforcement has been able to conduct Internet wiretaps for at least 10 years).

²⁹⁰ *See McCullagh, supra* note 1.

²⁹¹ *See id.*

²⁹² *See id.*

[A]ll the commissioners and I think most people agree that in today’s world, there is a legitimate role for law enforcement to catch the bad guys ... What is complicated when you move into the voice over IP world is that the ability to achieve that goal apprehending terrorists is more difficult and complicated as a technical matter. And therefore, the question is how you implement the goal without overwhelming the system, or how you do it in a way that is not counterproductive—and that is hard, technically.

Id.

²⁹³ *See id.*

I think it would be difficult to conclude that peer-to-peer VoIP services are subject to CALEA. If they are, they you would also, I believe, be bringing in things like Xbox Live and Yahoo’s instant messaging with voice. There are lots of peer-to-peer communications like services, IM and games that in fact today are not subject to CALEA. Personally, I don’t think it makes sense to apply CALEA.

Id.

²⁹⁴ *See Kiser & Collins, supra* note 15, at 32 (discussing that VoIP services used to pro-

expanding the VoIP providers subject to provisions similar to CALEA would not place an unreasonable burden on the industry considering the vital goal of national security.²⁹⁵ Second, there is no economic impetus for VoIP providers to meet these standards as there are in advancing the other social goals. While products and services developed to meet the needs of universal service, access to persons with disabilities, or 911 emergency services will attract customers and increase revenue, meeting wiretapping standards only assists law enforcement and burdens VoIP providers.²⁹⁶ Therefore, there must be a regulatory motivation to achieve proper access to law enforcement. Finally, the political climate affects CALEA regulation because of terrorism's prominence as a political issue.²⁹⁷ The September 11th attacks have brought terrorism to the forefront of political debates and policy decisions.²⁹⁸ Policymakers would be remiss to enact legislation that does not provide law enforcement with every tool necessary to prevent future terrorist attacks.²⁹⁹ For all of these reasons, any comprehensive regulation must require an immediate solution to wiretapping either in the form of adapting CALEA to VoIP or achieving adequate access by another means similar to CALEA.

To the chagrin of many law enforcement agencies, no VoIP services currently meet CALEA standards.³⁰⁰ Meeting CALEA standards may play an important enough role in fighting terrorism that it may need to be mandated along with the regulatory framework. This may temporarily detract from some innovation, but it also may prevent future terrorist attacks. CALEA is very effective at regulating POTS, but policymakers seem to be advocating an alternative that allows similar access, but is more targeted at the technology of VoIP.³⁰¹ Law

vide both telecommunications services and information services are subject to CALEA).

²⁹⁵ See *id.* at 32-33 (describing voluntary efforts providers are making, and the general idea that, for policymakers, security is a major factor after the September 11th attacks).

²⁹⁶ See *id.* at 32 (discussing how strict enforcement of CALEA could slow or eliminate the ability to deploy VoIP networks).

²⁹⁷ See *id.* at 33 (stating that it will be difficult to convince policymakers not to apply CALEA to VoIP after September 11th because CALEA is such a large part of homeland security).

²⁹⁸ *Id.* (describing the September 11th attacks as an important consideration for how CALEA is applied to VoIP).

²⁹⁹ See *id.* at 33 (“[A]fter the September 11th attacks one thing is clear: it will be difficult to convince regulators that VoIP networks are not required to comply with CALEA obligations.”).

³⁰⁰ See McCullagh, *supra* note 1 (discussing law enforcement agencies' unhappiness over current CALEA regulation of VoIP).

³⁰¹ See *id.*

I think it would be difficult to conclude that peer-to-peer VoIP services are subject to CALEA. If they are, then you would also, I believe, be bringing in things like Xbox Live and Yahoo's instant messaging with voice. There are lots of peer-to-peer communications like services, IM and games that in fact today are not subject to CALEA. Personally, I don't think it makes sense to apply CALEA.

enforcement agencies must work together with Congress and VoIP providers to provide a solution that ensures VoIP services will be accessible to law enforcement while not over burdening VoIP providers.

V. CONCLUSION

VoIP is a technology with the potential to revolutionize communications in the same manner the automobile revolutionized transportation.³⁰² Entrepreneurial companies are realizing the opportunities of the technology and offering it to a growing number of consumers.³⁰³ However, the true potential of VoIP is much more than simply placing an inexpensive call.³⁰⁴ VoIP, if regulated properly and allowed to grow, can improve important social objectives while decreasing the economic burden on consumers.

Regulators are at a fork in the road for VoIP regulation. One path applies all of the burdensome telecomm regulations immediately. The other path allows the technology to mature before imposing regulations.³⁰⁵ Indeed, telecom fees such as universal service could be applied to VoIP, but there is no net gain to consumers. Moreover, companies are currently providing VoIP in rural areas without universal service subsidies; therefore, these providers are decreasing the total burden on the universal service fund. In addition to saving consumers money, these companies are providing a vital service to hospitals, schools, and residents. As previously evidenced in this Comment, VoIP providers have an economic interest in supplying solutions to issues such as emergency 911 service, universal service, and access to persons with disabilities.

Although the potential for VoIP is extraordinary, the technology requires some protection from regulators. Currently, the uncertain regulatory landscape is hampering innovation. Every dollar that is spent complying with the arbitrary regulations of each state is a dollar that cannot be spent improving the product or lowering the cost to consumers.³⁰⁶ In addition, investors are weary of VoIP and raising investment capital is difficult. Therefore, Congress must aggressively act by asserting federal jurisdiction and providing a regulatory framework similar to the one proposed in this Comment.³⁰⁷

The proposed regulatory framework provides certainty by extending the regulation of VoIP as an information service for three years. VoIP providers will have clearly stated objectives that must be met within that time period.

Id.

³⁰² See Brown & Latour, *supra* note 2.

³⁰³ See discussion *supra* Part II.

³⁰⁴ See generally De Regnacourt, *supra* note 30.

³⁰⁵ See Pickering, *supra* note 73, at 3.

³⁰⁶ See Sullivan, *supra* note 106.

³⁰⁷ See discussion *supra* Part IV.A.

After three years, the social objectives of telecomm regulation that are not resolved by VoIP innovation can be mandated. Ultimately, consumers will benefit from having a superior technology at a lower cost.