

CELLCO PARTNERSHIP V. FCC & VONAGE HOLDINGS CORP. V. MINNESOTA PUBLIC UTILITIES COMMISSION: VOIP'S SHIFTING LEGAL AND POLITICAL LANDSCAPE

By Sunny Lu

A Palos Verdes, California attorney makes a landline telephone call to his mother, who lives just down the street. What options for providers does the lawyer have, what level of government has jurisdiction over his phone call, and what are the basic rules governing the company (or companies) providing his phone call?

The answers to these questions may have been obvious in a world before Voice over Internet Protocol (VoIP), a technology that provides for voice communications using the Internet. In the old world of traditional telephone systems, local phone providers would probably be the lawyer's only option, the state government would have jurisdiction over this intra-state call, and the providers would be subject to a host of regulations, such as taxes, access fees, and wiretap laws. In the new world of VoIP (also commonly called "Internet telephony"), the distinctive nature of the technology as compared to that of traditional telephony, coupled with the lack of regulations has thus far created a policy vacuum not yet filled by Congress, the FCC, the courts, or state governments. This policy vacuum yields uncertain answers to the attorney hypothetical.

The policy vacuum exists because of uncertainty over the new technology.¹ A hint at the brewing jurisdictional and regulatory battles lies in the holding of *Vonage Holdings Corp. v. Minnesota Public Utilities Commission*.² In *Vonage*, the court held that a company that provides voice communication services through VoIP was not subject to Minnesota state laws regulating telephone companies.³ The court found that VoIP was not a telecommunications service, but rather an information service, and therefore not regulable under the Telecommunications Act of 1996.⁴

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1. See 2-14A TELECOMMUNICATIONS & CABLE REGULATION § 14A.03 (2004) (discussing the difficulty the FCC had in classifying VoIP services as "information services" or "telecommunications services" under the Telecommunications Act of 1996).

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

3. *Id.* at 1002.

4. *See id.* at 999-1000.

In addition, *Celco Partnership v. FCC*⁵ provides important support for the Federal Communications Commission's (FCC) jurisdiction, which is currently being challenged by state public utilities commissions. In this case, the Court of Appeals for the District of Columbia broadly construed the FCC's regulatory power, finding that the FCC need not establish that a regulation was absolutely "necessary" in order to comply with a statutory provision requiring necessity for the agency to regulate.⁶

The focus of this Note is how the policy vacuum should and probably will be filled. Part I compares traditional telecommunications services with VoIP in terms of their technical features and industry profiles, and the resulting regulatory tugs-of-war. Part II summarizes the regulation of the VoIP industry to date by all the different players involved: the federal courts, Congress, the FCC, and the states. Part III focuses on the possible ways to resolve the various regulatory issues introduced in Part I. It argues that a wholesale application of existing telecommunications regulations is technically infeasible and often inappropriate. Part IV argues that, despite the great potential benefits this technology could bring to the public in the forms of lower-cost services and the ease of convergence of services and technologies, we should be concerned about what we might sacrifice on the road to VoIP regulation—including access, safety, and privacy.

I. TRADITIONAL TELEPHONY AND VOIP: TECHNOLOGY AND REGULATION

The technical and historical differences between VoIP and traditional telephony have shaped the parameters of regulatory debates as well as the significantly different industries. Unlike traditional telephony, the VoIP industry is not beginning its commercial life cycle burdened with the federal regulations that govern natural monopolies.⁷ While some access issues in the two industries are similar (the incumbent local exchange carriers (ILECs) own the local lines in traditional telephony, while the cable companies own bandwidth that VoIP providers need), most manifestations of VoIP have thus far escaped federal regulation because of the federal government's classification of VoIP as an information service not subject to regulation. As VoIP begins to replace traditional telephony, the FCC and

5. 357 F.3d 88 (D.C. Cir. 2004).

6. *See id.* at 99.

7. For a definition of "natural monopoly," see BLACK'S LAW DICTIONARY 1028 (8th ed. 2004) ("A monopoly resulting from a circumstance over which the monopolist has no power, as when the market for a product is so limited that only one plant is needed to meet demand."). *See also infra* Part I.A.1.

Congress, among others, are reevaluating the federal government's hands-off policy towards information services, in light of the pressing policy issues of universal service, emergency services, and federal wiretap laws.

A. Technical Background

1. Traditional Telephony

Traditional telephone service providers employ circuit switching.⁸ In such a system, a consumer using traditional telephone service is connected from her phone by way of underground or aboveground wiring⁹ to the public switched telephone network (PSTN), which the local telephone companies operate.¹⁰ Today, when two parties make a call, the voices are digitized and the connection is maintained over a single fiber optic cable, along with thousands of other voices and telephone calls, for most of the duration of the call.¹¹ In a ten-minute conversation, the total transmission amount is roughly equal to ten megabytes (which would fill about seven floppy disks¹²), much of which is wasted in a typical phone conversation because of silent intervals and the typical give-and-take nature of conversations; this results in only half the connection being in use at any given time.¹³

The government had jurisdictional and regulatory concerns, particularly about universal service, from the birth of the telecommunications industry. Congress created the Interstate Commerce Commission in its 1910 Mann-Elkins Act, and gave the agency the authority to regulate telephone service.¹⁴ The Commission possessed broad powers to preempt state regulations.¹⁵ The Communications Act of 1934 replaced the Commission with the FCC, and also purported to narrow the power of the FCC to regulate

8. *Vonage*, 290 F. Supp. 2d at 995.

9. See Marshall Brain, *How Telephones Work*, HOWSTUFFWORKS, at <http://electronics.howstuffworks.com/telephone.htm> (last visited Mar. 13, 2005).

10. *Vonage*, 290 F. Supp. 2d at 995.

11. Jeff Tyson & Robert Valdes, *How VoIP Works*, HOWSTUFFWORKS, at <http://computer.howstuffworks.com/ip-telephony.htm> (last visited Mar. 13, 2005). Traditional telephone calls also utilize copper wire going into each user's residence. *Id.*

12. See Gary Brown, *How Floppy Disk Drives Work*, HOWSTUFFWORKS, at <http://computer.howstuffworks.com/floppy-disk-drive.htm> (last visited Mar. 13, 2005) (explaining that a floppy disk holds 1.44 megabytes of information).

13. Tyson & Valdes, *supra* note 11.

14. STUART MINOR BENJAMIN ET AL., TELECOMMUNICATIONS LAW AND POLICY 611 (2001).

15. *Id.* (discussing judicial reinforcement of the breadth of the Interstate Commerce Commission's power in *The Shreveport Rate Case*, which was overridden by the Communications Act of 1934).

only interstate and foreign communications.¹⁶ The Communications Act thus reserved intrastate communications for the states to regulate.¹⁷

In 1877, one year after Alexander Graham Bell invented the telephone, his Bell Telephone Company held all the patents and thus wielded a monopoly over commercial telephone service.¹⁸ The Bell Telephone Company's monopoly gradually decreased in the early 1900s, but its president Theodore Vail revitalized the business.¹⁹ By 1912, the company had acquired competitors or forced them out of business to the point that the U.S. Department of Justice became alarmed by the growing monopoly.²⁰

The Bell Telephone Company maintained its monopoly over telephone service, until the company's breakup in 1982, by highlighting two main arguments. First, Bell argued that telephone service is a natural monopoly because of the network effects of a telephone exchange, which becomes more valuable to the user as the exchange gains more customers on its network and the customer is thereby connected to more users.²¹ Second, Bell argued that an integrated phone service provider would be best able to adjust prices according to income in order to make phone service affordable for all, a policy rationale that came to be known as "universal service."²² Bell president Vail's slogan reflected his understanding of the importance of widely available service: "One Policy, One System, Universal Service."²³ The basic idea behind universal service is that all consumers, including those with low incomes, should have access to affordable phone service.²⁴ The rationale of cross-subsidization in order to provide universal service featured three options that were popular with regulators in the early 1900s: (1) charging business customers higher prices to subsidize lower-price residential service; (2) subsidizing rural service with urban service, which costs less to provide than rural service because of population density; and (3) subsidizing local telephone service with inflated long-distance rates.²⁵

16. *Id.* at 610-11.

17. *See id.*

18. *Id.* at 607 (excerpting PETER W. HUBER ET AL., FEDERAL COMMUNICATIONS LAW (1st ed. 1992 & 2d ed. 1999) (discussing history of the Bell monopoly)).

19. *Id.*

20. *Id.* at 609.

21. *See id.* at 606.

22. *Id.* at 618-19.

23. *Id.* at 608.

24. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(4)(a).

25. BENJAMIN ET AL., *supra* note 14, at 618-19.

The policy of allowing law enforcement to intercept communications is also entrenched in federal regulation. Currently, law enforcement's ability to intercept communications and their content falls under the standards provided by Title III of the Omnibus Safe Streets and Crime Control Act of 1968.²⁶ More recently, in 1994, Congress passed the Communications Assistance for Law Enforcement Act (CALEA) to aid law enforcement in its efforts to intercept communications more efficiently.²⁷

Finally, the regulatory concern that consumers should be able to access emergency services by the traditional dialing of 911 has been addressed by the states.²⁸ As a result, most states impose this requirement upon local exchange carriers.²⁹

2. *Internet Telephony*

VoIP is a communication technology in which the analog audio signals of communication are turned into digital data that can be transmitted over the Internet.³⁰ Instead of the circuit switching of traditional telephony, VoIP features "packet switching," wherein telephone calls are broken into bits of data using the Internet Protocol (IP), and then delivered over the Internet.³¹ IP is the most common method for electronic devices to communicate.³² VoIP providers offer consumers one or more choices among three general ways to communicate: computer-to-computer, telephone-to-computer (and vice versa), and telephone-to-telephone.³³ The FCC has typically classified these services according to the network on which the call originates and ends.³⁴

26. Elec. Frontier Found., *CALEA—Frequently Asked Questions*, at <http://eff.org/Privacy/Surveillance/CALEA/?f=faq.html> (last visited Jan. 24, 2005). In addition, the Patriot Act allows law enforcement more leeway in obtaining wiretaps in some circumstances. *Id.*

27. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(4)(f).

28. *Id.* § 14A.04(5)(a).

29. *See id.*

30. Tyson & Valdes, *supra* note 11.

31. *Id.*

32. Ben Charny, *FCC: Broadband Top Issue in 2004*, CNET NEWS.COM, Jan. 9, 2004, at http://news.com.com/2102-1034_3-5138451.html.

33. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.02.

34. *See In re Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges*, 19 F.C.C.R. 7457, 7461-62 (2004) (comparing the networks and services employed by computer-to-computer and phone-to-phone IP telephony providers) (citing the standards laid out in *In re Federal-State Joint Board on Universal Service*, 13 F.C.C.R. 11,501, 11,541-45 (1998)). Computer-to-computer IP telephony is "provided over the Internet . . . , [where] callers use software

Computer-to-computer VoIP calls originate and end on the Internet.³⁵ Examples of computer-to-computer VoIP would be Skype or Free World Dialup's free services. The FCC ruled in February 2004 that Free World Dialup and other computer-to-computer VoIP providers were exempt from regulations because calls made in computer-to-computer VoIP never utilize the PSTN.³⁶

Telephone-to-computer and computer-to-telephone VoIP calls originate on the PSTN and end on the Internet, or vice versa.³⁷ An example of computer-to-phone telephony would be that provided by Vonage. The FCC also definitively stated in a November 2004 ruling that state regulation of the computer-to-telephone services provided by Vonage is preempted even if the phone calls might possess intrastate elements.³⁸ The agency also hinted that Vonage's services would constitute an information service, and thus would be exempt from most of the traditional federal telephony regulations.³⁹

Finally, telephone-to-telephone VoIP calls originate and end on the PSTN, passing through the Internet somewhere in between.⁴⁰ An example

and hardware at their premises to place calls using Internet access provided by an unregulated Internet service provider (ISP), and the ISP may not even be aware that a voice call is taking place." *Id.* at 7461. Phone-to-phone IP telephony is "tentatively" classified by the FCC as

services in which the provider meets the following conditions:

- (1) it holds itself out as providing voice telephony or facsimile transmission service; (2) it does not require the customer to use [customer premises equipment ("CPE")] different from that CPE necessary to place an ordinary touch-tone call (or facsimile transmission) over the public switched telephone network; (3) it allows the customer to call telephone numbers assigned in accordance with the North American Numbering Plan, and associated international agreements; and (4) it transmits customer information without net change in form or content.

Id. at 7462 (citing *In re* Federal-State Joint Board on Universal Service, 13 F.C.C.R. at 11543-44).

35. See 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.02.

36. See Declan McCullagh and Ben Charny, *FCC: "Pure" VoIP Not a Phone Service*, CNET NEWS.COM, Feb. 12, 2004, at http://news.com.com/FCC+Pure+VoIP+not+a+phone+service/2100-7352_3-5158105.html.

37. See 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.02.

38. See *In re* Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Utils. Comm'n, 19 F.C.C.R. 22404 § III(A)(2) (2004).

39. See *id.* § III.

40. See 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.02.

of telephone-to-telephone VoIP would be AT&T's CallVantage service, in which consumers use their regular telephones, a telephone adapter, and a broadband connection to make long-distance phone calls.⁴¹ The Internet portion of the call is in the middle of the process, where AT&T routes the phone call over the Internet, at a great cost savings to AT&T.⁴² As might be predicted, this form of VoIP is the most likely target of regulation by the federal government because of the great similarities to traditional circuit-switched communications. In April 2004, the FCC ruled that AT&T had to reimburse local phone carriers for accessing the PSTN at the beginning and end of calls under its CallVantage service.⁴³

Packet switching is much more efficient than circuit switching because it lets networks route the packets along the least congested lines.⁴⁴ It also does not monopolize the two computers communicating with each other, which enables them to also communicate with other computers.⁴⁵ Instead of forcing all packets onto a dedicated line, as in circuit switching, packet switching allows the data packets to flow through a chaotic network, sharing the available bandwidth with unrelated packets, over thousands of possible paths.⁴⁶ In fact, packets on the Internet could travel between states or even between countries just for someone to make a local phone call from his house to his mother's house down the street. Also, while circuit switching maintains a constant open connection for the duration of the call, even when there are silent intervals, packet switching only opens a connection for long enough to send a packet of data from one system to the other.⁴⁷

Although the furor over VoIP regulation has come to a head only in recent years, the technology has been around since 1995, developed by Israeli hobbyists.⁴⁸ That same year, VocalTec Communications released

41. *AT&T CallVantage: Important Info and FAQs*, at <http://www.usa.att.com/callvantage/faqs/general.jsp> (last visited Dec. 21, 2004).

42. See Ben Charny, *Feds Ding AT&T over Internet Calls*, CNET NEWS.COM, Apr. 21, 2004, at http://news.com.com/2102-7352_3-5197204.html; see also Tyson & Valdes, *supra* note 11 (explaining how phone companies currently routing long-distance phone calls over an IP gateway can "seriously reduce the bandwidth they're using for the long haul").

43. *In re Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Servs. are Exempt from Access Charges*, 19 F.C.C.R. 7457, 7468 (2004); see also Charny, *supra* note 42.

44. Tyson & Valdes, *supra* note 11.

45. *Id.*

46. *Id.*

47. *Id.*

48. Intertangent Technology Directory, *History of VoIP*, at http://www.intertangent.com/023346/Articles_and_News/1413.html (last visited Mar. 13, 2005).

Internet telephony software, and thus the first commercial Internet phone was born.⁴⁹ At that time, the sound quality of the voice transmissions was much poorer than that of traditional telephone services.⁵⁰ By the year 2000, total Internet telephony calls were estimated at 3 billion minutes, a number still much lower than the 5.7 trillion minutes carried by traditional telephone companies.⁵¹ That number is growing, however, and one research firm estimates that 75% of the voice traffic worldwide by 2007 will be provided through VoIP.⁵² Improvements in technology no doubt contribute to the increased adoption of the technology; one survey of Global 2000 firms revealed that 79% of those surveyed who were "early VoIP adopters" said they were "either mostly or highly satisfied" with the technology.⁵³

The federal government has taken notice of this rapid technology development and market expansion. In 1998, the FCC issued a report to Congress on the future of universal service that gave an in-depth treatment to issues of fair competition and compensation between VoIP providers and traditional telephony providers.⁵⁴ Demonstrating great foresight, the FCC took an early step toward the increasingly-controversial and debated regulation of the fast-growing industry, hinting that it would likely find phone-to-phone telephony to constitute a "telecommunications service" that would therefore be subject to regulation as are traditional telecommunications providers.⁵⁵ The FCC followed up this report with the aforementioned April 2004 ruling requiring that AT&T pay traditional local access charges for its phone-to-phone CallVantage service, and limited its ruling only to those VoIP offerings that were phone-to-phone.⁵⁶

B. Industry Profile

Before the breakup of the Bell Telephone Company monopoly that resulted from the U.S. Department of Justice's 1974 antitrust lawsuit, the

49. *Id.*

50. *Id.*

51. BENJAMIN ET AL., *supra* note 14, at 950.

52. CommWeb Indus. Statistics Ctr., *VoIP/IP Statistics* 2 (Nov. 17, 2004), at <http://www.commweb.com/showArticle.jhtml?articleId=53700310&pgno=2>.

53. *Deloitte Study Projects Rapid Expansion of Enterprise Desktop VoIP*, CommWeb, Oct. 27, 2004 (citing Deloitte & Touche's survey statistics on Global 2000 companies), at <http://www.cconvergence.com/shared/article/showArticle.jhtml?articleId=51201008>.

54. See *In re Federal-State Joint Board on Universal Service*, 13 F.C.C.R. 11501 (1998).

55. See *id.* at 11503.

56. Charny, *supra* note 42.

industry was just that—monopolized by Ma Bell.⁵⁷ Even after the breakup, both the local and long-distance markets were still dominated by just a few carriers.⁵⁸ Today, only three companies dominate the long-distance market: AT&T, Sprint, and Worldcom.⁵⁹ In the provision of local telephone services, regulatory efforts to introduce competition also have succeeded only in part, as four of the original twenty-two ILECs existing after the breakup of local phone service still dominate the market.⁶⁰ There are a few competitors for the provision of local phone service, but more have failed than have succeeded over the years.⁶¹

The increasing popularity of VoIP technology has attracted many companies, from “alternative” VoIP providers and pioneers such as Vonage, to traditional telecom giants like AT&T, and even cable companies and Internet Service Providers (ISPs) like AOL. Although the “alternative” VoIP providers have the great advantage of being the first to attract customers with their technology, it is unlikely that they will retain their dominant market share because the traditional telecom industry leaders and ISPs have more resources and brand power.⁶² Reflecting this concern, small VoIP provider Nuvio Corp. filed a request with the FCC in September 2004 to prevent broadband providers who also offered VoIP services from discriminating against rival VoIP providers seeking to share their bandwidth.⁶³

C. Issues in Regulation

The preceding discussion illustrates the substantial technical and market differences between VoIP and traditional telephony. From a consumer standpoint, both provide the same service of voice communications, but it is unclear whether and how certain regulations imposed on the traditional telephone industry could be directly transferred to the budding VoIP industry. It is particularly important to consider these regulatory questions as it is predicted that VoIP will replace traditional telephony in significant

57. *Telecommunications Services Industry Profile*, Yahoo! Finance, at <http://biz.yahoo.com/ic/42.html> (last visited Mar. 13, 2005).

58. *See id.*

59. *Id.*

60. *Id.*

61. *Id.*

62. Tim Richardson, *BT Spins Prop on SME VoIP Promo*, REGISTER, Nov. 1, 2004, http://www.theregister.co.uk/2004/11/01/bt_voip.

63. Alan Breznick, *VoIP Provider Presses FCC to Block Broadband Discrimination*, CABLE DIGITAL NEWS, Nov. 1, 2004, at <http://www.cabledatacomnews.com/nov04/nov04-8.html>.

ways within the next decade.⁶⁴ The following examples of current regulatory schemes for traditional telephony illustrate how technological differences between Internet and traditional telephony complicate the imposition of these regulations on VoIP. These regulatory schemes include fees to ensure universal telephone service, provision of adequate emergency service, and compliance with federal wiretap laws.⁶⁵

1. Universal Service

“Universal service” has been a public policy objective that the government has imposed upon local phone providers for most of the history of local phone service.⁶⁶ With this policy goal in mind, the FCC tries to ensure its ability to subsidize customers where the costs of providing local phone service are high, as well as subsidize schools, libraries, and health care providers.⁶⁷ Section 254(d) of the 1996 Telecommunications Act (the main statute governing the traditional telephone industry) provides for the funding of the universal service program through its requirement that “[e]very telecommunications carrier that provides interstate telecommunications services shall contribute, on an equitable and nondiscriminatory basis,” to the universal service fund.⁶⁸ The universal service program has historically been a great success in terms of ensuring almost universal subscribership: nearly 95% of U.S. homes were estimated to have at least basic telephone service by 1997.⁶⁹ Many states also have a hand in imposing

64. Then-FCC Chairman Powell cited such a statistic in his October 2004 remarks to a VoIP conference in Boston: “[T]he Yankee Group estimates that there will be 1 million VoIP subscribers by the end of 2004, up from just 131,000 last year.” FCC Chairman Michael Powell, Remarks at the Voice on the Net Conference (Oct. 19, 2004) [hereinafter Powell Conference Remarks], *at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DO-C-253325A1.doc.

65. There are many other regulations that the federal government imposes on telecommunications service providers, but which it does not impose on information service providers, such as Local Number Portability administration, North American Numbering Plan administration, the Telecommunications Relay Services Fund, and access by individuals with disabilities. However, as this Note seeks to focus on the currently most hotly debated discrepancies between traditional and IP telephony of universal service, emergency services, and CALEA, the other issues are beyond the scope of this Note and thus will not be discussed here.

66. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(4)(a); *see also supra* Part I.A.

67. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(4)(a); *see also* BENJAMIN ET AL., *supra* note 14, at 770.

68. Telecommunications Act of 1996 § 254(d), 47 U.S.C. § 254(d) (2000).

69. BENJAMIN ET AL., *supra* note 14, at 769.

universal service funding requirements.⁷⁰ State universal service programs provide \$1.9 billion in funding a year for states to support their universal service policy goals.⁷¹

The Telecommunications Act of 1996 expanded the idea of universal service from simply access to basic telephone service to encompass access to new telecommunications technologies as they develop.⁷² The Act created a Federal-State Joint Board that formulated a new federal universal service standard that the Joint Board recommended to the FCC in November 1996.⁷³ The Joint Board defined universal service as including, among other things, basic telephone and emergency services access.⁷⁴

In 1997, the FCC determined that Internet access service providers did not fall within the definition of "telecommunications service" and therefore ISPs were not required to contribute to the universal service fund.⁷⁵ The FCC followed up this determination with a 1998 report suggesting that computer-to-computer VoIP probably did not constitute "telecommunications," while phone-to-phone VoIP probably did.⁷⁶ The distinctions laid out in the 1998 report supported the FCC's suggestion in 2004 that phone-to-phone VoIP constituted "telecommunications" through its imposition of access rates on AT&T's CallVantage phone-to-phone VoIP offering.⁷⁷

This distinction between "telecommunications" and "information" services for the purposes of imposing universal service fees on voice providers raises a market distortion issue: regardless of whether a voice communications service originates or ends on the PSTN or on the Internet, the function of the services are the same—to provide voice communications. If certain voice communications providers (traditional telecommunications providers, and likely phone-to-phone VoIP providers) are required to pay universal service funds, while other voice communications providers (computer-to-phone and computer-to-computer VoIP providers) are not,

70. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(4)(a).

71. Stephen Labaton, *F.C.C. Takes on Oversight of Internet Phone Services*, N.Y. TIMES, Nov. 10, 2004, at C8, <http://www.nytimes.com/2004/11/10/technology/10fcc.html>.

72. BENJAMIN ET AL., *supra* note 14, at 769.

73. *Id.*

74. *Id.*

75. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(4)(a).

76. BENJAMIN ET AL., *supra* note 14, at 946-48.

77. *In re Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges*, 19 F.C.C.R. 7457, 7465 (2004).

then the traditional telecommunications and phone-to-phone IP telephony providers are at a competitive disadvantage.

The likely effect of the disparate treatment of certain voice communications providers is that the computer-to-phone and computer-to-computer VoIP providers will eventually replace the other providers because the “alternative” providers would not be forced to pay the extra fees. As a result, the sources of universal service funding would be eliminated, having been replaced by providers not subject to the universal funding requirements of the Telecommunications Act of 1996. The elimination of the universal service fund would likely have a great impact on the ability of low-income residents to secure basic communications services. The elimination of the fund would also pose problems for the government’s ability to meet the Telecommunication Act of 1996’s expansion of the meaning of “universal service” to encompass the newest telecommunications technologies.⁷⁸ Therefore, low-income residents would also not be able to move to newer technologies, and would be stuck with traditional telecommunications and an underfunded universal telephone service.

2. Emergency Services

There are two problems surrounding the emergency services issue in the VoIP context: 911 call routers have difficulty processing VoIP protocols, and VoIP customers could have difficulty dialing out in power outages.⁷⁹

Regarding the first problem, 911 emergency service providers presently find it difficult to identify callback and location information about VoIP callers.⁸⁰ This problem is exacerbated by the fact that the nature of VoIP technology allows customers, in many cases, the ability to take their phone connections with them.⁸¹ For example, a Vonage customer based in Iowa could take her Internet phone with her to Florida and make calls there. Providers of computer-to-computer or computer-to-telephone services such as Vonage have also had to get more creative with the limitations imposed by having a system that originates not on circuit-switched networks, but rather on the disorganized packet-switched world of the

78. *Id.*

79. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(5)(a).

80. *Id.*

81. See Anne Marie Squeo, *Federal Ruling on Web Calling Is Supposed to Aid Sector’s Growth*, WALL ST. J., at A2, Nov. 9, 2004 (quoting Vonage chairman Jeffrey Citron as criticizing the attempts of states to assert jurisdiction: “That’s incredibly problematic for a global company [Vonage] that doesn’t know where its customers are at any given time.”), available at <http://online.wsj.com/article/0,,SB109995886468268278,00.html>.

Internet. Such creative methods include instructing customers that they must actually tell emergency operators of their physical location when they dial 911.⁸² Even AT&T's CallVantage program, a phone-to-phone VoIP service, requires customers to keep their physical location on file with AT&T in order to ensure accuracy when customers dial 911.⁸³ Both "solutions" seem to be impractical and dangerous, considering that customers may not know their exact locations, especially when they have taken their Internet phones with them to other locations, and also because emergency situations are precisely when customers may find it difficult to communicate clearly with emergency operators.

The second problem of power outages derives from the different power sources of packet-switched networks and circuit-switched networks. Circuit-switched networks have built-in power sources that supply electricity to phone lines independently of other sources of electricity in the house; consequently, customers can make phone calls from regular (not cordless) phones even during power outages.⁸⁴ In contrast, packet-switched networks do not have the same built-in power source, and thus shut down during power outages.⁸⁵ Consequently, customers on packet-switched networks are more likely to be unable to make calls during power outages because their VoIP service will also likely be affected by the outages.⁸⁶

3. *Communications Assistance for Law Enforcement Act (CALEA)*

Congress enacted CALEA in 1994 to give law enforcement the ability to conduct effective and efficient searches of telecommunications.⁸⁷ The general burden that CALEA imposes upon telecommunications providers is that providers must be capable of providing "call-identifying information" and call content to law enforcement.⁸⁸ In its 1999 order implementing CALEA, the FCC found that facilities that are used to provide both

82. Vonage, *Vonage Lets You Dial 911*, at <http://vonage.com/features.php?feature=911> (last visited Mar. 13, 2005).

83. AT&T, *AT&T CallVantage Service 911 Emergency Dialing*, http://www.usa.att.com/callvantage/faqs/about_911.jsp (last visited Mar. 13, 2005).

84. *Why Does the Phone Still Work When the Electricity Goes Out?*, HOWSTUFFWORKS, at <http://electronics.howstuffworks.com/question62.htm> (last visited Mar. 13, 2005).

85. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(5)(a).

86. *Id.*

87. *Id.* § 14A.04(4)(f).

88. Elec. Frontier Found., *supra* note 26.

telecommunication and information services are subject to CALEA, but facilities “used solely to provide” information services are not.⁸⁹ Therefore, even if the FCC found computer-to-computer and computer-to-phone IP telephony to constitute an “information service,” such providers would not be exempt from CALEA requirements if their services also had elements of telecommunications services.⁹⁰

The reasoning in this 1999 order, combined with the FCC’s 2004 Notice of Proposed Rulemaking (“CALEA NPRM”) regarding an expansion of CALEA to VoIP, appears to contradict two prior FCC actions. First, the FCC’s 1998 report on universal service suggested that information services that only used the infrastructure of telecommunications services were still information services for the purposes of regulation.⁹¹ Second, the FCC’s 2002 ruling regarding cable modems stated that VoIP services that used cable modems constituted a hybrid telecommunication and information service in which the two types of services were inseparable, and thus VoIP in that context was an information service.⁹² With the 1999 order and the 2004 NPRM, the FCC has seemingly redefined what factors should be dispositive in the regulation of VoIP. Instead of considering Congress’s expressed intent of leaving information services unregulated because of the benefits to the public of increased innovation and competition, the FCC has adopted an analysis that prioritizes the consideration that VoIP services substantially replace traditional telephone services, and therefore VoIP services are subject to CALEA requirements.⁹³

Applying CALEA to VoIP communications is much more difficult than applying it to traditional telecommunications because of significant technical and economic hurdles.⁹⁴ In this context, it is useful to think of the Internet as an open, global system with data and voice packets (which are, again, indistinguishable from each other) traveling over many differ-

89. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(4)(f).

90. *Id.*

91. See *id.* § 14A.03(1)(a).

92. *Id.* § 14A.03(1)(b).

93. Elec. Frontier Found., *The Perils of Wiretapping the Internet*, at <http://www.eff.org/Privacy/Surveillance/CALEA> (last visited Mar. 13, 2005).

94. See Joanna Sabatini, *VoIP Carriers Calculate Tap Tariff*, at http://www.lightreading.com/document.asp?doc_id=57578&site=lightreading (Aug. 10, 2004); see also Joint Reply Comments of Industry and Public Interest, *In re Communications Assistance for Law Enforcement Act and Broadband Access and Services* at 15-20, ET Docket No. 04-295 (Fed. Communications Comm’n Dec. 21, 2004) [hereinafter Joint Reply Comments of Industry and Public Interest], available at http://www.cdt.org/digi_tele/20041221joint.pdf

ent networks; by contrast, the phone system is a closed system.⁹⁵ A surveillance system that might be easy to apply to the closed phone system, in which all voice packets in any given communication travel on the same wire, is much more difficult and inefficient to apply to the open Internet, where voice and data packets travel over different wires in the most efficient ways to get to their destinations.⁹⁶ Voice packets could be forced onto one wire, but that would appear to eliminate many of the efficiencies of the VoIP technology itself. In addition, there are public policy considerations of Internet privacy, as packet monitors could not distinguish between voice and data packets without looking at their content.⁹⁷

II. VOIP REGULATION TO DATE

Numerous regulators oversee traditional telecommunications: the courts, Congress, the FCC, and state governments. In VoIP, however, only the FCC has thus far emerged with the most definitive pronouncements on VoIP: the federal government has exclusive jurisdiction over VoIP, so state regulation is preempted except on a few narrow issues.⁹⁸ Exclusive federal jurisdiction is likely the best scenario because it avoids the confusion that might result from states imposing a hodgepodge of regulations.⁹⁹ As for other actors, various congressional proposals have been unsuccessful and, thus, Congress has not been able to speak with a clear voice on VoIP regulation.¹⁰⁰ The federal courts have thus far supported the FCC's authority in cases like *Celco* and *Vonage*.¹⁰¹ Despite the FCC's assertion of federal jurisdiction, however, regulatory issues like universal service funding, emergency services, and CALEA still remain largely unsettled.¹⁰²

95. Elec. Frontier Found., *supra* note 93.

96. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.02; Tyson & Valdes, *supra* note 11.

97. See Sabatini, *supra* note 94 (discussing the solution adopted by some VoIP providers of using third party companies to intercept and process the data, but which poses the privacy concern of data vulnerability).

98. *In re Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Utils. Comm'n*, 19 F.C.C.R. 22,404, § I(1) (2004).

99. See, e.g., 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.03(3) (discussing the various attempts by states to regulate Vonage and other VoIP providers).

100. See *infra* Part II.C.

101. See *infra* Part II.B.

102. *In re Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Utils. Comm'n*, 19 F.C.C.R. at 22,411-12, § III(14) n.46.

A. FCC Action

The FCC has taken the most decisive and influential action in determining which governmental bodies control VoIP. The FCC, however, has to date not yet ruled on the regulatory issues surrounding VoIP, which it states it will attempt to resolve in the IP-Enabled Services Proceeding that began in 2004.¹⁰³

In its 1998 report regarding universal service, the FCC provided a detailed analysis of IP telephony, finding that this service made the traditional distinctions between telecommunications services and information services much less clear, especially in the case of telephone-to-telephone VoIP service.¹⁰⁴ The Commission did not go so far as to classify IP telephony definitively as either a telecommunications or information service, stating that it would decline "to make any definitive pronouncements in the absence of a more complete record focused on individual service offerings."¹⁰⁵ It did, however, recognize that information service providers would often interact with existing telecommunications service structures, often even building their own information service structures on top of existing telecommunications structures.¹⁰⁶ Nevertheless, the FCC concluded that public policy dictated that such information services should still remain separate from telecommunications services in a regulatory sense.¹⁰⁷

In 2002, the FCC released its ruling on cable modems, which has implications for the classification of VoIP services provided via a cable modem.¹⁰⁸ In this ruling, the FCC determined that cable modem service is an interstate information service, because the telecommunications component of cable modem service is inseparable from its information service elements.¹⁰⁹

103. *Id.* § I(2).

104. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.03(1)(a) (describing content of *In re* Federal-State Joint Board on Universal Service, 13 F.C.C.R. 11,501 (1998)).

105. *Id.* (quoting *In re* Federal-State Joint Board on Universal Service, 13 F.C.C.R. at 11,544).

106. Vonage Holdings Corp. v. Minn. Pub. Utils. Comm'n, 290 F. Supp. 2d 993, 1001 (D. Minn. 2003).

107. *Id.* "Limiting . . . regulation to those companies that provide the underlying transport ensures that regulation is minimized and targeted to markets where full competition has not emerged." *Id.* (quoting *In re* Federal-State Joint Board on Universal Service, 13 F.C.C.R. at 11,546).

108. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.03(1)(b).

109. *Id.* This FCC ruling was challenged in *Brand X Internet Services v. FCC*, 345 F.3d 1120 (9th Cir. 2003), *cert. granted*, 125 S. Ct. 655 (2004).

In early 2004, the FCC made a series of definitive rulings regarding VoIP, such as Free World Dialup's computer-to-computer telephony (exempt from regulations) and AT&T's phone-to-phone CallVantage service (subject to access charges).¹¹⁰ These orders provided the general sense that the FCC would be more loathe to regulate services that appeared to take place only on packet-switched networks, consistently with Congress's desire to leave the Internet unregulated, but that the FCC would tend to impose regulation on services that began and ended on the PSTN and thus seemed more like traditional telecommunications services.¹¹¹

In his statement to the Voice on the Net ("VON") conference in October 2004, then-FCC Chairman Powell took what was largely viewed as a decisive step towards establishing FCC jurisdiction over VoIP when he urged the FCC to find that VoIP services were subject to federal jurisdiction only.¹¹² Chairman Powell reasoned that "[t]o hold that packets flying across national and indeed international digital networks should be subject to state commission economic regulatory authority is to dumb down the Internet to match the limited vision of government officials. That would be a tragedy."¹¹³ Powell's statement foreshadowed the FCC's unanimous order in November 2004, which found that VoIP services of the kind provided by Vonage were purely interstate services and thus not regulable by states.¹¹⁴

B. *Cellco and Vonage: Two Steps Toward Federal Jurisdiction*

1. *Cellco Partnership v. FCC*

The holding in *Cellco* has important implications for the regulatory future of the VoIP industry because it increases the FCC's power to regulate in the public interest. In this case, Cellco Partnership, doing business as Verizon Wireless, brought suit against the FCC, challenging the FCC's broad interpretation of "necessary" in § 11 of the Telecommunications Act of 1996.¹¹⁵ Cellco wanted to impose a narrow construction of "necessary" specifically in the portion of the statute requiring the FCC to repeal or modify any regulation that is "no longer necessary in the public interest as

110. See *supra* Part I.A.2.

111. See 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.03(1).

112. Colin Haley, *Powell Calls for Federal VoIP Rule*, INTERNETNEWS.COM, Oct. 19, 2004, at <http://www.internetnews.com/bus-news/print.php/3423761>.

113. Powell Conference Remarks, *supra* note 64.

114. See *In re Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Utils. Comm'n*, 19 F.C.C.R. 22,404 (2004).

115. *Cellco P'ship v. FCC*, 357 F.3d 88, 90 (D.C. Cir. 2004).

the result of meaningful economic competition between providers of such service.”¹¹⁶

The Court of Appeals for the District of Columbia provided a brief history of the Communications Act of 1934 and the Telecommunications Act of 1996 in order to address the deregulatory purpose cited by *Cellco* as determining the narrowness of the construction of “necessary.”¹¹⁷ As the court discussed, the Telecommunications Act of 1996 was enacted by Congress to ensure “a pro-competitive, de-regulatory national policy framework designed to accelerate rapidly private sector development of advanced telecommunications and information technologies and services to all Americans by opening all telecommunications markets to competition.”¹¹⁸

The court held that because of the “chameleon-like nature” of “necessary” and its dependence on statutory context, the court would defer to the FCC’s broader interpretation of § 11 of the Telecommunications Act as reasonable, and that § 11 does not require “the Commission to repeal or modify every rule that the Commission does not determine to be absolutely essential.”¹¹⁹ The court determined that the FCC could in fact adopt rules upon finding that they “advance a legitimate regulatory objective; it need not find that they are indispensable.”¹²⁰ Thus, the *Cellco* holding strengthened the FCC’s power to regulate in the public interest, even absent absolute necessity.

Despite what may appear to be an increased power to regulate by the FCC, however, the market (as well as the political climate in years to come) may be the main factor dictating how much regulation the FCC will impose upon VoIP. Former FCC chairman Michael Powell has stated that he does not yet support regulating broadband service providers, with a possible reason being that the fledgling industry would avoid regulation by moving to other, less-regulated countries.¹²¹ Therefore, even though *Cellco* apparently increases the power of the FCC to regulate the VoIP industry, the FCC may not choose to do so for economic reasons, especially

116. *Id.* at 93 (quoting 47 U.S.C. § 161 (2000)).

117. *Id.* at 91-92.

118. *Id.* at 91 (quoting S. REP. NO. 230-104, at 1 (1996)).

119. *Id.* at 88.

120. *Id.* at 96 (interpreting 47 U.S.C. § 201(b)).

121. See Charny, *supra* note 32 (“We’d better realize that if you create a hostile environment, there is nothing that stops [the broadband service providers] from dropping that server in Italy . . . [t]he minute they don’t like it, they’re gone. That’s not what we want.”) (quoting Michael Powell, Commissioner, FCC).

if the FCC remains a commission dominated by anti-regulators.¹²² Regardless, *Cellco* provides important support for the FCC to regulate, which could allow the FCC to define clearly the boundaries of regulation among different types of VoIP providers, without much time-consuming interference by the industry.

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

The *Vonage* holding is significant for the future of VoIP in two ways: (1) it established that Vonage's services constituted information services, and (2) closely related to the classification as an information service, the holding established that federal law preempted Minnesota's regulation of Vonage.¹²³ The specific issue in this case was whether Vonage may be regulated under Minnesota state law that requires telephone companies to obtain certification authorizing them to provide telephone service.¹²⁴ The general issue was whether Vonage's previously-described telephony service constitutes a telecommunications service (and thus is regulable) or an information service (and thus is not regulable).¹²⁵

The court here relied heavily on the FCC's 1998 universal service report in formulating its opinion, and also focused on four conditions set forth in the FCC report to determine whether a provider's offering constituted phone-to-phone IP telephony. The four conditions that had to be met were where the provider:

- (1) . . . holds itself out as providing voice telephony or facsimile transmission service; (2) . . . does not require the customer to use [customer premises equipment ("CPE")] different from that CPE necessary to place an ordinary touch-tone call (or facsimile transmission) over the public switched telephone network; (3) . . . allows the customer to call telephone numbers assigned in accordance with the North American Numbering Plan, and associated international agreements; and (4) . . . transmits customer information without net change in form or content.¹²⁶

122. See Declan McCullagh, *Congress Runs Into VoIP Divide*, CNET NEWS.COM, July 7, 2004, at http://news.com.com/2102-7352_3-5260162.html.

123. *Vonage Holdings Corp. v. Minn. Pub. Utils. Comm'n*, 290 F. Supp. 2d 993, 994 (D. Minn. 2003).

124. *Id.* at 996.

125. *Id.* at 999.

126. *Id.* at 999-1000 (quoting *In re Federal-State Joint Board on Universal Service*, 13 F.C.C.R. 11,501, 11,543-44 (1998)).

Taking the four factors into consideration, the court concluded that Vonage did not provide phone-to-phone IP telephony service because it failed to meet the second and fourth requirements—specifically, because “from the user’s standpoint the form of a transmission undergoes a net change.”¹²⁷ The court concluded that the Minnesota PUC had no statutory authority to regulate Vonage’s services or VoIP in general, because Congress had obviously delineated between information and telecommunications services, Congress had explicitly declined to regulate information services, and Vonage’s services did not constitute telecommunications services.¹²⁸

While it is a boon for VoIP companies that provide only computer-to-computer, computer-to-phone, or phone-to-computer telephony, the *Vonage* holding does not state how phone-to-phone IP telephony should be regulated. Since Vonage did not provide such a service, the *Vonage* court did not address that category of IP telephony.¹²⁹ However, it is likely that if Vonage had provided phone-to-phone service as well, the *Vonage* court would have found that the FCC’s 1998 universal service report established such a service as a telecommunications service rather than an information service.¹³⁰

The *Vonage* opinion, if followed by other courts, has important implications not only for the classification of broadband telephone services, but also for the federal-state jurisdictional battle over VoIP. The opinion weakens the ability of states to assert jurisdiction over VoIP services such as those provided by Vonage, because its finding that Vonage was an information service provider preempts states’ ability to regulate.¹³¹ The

127. *Id.* at 1000 (quotations omitted).

128. *Id.* at 1003 (“It only *uses* telecommunications, and does not *provide* them.”) (emphasis added).

129. *See id.* at 1000-03.

130. *See id.* at 1000 (discussing the FCC’s rationale for finding that phone-to-phone IP telephony constituted a telecommunications service rather than an information service). The court stated that:

The FCC’s conclusion focused on gateway providers [providers of computers that transform circuit-switched voice communication into packet-switched] that provide phone-to-phone telephony services. The FCC noted that from a “functional standpoint,” the users were only receiving voice transmission, and not information services. . . . In other words, because a person using a [traditional] telephone was on either end of the call, even if the call was routed over the Internet, there was no form change sufficient to constitute information services.

Id. (citations omitted).

131. *See id.* at 994 (“In its role as interpreter of legislative intent, the Court applies federal law demonstrating Congress’s desire that information services such as those pro-

Vonage holding, when considered along with the November 2004 FCC ruling expressly preempting state jurisdiction of VoIP services such as those provided by Vonage,¹³² indicates judicial support for federal pre-emption of state regulation of computer-to-computer and computer-to-phone IP telephony services.

C. Congressional Action

Congress has thus far not been able to successfully pass any legislation dealing with the regulation of VoIP, despite the fact that several bills have been introduced.¹³³ It has, however, provided the framework for discussion through its enactment of the Telecommunications Act of 1996, which is the primary statute governing the traditional telephone industry and separating regulable communication services from nonregulable information services.¹³⁴

Congress might also overhaul the Telecommunications Act in 2005 to reclassify services.¹³⁵ One such proposal is the Advanced Internet Communications Service Act, introduced in 2004, which purports to overhaul the Telecommunications Act of 1996 by classifying all Internet-based communications as interstate information services.¹³⁶ One of the bill's co-sponsors emphasized that the goal of the legislation was "to treat all advanced IP applications, including VoIP, with a light regulatory touch," and that VoIP services should not be regulated as traditional telecommunications because "every Internet user who is equipped for advanced services

vided by Vonage must not be regulated by state law enforced by the [Minnesota Public Utilities Commission]. State regulation would effectively decimate Congress's mandate that the Internet remain unfettered by regulation.")

132. *In re Vonage Holdings Corp.* Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Utils. Comm'n, 19 F.C.C.R. 22,404, § IV(46) (2004).

133. See McCullagh, *supra* note 122 (describing three such bills introduced in Congress in 2004).

134. See Telecommunications Act of 1996, 104 Pub. L. No. 104, 110 Stat. 56 (1996). The codification of the Act defines "telecommunications service" as "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used." 47 U.S.C. § 153(46) (2000). It defines "information service" as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service." *Id.* § 153(20).

135. See Kevin Werbach, *Hail to the VoIP?*, TECH CENTRAL STATION, Oct. 29, 2004, at <http://www.techcentralstation.com/102904N.html>.

136. Roy Mark, *Federal Lawmakers Bid for VoIP Control*, TELEPHONY ONLINE, July 7, 2004, at <http://www.wi-fiplanet.com/voip/article.php/3377611>.

will have a broad choice of service providers, [so] the services will be highly competitive Accordingly, the regulations which have governed monopoly telephone networks should not apply to new competitive Internet-based technology.”¹³⁷

Congress has also lobbied the FCC to ensure that VoIP is established as an interstate service that the federal government therefore can regulate. Rep. Chip Pickering (R-Miss.) and sixty-one other members of Congress signed a letter to then-FCC Chairman Powell, asking the FCC to claim exclusive jurisdiction over VoIP services.¹³⁸ Some state utility lobbyists view this solicitation of action on the part of the FCC to be a way for Congress to avoid the judicial scrutiny they might otherwise encounter by legislating such a claim of exclusive jurisdiction over VoIP.¹³⁹

D. State Action

States have a deep interest in gaining jurisdiction over VoIP because of the implications for their own universal program funds, which could be endangered as consumers move from traditional phone services to VoIP.¹⁴⁰ While state jurisdiction over the issues discussed earlier—universal service, emergency services, and CALEA—has largely been preempted by the FCC’s November 2004 order regarding Vonage, states will likely still have room to regulate in the consumer protection realm.

As the court discussed in *Vonage*, states have historically been preempted from regulating information services because of the FCC’s authority in that arena.¹⁴¹ The FCC cited the public policy objective of encouraging the growth of information services for its finding that state and federal governments must refrain from regulating such services.¹⁴² The main problem in determining whether a particular VoIP call is interstate (and thus controlled by the FCC) or intrastate (thus possibly allowing states the room to regulate) is that it might be difficult for VoIP providers themselves to determine whether VoIP calls are interstate or intrastate.¹⁴³ This is because in determining jurisdiction, regulators typically use an end-to-end analysis that considers the communication’s starting and ending

137. *Id.* (quoting Rep. Rick Boucher (D-Va.)).

138. Donny Jackson, *Feds Fight to Take VoIP Out of State*, Oct. 11, 2004, at http://telephonyonline.com/mag/telecom_feds_fight_voip/index.htm.

139. *Id.* (quoting Libby Beaty, Executive Director, Nat’l Ass’n of Telecommunications Officers and Advisors).

140. *Id.*

141. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(1).

142. *Id.*

143. *Id.*

points.¹⁴⁴ Using the end-to-end analysis structure, the FCC determined that both Digital Subscriber Line Service (DSL) and cable modem were interstate services.¹⁴⁵

The FCC's Vonage ruling establishing federal jurisdiction over computer-to-computer and computer-to-telephone telephony was important because it avoids application of a hodgepodge of state regulations. For instance, New York's Public Service Commission in 2002 classified an IP telephony company as a provider of telecommunications service and not information service, thereby subjecting it to intrastate access charges.¹⁴⁶ In Florida, the legislature started down the path of VoIP taxation when it failed to postpone the enforcement of a previously-obscure tax that targets substitute communications like VoIP.¹⁴⁷

The FCC ruling is not necessarily the last word on the matter, however, because states may still seek to challenge the boundaries of the ruling. The California Public Utilities Commission's finding that it had concurrent jurisdiction with the FCC over DSL service, despite the FCC's determination of the interstate nature of DSL service, shows that a state might seek to obtain such concurrent jurisdiction even in the face of a contrary ruling by the FCC.¹⁴⁸

Beyond *Cellco* and *Vonage*, it is uncertain whether the courts will address further issues regarding VoIP in a way that shapes the young industry before the executive or legislative branches make any decisions, especially considering the FCC's assertion of dominance on the issue and Congress's deferral to the FCC. An example of a possible court intervention into the FCC's VoIP lawmaking in the near future would be the Minnesota PUC's appeal regarding the *Vonage* decision.¹⁴⁹ A more likely scenario is that courts would defer to the FCC and Congress to create more substantive law governing the industry before making further determinations. This is probably the better outcome for public policy because it avoids the possibility of creating conflicting law which would be a problematic way to govern such a young industry.

144. *Id.*

145. *Id.*

146. *Id.* § 14A.03(3)(b).

147. Marguerite Reardon, *Florida Paves Way for VoIP Taxation*, CNET NEWS.COM, May 3, 2004, at http://news.com.com/2102-7352_3-5204656.html?tag=st.util.print.

148. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.03(3)(c).

149. Ben Charny, *States Battle FCC Internet Phone Ruling*, CNET NEWS.COM, Jan. 4, 2005, at http://news.com.com/States+battle+FCC+Internet+phone+ruling/2100-7352_3-5512432.html.

III. REGULATORY POSSIBILITIES

A number of different interests have been discussed above, and policymakers must prioritize these various interests to determine the best schemes for regulation of this exploding industry. Congress's main goals are the development of a robust array of information services unfettered by unnecessary regulation, as well as the availability of affordable communications services for all. As Congress, the FCC, the courts, and state governments continue to regulate the VoIP industry, they must take care to keep in mind the often conflicting concerns of industry growth versus affordable communications (in the case of universal service), industry growth versus public safety (in the case of emergency services), and industry growth and privacy rights versus an efficient and effective law enforcement (in the case of CALEA).

A. Jurisdiction—Federal and/or State?

As the FCC has already asserted exclusive federal jurisdiction over VoIP, most of the jurisdictional battles have ended. This preemption of state regulation is good for the industry in the sense that providers and state regulators will not have to draw the difficult and technology-inappropriate distinctions between the interstate and intrastate portions of the voice communications.¹⁵⁰ However, as discussed earlier, federal jurisdiction puts states at a disadvantage in terms of their taxation revenues and emergency service regulation.¹⁵¹ In its order, the FCC also carved out areas of state regulation, generally in the area of consumer rights.¹⁵²

States currently impose certain consumer protection regulations on telecommunications providers, such as regulations barring fraud and deceptive trade practices.¹⁵³ In its November 2004 Vonage ruling, the FCC stated that it expected that states would still retain a vital role in enforcing consumer protection regulations on VoIP providers.¹⁵⁴ As for other consumer protection requirements that may be preempted by federal regulation, the FCC stated that the role of state regulation will be fleshed out in

150. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(1).

151. See Part I.C.1.-2.

152. See 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(4)(e). For a discussion of possible state regulation, see *supra* Part II.D.

153. *In re* Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Utils. Comm'n, 19 F.C.C.R. 22,404, § I(1) (2004).

154. See *In re* Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Utils. Comm'n, 19 F.C.C.R. 22,404, §§ I(1), III(14) n.46.

the ongoing IP-Enabled Services Proceeding.¹⁵⁵ State involvement in the regulation process would ensure that they would have some oversight over harms to resident consumers of VoIP services, but limiting the involvement of states in the process would prevent VoIP providers from having to wade through a mess of state regulations.

B. Federal Regulatory Possibilities

1. Universal Service

It seems appropriate that universal service, once the dominant regulatory issue at the birth of traditional telephone service, was the issue that first troubled the FCC about VoIP. In its 1998 universal service report to Congress, the FCC focused on the problems of applying the universal service regulations, originally designed to apply to circuit-switched networks, to the wide variety of offerings in IP telephony. A possible proposal would be to simply apply universal service charges to voice packets that travel over the Internet by, for example, imposing a broad-based tax on all voice service users.¹⁵⁶ It is extremely difficult, however, if not impossible, to distinguish voice packets from data packets. Therefore, such a broad-based tax might necessarily implicate Internet users sending data packets as well, contrary to Congress's expressed desire to keep the Internet regulation-free. Some academics suggest that simple regulatory changes will not be sufficient, and that there will have to be a sea change in either federal Internet policy, or in U.S. telecommunications regulation.¹⁵⁷

2. Emergency Services

One suggestion is to avoid federal regulation of emergency services for now, and wait for the VoIP industry to self-regulate in this matter. So far, an industry coalition of VoIP providers has begun to do so, working in conjunction with the National Emergency Number Association.¹⁵⁸ The benefit of such a self-regulating system is that it would better enable the industry to adapt the diverse array of VoIP technologies to provide emer-

155. See *id.*

156. See BENJAMIN ET AL., *supra* note 14, at 782 (suggesting that a broad-based tax might be a possible solution to dealing with the market distortions created by the Telecommunication Act's imposition of universal service funding requirements on incumbent local exchange carriers (ILECs) to the benefit of their non-funding competitors, the competitive local exchange carriers (CLECs)).

157. *Id.* at 950.

158. See VON Coalition, *Survey Highlights Progress on 9-1-1 for VoIP*, at http://www.von.org/usr_files/911%20--%20Survey%202012-1-04.pdf (last visited Dec. 21, 2004).

gency service, instead of having to depend on federal statutes or FCC rulemaking that can be cumbersome and too slow. The federal government must take care, however, to ensure that the standards developed are in the public's best interest and not simply in the industry's best interest.

Another problem with such a scheme is that industry standards would not necessarily resolve the issue of how states should fund emergency services, if no longer by taxing PSTN customers. Perhaps a viable compromise could be found in the coordination of government and industry to develop a set of standards for a self-regulating VoIP industry body to oversee, and with the federal government also imposing and collecting a tax from VoIP providers that would help provide for traditional emergency services funds. Interestingly, a coordinated effort by industry and government could produce a 911 system far superior to the current system based on the PSTN.¹⁵⁹

The emergency power issue is also likely resolvable at the innovative industry level. Companies have been working on technologies to ensure that VoIP consumers can still have a backup source of electricity for their Internet connections, and therefore VoIP services, during power outages.¹⁶⁰ In addition, this problem of emergency power has already been addressed in a similar context: cable operators providing telecommunications services. In the cable telecommunications situation, many states require cable telecommunications companies to provide customers with a back-up power source in case of power outages.¹⁶¹ Therefore, regarding the two-pronged objective of providing emergency services to consumers, the FCC will likely only have to work with the industry to ensure that a viable system of 911 connection standards is developed. On the issue of maintaining power during power outages, it seems that companies have sufficient incentive to develop such innovations.

3. *Communications Assistance for Law Enforcement Act (CALEA)*

Congress and the FCC must note that requiring VoIP providers to leave a backdoor for wiretapping will eliminate many of the efficiencies of

159. Joanna Sabatini, *VoIP 911 Still Trails Wireline* (Aug. 4, 2004), http://www.lightreading.com/document.asp?doc_id=57241.

160. See Jim Oberweis, *Four-Letter Words for Growth: VoIP and iPod*, FORBES, Nov. 5, 2004 (discussing the example of PowerDsine Ltd.'s development of "power-over-Ethernet" technology to maintain power to Ethernet-based services during power outages), at http://www.forbes.com/investmentnewsletters/2004/11/05/cz_jo_1105soapbox.html

161. 2-14A TELECOMMUNICATIONS & CABLE REGULATION, *supra* note 1, § 14A.04(5)(a).

VoIP over traditional telecommunications technology, as well as pose privacy problems for the Internet as a whole. Therefore, the FCC should not impose CALEA requirements because to do so would unduly burden the budding industry, would be inconsistent with Congress's expressed intent to exempt Internet providers, and would contradict policy concerns about privacy.

As discussed in Part I.C.3, CALEA requirements would greatly reduce the efficiency of VoIP. Applying CALEA requirements to VoIP would essentially impose a mandate on VoIP providers to design their network architecture to support the statute.¹⁶² The natures of the Internet and VoIP are to send packets in the most efficient way possible. Thus, forcing packets to travel on a specific path would counteract these efficiencies of VoIP. In addition, applying CALEA to VoIP would contradict the FCC's 2002 cable modem ruling that inseparable hybrid telecommunications and information services should be considered information services, as well as Congress's expressed intent to keep information services regulation-free in order to encourage innovation and competition.¹⁶³

Finally, consumer privacy advocates have expressed concern about the threat that regulation of VoIP technologies poses for the future of Internet regulation.¹⁶⁴ If the FCC and federal law enforcement succeed in requiring VoIP providers to comply with CALEA, then what are the technical barriers that limit the application of CALEA requirements to the Internet at-large? Furthermore, law enforcement officials already have the ability to monitor communications through the existing wiretap laws.¹⁶⁵ Law enforcement has provided no detailed evidence that the existing wiretap laws do not sufficiently address their ability to catch criminals.¹⁶⁶

Considering the hybrid information service/telecommunications service nature of Internet telephony, Congress's expressed intentions to leave

162. See Fed. Communications Comm'n, *Communications Assistance for Law Enforcement Act (CALEA)*, at <http://www.fcc.gov/calea> (last updated Feb. 4, 2005) (discussing how all CALEA-qualifying carriers are obligated to comply with CALEA requirements: even if the FCC grants a carrier a deferral of CALEA compliance, such a carrier is required as soon as practicable to "select CALEA-compliant equipment to replace, modify or upgrade non-compliant equipment").

163. See *supra* Part I.C.3.

164. See Joint Comments of Industry and Public Interest, *supra* note 94, at 51 (discussing the dangers posed by one of the CALEA requirements to "privacy and network security going beyond CALEA"); see also Elec. Frontier Found., *supra* note 93 (discussing how various third-party intercept service companies such as VeriSign endanger the privacy of personal data in providing Internet-based CALEA services to ISPs).

165. Joint Comments of Industry and Public Interest, *supra* note 94, at 4-5.

166. *Id.* at 6-8.

information services free of regulation in order to promote innovation and development of the Internet, law enforcement's existing wiretapping powers, and the grave privacy concerns, Congress and the FCC should not apply CALEA requirements to VoIP.

IV. CONCLUSION

VoIP will likely replace traditional telecommunications as the vehicle for supplying voice communications in the United States. This eventual replacement includes both benefits and costs. The telecommunications industry is being entirely reshaped by this technological phenomenon. Consumers will benefit from the decreased prices and convergence of technologies. While continued nonregulation of VoIP might threaten the federal and state governments' longstanding commitment to providing telecommunications services for all, the examples of industry attempts to resolve emergency services issues indicate that not all solutions lie in increased regulation by the federal government. In addition, a wholesale application of telephone industry regulations to VoIP technologies might be onerous and inappropriate for the growing VoIP industry, as well as threatening to the public's privacy rights in using information and hybrid services. The FCC, courts, Congress, and states must strike a balance between satisfying the needs of the new industry, ensuring that longstanding public services and safety are provided, and protecting the privacy rights of the public.