

REACH OUT AND TAX SOMEONE: WHAT DOES THE FUTURE HOLD FOR THE TAXATION AND REGULATION OF VOICE OVER INTERNET PROTOCOL TELEPHONE SERVICES?

I. INTRODUCTION

Voice Over Internet Protocol (VOIP)¹ telephone services are a relatively new telecommunications technology that could soon replace traditional telephone services.² At present, the federal government, as well as state and local governments, impose various forms of taxation and regulation on telephone lines and telecommunications. Regulatory and law enforcement agencies and emergency services providers have a strong stake in the current telephone system because they tailored many of their programs to work with these older “legacy” technologies.³ Significant differences between VOIP communications and older telecommunications systems could cause the current regulatory and taxation schemes to become ineffective in the near future as the number of VOIP subscribers increases at the expense of traditional telephone line subscribers. But should we overhaul our taxation and regulatory frameworks to encompass VOIP or wait and see if our current schemes can be adapted to accommodate this new technology?

Many policy considerations cut in favor of exempting VOIP from taxation and regulation at all levels of government. The argument is especially strong for precluding state and local governments from asserting jurisdiction over VOIP, given the way in which these communications travel interstate over the Internet. On the other hand, there are also strong public policy arguments for treating VOIP services in the same way as traditional telephone services. This Comment attempts to summarize the arguments on both sides of the issue, to make recommendations about how VOIP should be regulated and taxed, and to predict what the future holds for our communications industries and their interactions with the government.

1. The acronym used for “Voice Over Internet Protocol” can either be “VoIP” or “VOIP.” For consistency, this Comment will utilize “VOIP.”

2. Traditional telephone services are often referred to as circuit-switched services or Plain Old Telephone Service (POTS).

3. The term “legacy technologies” is commonly used to describe outdated equipment that is operated in conjunction with newer, more modern equipment. See Sandra Braman, *Where Has Media Policy Gone? Defining the Field in the Twenty-First Century*, 9 COMM. L. & POL’Y 153, 171 n.44 (2004).

II. WHAT IS VOICE OVER INTERNET PROTOCOL?

A. Technical Description

VOIP essentially emulates the functionality and performance of traditional telephone lines by breaking up voice signals and sending them over the Internet as packets of data.⁴ This form of voice transmission eliminates the need for a dedicated circuit-switched connection between callers, as in a traditional telephone network.⁵ In these older circuit-switched networks, every piece of information related to a call follows the same path from its origin to its destination.⁶

A useful analogy for visualizing this process is to imagine two children holding cups connected by a wire. As the children talk into their cups, the vibrations created by their voices travel along the wire in one continuous signal from origin to destination. However, when the children are not talking, no information is traveling along the wire, but an idle connection still remains between the cups. This idle line is unavailable for use by anyone else for the duration of the connection.

In contrast, with VOIP, the information representing the caller's voice is broken up into small packets, each of which is routed through the Internet along the least congested path at the time it is sent.⁷ Each packet travels in its own way along the Internet to its destination.⁸ Information contained in the packets allows them to be reassembled at their destination in the correct order to form a coherent voice message.⁹ This process is not noticeable, and the callers will not be able to tell the difference between a VOIP call and a traditional phone call, provided that their service quality is good.¹⁰

If we stretch the analogy of two children with cups to encompass VOIP, it would involve not one wire but hundreds of wires of different lengths, along which voice data could travel at different speeds. As a child speaks into a cup, parts of words would be sent down one wire, while other parts would travel along other wires. Nevertheless, the cup on the other end would be able to reassemble all of the word parts into one coherent message. Most importantly, while the wires were not in use by the two children, they would not be idle, as in the first example, but instead would be free to send parts of messages from the cups of other children. This architecture allows for many more simultaneous conversations on a given number of

4. See *The ABCs of VoIP*, BUS. WK. ONLINE, Sept. 21, 2004, http://www.businessweek.com/technology/content/sep2004/tc20040921_7486_tc024.htm.

5. See *id.*

6. See *How Does VoIP Work?*, INTERTANGENT TECH. DIRECTORY, http://www.intertangent.com/023346/Articles_and_News/1414.html (last visited Sept. 28, 2005).

7. See *What is VoIP?*, INTERTANGENT TECH. DIRECTORY, http://www.intertangent.com/023346/Articles_and_News/1410.html (last visited Sept. 27, 2005).

8. See *id.*

9. See *id.*

10. See *The ABCs of VoIP*, *supra* note 4.

wires than the first example by utilizing the connections more efficiently.¹¹ This is one of the main benefits of VOIP—a more efficient use of available network resources than traditional phone service can provide.¹² Further, VOIP shares bandwidth not only with other VOIP calls, but also with other types of data.¹³ While it travels over the Internet in this manner, VOIP data is indistinguishable from any other form of data.¹⁴

In a recent ruling concerning the DigitalVoice VOIP service provided by Vonage, the Federal Communications Commission (FCC) succinctly described the operation of this technology:

[T]he subscriber's outgoing calls originate on the Internet and are routed over the Internet to Vonage's servers. If the destination is another Vonage customer or a user on a peered service, the server routes the packets to the called party over the Internet If the destination is a telephone attached to the PSTN [public-switched telephone network], the server converts the IP packets into appropriate digital audio signals and connects them to the PSTN using the services of telecommunications carriers interconnected to the PSTN. If a PSTN user originates a call to a Vonage customer, the call is connected, using the services of telecommunications carriers interconnected to the PSTN, to the Vonage server, which then converts the audio signals into IP packets and routes them to the Vonage user over the Internet.¹⁵

VOIP communications were first developed for very limited applications in 1995 and enjoyed slow but steady growth over the next few years.¹⁶ During the late 1990s, VOIP was used mainly by technologically savvy consumers with an interest in computers and technology.¹⁷ At that time, very few consumers had access to the broadband Internet connections required for acceptable VOIP service quality.¹⁸ Additionally, VOIP was a relatively complicated service to utilize, and it provided little functionality beyond basic voice communication, which usually had to be sent and received by a personal computer equipped with a microphone and speakers.¹⁹ Recently, however, VOIP service providers such as Vonage and AT&T have made VOIP a widely available and feasible alternative to traditional telephone services.²⁰ A device similar in appearance and functionality to a

11. See *How Does VoIP Work?*, *supra* note 6.

12. See *The ABCs of VoIP*, *supra* note 4.

13. See *id.*

14. See *id.*

15. *In re Vonage Holdings Corp.*, 19 F.C.C.R. 22,404 at 22,408 (2004) (footnotes omitted).

16. See *History of VOIP*, INTERTANGENT TECH. DIRECTORY, http://www.intertangent.com/023346/Articles_and_News/1413.html (last visited Sept. 27, 2005).

17. See *id.*

18. See *id.*

19. See *id.*

20. See, e.g., Greg Scoble, *AT&T Pushes VoIP Plan with New Partnerships*, TWICE, Oct. 11,

traditional phone can be purchased for the relatively low cost of about \$80 at many retail outlets—comparable in cost to a high-end, traditional phone.²¹ Additionally, many broadband routers designed for consumers now come equipped with jacks that fit standard telephones, allowing a consumer to use VOIP service through their existing phones via their router without the need to purchase any additional hardware.²²

VOIP services are usually significantly cheaper than traditional telephone services.²³ Rates for service generally range from \$10 to \$40 per month for unlimited local *and* unlimited domestic long-distance calling.²⁴ These rates compare very favorably to traditional telephone service costs of around \$50 dollars per month for most phone users, not including the surcharges added for long distance service as well as numerous taxes and fees.²⁵ These lower prices are possible for two main reasons. First, the infrastructure required to provide VOIP services is significantly cheaper than that required for traditional telephone services.²⁶ Second, VOIP services are currently exempt from many forms of taxation and numerous government surcharges imposed upon telephone services.²⁷ This allows VOIP service providers to keep costs down and pass these savings on to the consumer in the form of lower rates.²⁸

Another big advantage of VOIP is its portability. Unlike a traditional phone line that associates a phone number with a physical location, VOIP locates a caller by his or her IP address.²⁹ A consumer can carry an IP phone while traveling, connect it to a broadband connection anywhere in the world, and receive calls just as if he were at home.³⁰

VOIP also allows consumers to access many features that are not available on circuit-switched phone lines.³¹ An industry representative summarized many of the consumer benefits of VOIP in a recent address to members of Congress. He noted that VOIP can offer “customers limitless local,

2004, at 53.

21. *See id.*

22. *See id.*

23. *See* Anne Kandra, *Should You Switch to a Net Phone?*, PC WORLD, Nov. 2004, at 45.

24. *See id.*

25. *See id.* at 46.

26. *See VoIP Overview and Future*, INTERTANGENT TECH. DIRECTORY, http://www.intertangent.com/023346/Articles_and_News/1482.html (last visited Sept. 27, 2005). However, VOIP providers must use other telecommunications companies' networks to access most end-users. Adam Candeub, *Network Interconnection and Takings*, 54 SYRACUSE L. REV. 369, 370 (2004). Ordinarily, telecommunications companies are allowed to recoup any costs incurred in providing this access. *Id.* These agreements are generally referred to as inter-carrier compensation agreements and are governed by a complex regulatory scheme beyond the scope of this Comment. *Id.* For a detailed description of inter-carrier compensation and interconnection generally, *see id.*

27. *See* Kandra, *supra* note 23, at 46.

28. *See id.*

29. *See The ABCs of VoIP*, *supra* note 4.

30. *See id.*

31. *See VOIP Regulatory Freedom Act of 2004: Hearing on S. 2281 Before the S. Com. on Commerce, Science, & Transportation*, 108th Cong. (2004) [hereinafter Rutledge Statement] (statement of Thomas Rutledge, Chief Operating Officer, Cablevision Systems Corp.), available at <http://commerce.senate.gov/pdf/rutledge061604.pdf>.

regional and long distance calling and all the advanced features available from a traditional phone service,” “[a]dvanced call forwarding options [that] let customers route calls to up to three different locations simultaneously,” the ability to “send and review voice messages on e-mail,” the power to “customize the way [customers] . . . receive communications [whenever they want to] . . . from any location.”³²

VOIP does have some drawbacks, however. Currently, service is not as reliable as traditional telephone service provided by incumbent phone companies such as Verizon and BellSouth.³³ However, this gap in service quality is expected to disappear in the near future, as VOIP providers gain more experience with VOIP and the technologies used to provide VOIP service improve.³⁴

In addition, a customer must have a broadband Internet connection to effectively use VOIP service.³⁵ While these connections are becoming more common and have recently surpassed dial-up Internet connections, they are still not as widespread as standard phone lines.³⁶ VOIP’s reliance on a broadband connection also reveals another weakness of the technology—if power or the broadband connection is lost, a VOIP user cannot place a call.³⁷ By comparison, the telephone network has an elaborate power back-up system that provides enough power to operate a customer’s phone through his or her phone line.³⁸ This power supply is independent of the electric power grid and is not subject to power outages.³⁹

Security is also a greater issue for VOIP communications than with traditional telephone services. VOIP communications are more vulnerable to hackers and other online threats than traditional circuit-switched calls.⁴⁰ Finally, 911 services used with VOIP are not nearly as comprehensive as those provided with traditional telephone services.⁴¹ In short, while VOIP is an extremely promising technology; at present, it has some shortcomings vis-à-vis standard telephone services.

32. *Id.*

33. See Luc Hatlestad, *VoIP Edges Into Telco Services*, VARBUSINESS, Sept. 2, 2004, <http://www.varbusiness.com/showArticle.jhtml?articleID=46200806>.

34. See *The ABCs of VoIP*, *supra* note 4.

35. See *id.*

36. See WebsiteOptimization.com, *FCC Ignores Digital Divide While U.S. Broadband Drops Worldwide—U.S. Broadband Penetration Nears 60% in July-August 2005 Bandwidth Report*, <http://www.websiteoptimization.com/bw/0508/> (last visited Sept. 25, 2005).

37. See Kandra, *supra* note 23, at 46.

38. See *The ABCs of VoIP*, *supra* note 4.

39. Home Office Reports, *Review of Corded Phones*, http://homeofficereports.com/corded_phones.htm (last visited Sept. 27, 2005). Of course, if you have an AC-powered cordless phone, the power provided by the phone company alone will not allow you to operate the phone in the event of a power outage. See Smarthome, *Fixes a Common Problem Most People Don’t Even Realize They Have*, <http://smarthome.com/9618.html> (last visited Sept. 27, 2005).

40. See Alun Lewis, *Packets in Peril*, IEE REV., Nov. 2004, at 31-32; Jaikumar Vijayan, *VOIP: Don’t Overlook Security*, COMPUTERWORLD, Oct. 7, 2002, at 27, available at <http://www.computerworld.com/securitytopics/security/story/0,10801,74840,00.html>.

41. See *infra* Part V.C.

B. Potential Market Growth of Voice Over Internet Protocol

The number of VOIP users is expected to grow prodigiously over the next few years. One study found that 27% of consumer Internet users have heard of VOIP services, and 19% of Internet users said that they were likely to subscribe to such a service.⁴² Another study predicted that VOIP would replace 17% of consumer phone lines in North America by 2008.⁴³

Business use of VOIP is growing at an even greater rate. VOIP services were estimated to account for 20% of all business voice traffic near the end of 2004, and it is predicted that 90% of new corporate phone systems will be IP-enabled by 2008.⁴⁴ Given the potential for broadband growth in the U.S. business market,⁴⁵ overall migration to VOIP could occur at an even greater rate than some studies predict.⁴⁶

III. CURRENT REGULATION AND TAXATION OF COMMUNICATIONS

VOIP has generated quite a bit of commotion in regulatory and taxation circles lately because it is unclear how this service should fit within our current legal structures. A brief description of how the telecommunications industry is currently taxed and regulated is set out below.

A. Regulation and Taxation at the Federal Level

Much of the current legal uncertainty concerning VOIP regulation and taxation stems from communications technology definitions that were last revised in the Telecommunications Act of 1996 (the Act).⁴⁷ The Act draws a distinction between information services and telecommunications services for regulatory and taxation purposes.⁴⁸ However, since the Act became effective, many of the differences between these types of communications technologies have disappeared.⁴⁹

Under the Act, “telecommunications” are defined as “the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent and received.”⁵⁰ “Telecommunications service” is, in turn, defined as “the offering of telecommunications for a fee directly to the public, or to such

42. Mark Dolliver, *Awaiting the Next Shift in Telephone Service*, ADWEEK, July 26, 2004, at 31.

43. See Hatlestad, *supra* note 33.

44. Scott Van Camp, *ReadMe.Ist*, BRANDWEEK, Sept. 20, 2004, at 18.

45. See WebsiteOptimization.com, *supra* note 36.

46. See Dolliver, *supra* note 42, at 31.

47. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996) (codified in scattered sections of 47 U.S.C.).

48. See 47 U.S.C. § 153 (20), (46) (2000).

49. See *supra* Part II.

50. § 153(43).

classes of users as to be effectively available directly to the public, regardless of the facilities used.”⁵¹ The Act defines “information service,” as

[T]he offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.⁵²

The increasingly convergent nature of the two technologies complicates the application of these definitions. Examples of services that have been held to be information services under the Act include Internet access provided by cable companies⁵³ and voice mail.⁵⁴ In general, the Act preempts the states from taxing or regulating information services but not telecommunications services.⁵⁵ Some of the federal laws relevant to VOIP are discussed below.

The Internet Tax Freedom Act (ITFA)⁵⁶ has had a profound impact on the development of the Internet. In 1998, Congress passed the ITFA to ensure that Internet access would be available at reasonable prices, by preventing states from placing taxes upon Internet access.⁵⁷ The original ITFA created a three-year moratorium on the taxation of “Internet access,”⁵⁸ which it defined as,

[A] service that enables users to access content, information, electronic mail, or other services offered over the Internet and may also include access to proprietary content, information, and other services as part of a package of services offered to consumers. Such term does not include telecommunications services.⁵⁹

The federal Internet tax moratorium, as embodied in the ITFA, was renewed in 2001 for three more years,⁶⁰ and was again renewed and expanded in late

51. § 153(46).

52. § 153(20).

53. See *Brand X Internet Serv. v. FCC*, 345 F.3d 1120, 1129 (9th Cir. 2003), *rev'd on other grounds*, *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Serv.*, 125 S. Ct. 2688 (2005) (finding that Internet access provided by cable companies is an information service).

54. See *MCI Telecomm. Corp. v. Sprint-Fla., Inc.*, 139 F. Supp. 2d 1342, 1347-49 (N.D. Fla. 2001) (“[V]oice mail is ‘information service,’ not ‘telecommunications service’”).

55. See, e.g., *Vonage Holdings Corp. v. Minn. Pub. Util. Comm'n*, 290 F. Supp. 2d 993, 1003 (D. Minn. 2003).

56. Pub. L. No. 105-277, div. c, tit. XI, 112 Stat. 2681, 2681-719 (1998) (codified at 47 U.S.C. § 151 (2000)).

57. See Walter Nagel & Ari M. Lev, *VOIP: The Second Battle of the Internet Tax Wars*, 32 ST. TAX NOTES 927, 935 (2004).

58. Pub. L. No. 105-277, div. c, tit. XI, § 1101(a), 112 Stat. 2681, 2681-719 (1998) (codified at 47 U.S.C. § 151 (2000)).

59. *Id.* § 1104(a)(3)(D).

60. See Nagel & Lev, *supra* note 57, at n.60.

2004 for another three-year period with the passage of the Internet Tax Nondiscrimination Act (ITNA).⁶¹

One of the mainstays of telecommunications regulation during the past decade has been the Universal Service Fund (USF). The USF provides for the collection of a fee from every telecommunications provider in the United States.⁶² These fees are pooled into a fund maintained by the federal government⁶³ as a way to subsidize the high costs of providing telecommunications services to rural areas.⁶⁴ The fund is later disbursed to telecommunications companies that provide service in rural areas to compensate them for the higher costs of providing access lines to their customers.⁶⁵ As suggested above, this fund only applies to telecommunications services and not to information services.⁶⁶ Finally, the federal government imposes an excise tax of 3% on telecommunications services that qualify as local telephone services, toll telephone services, or teletypewriter exchange services.⁶⁷

Congress has already taken some steps to pass legislation that specifically targets VOIP. The VOIP Regulatory Freedom Act, sponsored by Senator John Sununu, was presented to the Senate Commerce Committee in the summer of 2004.⁶⁸ As originally drafted, this bill would have barred states from regulating or taxing any Internet phone calls, including VOIP calls.⁶⁹ However, the Commerce Committee modified the bill so that it allowed states to collect a universal service tax and a tax to compensate other telecommunications companies for the usage of their facilities.⁷⁰ Nonetheless, the bill was not ultimately enacted.

Another bill with the potential to shape VOIP policy was introduced at approximately the same time.⁷¹ The Advanced Internet Communications Services Act would have reserved regulation of VOIP communications to the FCC.⁷² Under this legislation, only "emergency services, universal service, compensation for use of public-switched networks, and access for the disabled" would be subject to state regulation.⁷³ While this bill was not enacted in 2004, a new version of the bill was introduced in January of 2005

61. Internet Tax Nondiscrimination Act of 2004, Pub. L. No. 108-435, 118 Stat. 2615 (2004).

62. See 47 U.S.C. § 254(b)(4) (2000).

63. See *id.* § 254(2).

64. See *id.* § 254(b)(3); Michael E. Brunner, *A Rural Win in VOIP*, RURAL TELECOMMUNICATIONS, Sept.-Oct. 2004, at 62.

65. See § 254(e). For a more detailed description of how the Universal Service Fund works, see Robert M. Freiden, *Universal Service: When Technologies Converge and Regulatory Models Diverge*, 13 HARV. J.L. & TECH. 395 (2000).

66. See Brunner, *supra* note 64.

67. 26 U.S.C. § 4251 (2000).

68. See Al Senia, *VOIP Debate Ricochets Through Congress: Lawmakers Wrestle with Taxing Issues*, AMERICA'S NETWORK, Aug. 1, 2004, at 12, 12.

69. *Id.* For a more detailed discussion of the VOIP Regulatory Freedom Act, see *infra* Part IV.

70. See Senia, *supra* note 68, at 12.

71. See *id.*

72. See *id.*

73. See *id.*

and is currently in the House Subcommittee on Telecommunications and the Internet.⁷⁴

B. Regulation and Taxation at the State and Local Level

Regulation of communications at the state level is generally limited to intrastate communications—communications that both originate and terminate at physical points within the same state. The FCC provides a concise statement contrasting interstate and intrastate services and describing how they are regulated within the federal system:

[W]hen the end points of a carrier's service are within the boundaries of a single state the service is deemed a purely intrastate service, subject to state jurisdiction for determining appropriate regulations to govern such service. When a service's end points are in different states or between a state and a point outside the United States, the service is deemed a purely interstate service subject to the Commission's exclusive jurisdiction. Services that are capable of [both intrastate and interstate communications] are deemed to be 'mixed-use' or 'jurisdictionally mixed' services. [These] services are generally subject to dual federal/state jurisdiction, except where it is impossible or impractical to separate the service's . . . components and the state regulation of the intrastate component interferes with valid federal rules or policies.⁷⁵

When such interference occurs, the FCC exercises exclusive jurisdiction over the services in question and regulates them as an interstate service.⁷⁶ Historically, this has meant that essentially all calls placed from a phone in one state to another phone in that state were subject to state jurisdiction for regulatory purposes. In contrast, as indicated above, the states have generally been preempted from regulating information services regardless of where they originate and terminate.⁷⁷

State taxes imposed on telecommunications vary from state to state. Some states impose some kind of additional tax on telecommunications in addition to any applicable sales taxes.⁷⁸ Others levy a separate tax on telecommunications and exempt them from sales tax.⁷⁹ Currently, most states tax all intrastate calls. These calls are usually taxed by a state if the charges for the call are billed to a line that originates or terminates within that

74. H. R. 214, 109th Cong. (2005).

75. *In re Vonage Holdings Corp.*, 19 F.C.C.R. 22,404 at 22,413 (2004).

76. *Id.*

77. *See id.* at 22,409 (quoting *Vonage Holding Corp. v. Minn. Pub. Util. Comm'n*, 290 F. Supp. 2d 993, 996-1003 (D. Minn. 2003)).

78. For a description of telecommunications taxation methods currently used by some states, see Nagel & Lev, *supra* note 57.

79. *See id.*

state.⁸⁰ For now, the definitions of telecommunications as used in each state for taxation purposes will likely determine whether VOIP is subject to taxation in that state.⁸¹ However, future action by the federal government could preempt the states from taxing VOIP regardless of how a state defines telecommunications for taxation purposes.

While telecommunications taxes do not constitute a large percentage of the tax base of most states, they are nevertheless significant sources of revenue for many states. Nationwide telecommunications companies paid \$18.1 billion in state and local taxes in 1999.⁸² Transaction-related taxes—taxes based on a per call basis—generated approximately \$13 billion annually for state and local governments across the country.⁸³ Some states, feeling pressure to insulate themselves from revenue lost to VOIP, have already attempted to broaden their definitions of telecommunications in their taxation and regulatory laws.⁸⁴

IV. ARGUMENTS FOR EXEMPTING VOIP SERVICE FROM TAXATION AND REGULATION

VOIP service providers argue that their services should be classified as information services under the Act and, therefore, should not be subject to regulation by state and local governments.⁸⁵ These arguments are no doubt fueled in part by the strong competitive advantage this lack of regulation affords VOIP service providers vis-à-vis traditional telephone service providers.⁸⁶ Not surprisingly, traditional telephone companies argue that treating VOIP as an information service not only undermines the policies behind many of the telecommunications taxes, but also puts them at an unfair disadvantage when competing with VOIP providers.⁸⁷ Nevertheless, there are many legitimate reasons for treating VOIP and telephone services differently.

A. Market Justifications

Proponents of continuing to exempt VOIP from regulation and taxation cite several policy arguments as justifications for their thinking. Chief among these is a desire to promote technological innovation and the modernization of the country's telecommunications networks.⁸⁸

80. *See id.*

81. *See id.*

82. Martin A. Sullivan, *Will VOIP Telephone Service be Subject to Telephone Taxes?*, 31 ST. TAX NOTES 385 (2004).

83. *See Nagel & Lev, supra* note 57.

84. *See id.*

85. *See Brunner, supra* note 64.

86. *See, e.g., Hatlestad, supra* note 33.

87. *See id.*

88. *See Ted Hearn, Senate Commerce Panel Set for VoIP Vote*, MULTICHANNEL NEWS, July 19, 2004, at 72.

Some argue that another reason to leave the market largely unregulated and untaxed stems from the competitive environment of the VOIP industry.⁸⁹ Unlike traditional telephone services where local carriers long held a monopoly on service in their operating areas, the VOIP industry has many service providers from which consumers may choose.⁹⁰

Some have also questioned the necessity of a universal service program for VOIP. Although the costs of providing VOIP in rural areas might be higher than in urban areas, the cost differential involved is not likely to be as large as the cost differential associated with providing traditional telephone service to the two types of markets.⁹¹ However, while VOIP services might be cheaper to provide than telephone services, they depend on a broadband infrastructure. Therefore, instead of doing away with universal service programs altogether, the better solution might be to expand them into a universal broadband program in which the higher costs of providing broadband access to rural areas would be subsidized.⁹²

On the other hand, at least one policy argument cuts in favor of allowing the states to tax VOIP services—at least as long as traditional telephone services are taxed under the existing framework. The price advantage of VOIP⁹³ stems largely from the extra burden placed on telecommunications phone companies by taxation and regulation, and such an inconsistent regulatory framework could create a distortion in the market for voice-communications services.⁹⁴

B. Application of The Internet Tax Freedom Act and The Internet Tax Nondiscrimination Act to VOIP

In the past, some argued that the ITFA could provide a legal basis for exempting VOIP from regulation and taxation. They argued that since VOIP services are arguably a type of Internet access under the ITFA, they should be exempted from taxation by the states. However, subsequent legislation has made it clear that the federal internet tax moratorium does not apply to VOIP.⁹⁵ The ITFA specifically exempts VOIP from its scope and allows state and local governments to tax these services as well as any successor technologies.⁹⁶

89. See Senia, *supra* note 68, at 12.

90. See *id.*

91. See *id.*

92. See *infra* Part V.E.

93. See *supra* Part II.A.

94. See generally Sherille Ismail, *Parity Rules: Mapping Regulatory Treatment of Similar Services*, 56 Fed. Comm. L.J. 447, 477-82 (2004) (discussing the impact of regulatory structure on emerging communications technology).

95. See *Bush Signs Internet Tax Nondiscrimination Act*, TECH L.J., Dec. 1-5, 2004, [http:// www.techlawjournal.com/home/newsbriefs/2004/12a.asp](http://www.techlawjournal.com/home/newsbriefs/2004/12a.asp).

96. See Internet Tax Nondiscrimination Act of 2004, Pub. L. No. 108-435, § 6, 118 Stat. 2615 (2004) (codified at 47 U.S.C.A § 151 (Supp. 2005)).

*C. Special Jurisdictional Issues at the State and Local Government Level
Concerning VOIP*

The inherently portable nature of the IP addresses associated with VOIP devices and difficulties in tracing originating and terminating points of VOIP calls make taxation of VOIP calls at the state and local level particularly problematic. A user can acquire a phone number with an area code in one state and make and receive phone calls in another state or country by carrying the VOIP phone to the new location.⁹⁷

In addition to the jurisdictional issues presented by the mobile nature of VOIP devices, practical revenue collection concerns exist as well. Due to the homogenous nature of Internet traffic, it would be inordinately burdensome upon the states to determine if a given packet of data on the Internet was a VOIP communication by using existing technology.⁹⁸ Even if that determination were somehow made, the regulatory agency would still have to establish where a particular packet originated and terminated to establish its taxing authority.⁹⁹ At present, this would be a very complicated task and the associated costs might be greater than the revenues collected from the effort.¹⁰⁰

V. THE COURTS AND THE FCC TACKLE VOIP

A. Preliminary FCC Efforts to Deal with VOIP

In early 2004, the FCC issued a Notice of Proposed Rulemaking—*In re IP-Enabled Services*¹⁰¹—that was drafted to solicit commentary on many of the problems VOIP creates for the current regulatory scheme. Specifically, the FCC requested that commentators propose alternative bases for categorizing communications services that could replace the existing definitions of information services and telecommunications services.¹⁰² Additionally, the Commission requested commentary on how VOIP could fit within the current definitions, asking,

- (1) [W]hat regulations, if any, would apply to each class of IP-enabled services, given the legal classification urged for that class;
- (2) whether, for services classified as “telecommunications services,” we should use our forbearance authority to remove a particular obligation or entitlement; and
- (3) whether, for services clas-

97. See Brunner, *supra* note 64, at 62.

98. See Nagel & Lev, *supra* note 57.

99. *Id.* at 935. However, some vendors claim that they have developed technology that can resolve many of the problems associated with transmitting location information over VOIP. See *In re IP-Enabled Services*, 19 F.C.C.R. 4863, 4899-4900 (2004).

100. See Nagel & Lev, *supra* note 57.

101. 19 F.C.C.R. 4863.

102. See *id.* at 4895.

sified as “information services,” we should exercise our ancillary jurisdiction to impose a particular obligation or entitlement.¹⁰³

B. The Vonage Decision

While the FCC was struggling with these questions, a few jurisdictions began to address the issue of whether VOIP services are a telecommunications service, subject to state taxation and regulation as a telephone service, or an “information service,” exempt from such treatment. In *Vonage Holdings Corp. v. Minnesota Public Utilities Commission*,¹⁰⁴ a state regulatory authority filed a complaint against Vonage for its failure to follow laws that regulate telephone companies within its VOIP operating unit.¹⁰⁵ Specifically, the agency alleged that Vonage had failed to “(1) obtain a proper certificate of authority required to provide telephone service in Minnesota; (2) submit a required 911 service plan; (3) pay 911 fees; and (4) file a tariff.”¹⁰⁶ Vonage took the position that its services were information services, and therefore, federal law preempted the state from regulating it.¹⁰⁷

In reaching its decision, the court first noted that the “backbone of Vonage’s [VOIP] service is the Internet” and that the stated policy of the United States was “to preserve the vibrant and competitive free market that presently exists for the Internet . . . unfettered by Federal or State regulation.”¹⁰⁸ The court concluded that the VOIP services offered by Vonage were indeed information services because they offered the “capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications.”¹⁰⁹ The court found that “transmitting customer calls over the Internet requires Vonage to ‘act on’ the format and protocol of the information. For calls originating with one of Vonage’s customers, calls in the VoIP format must be transformed into the format of [a telephone call] before a [telephone] user can receive the call.”¹¹⁰

The court next analyzed the Congressional intent to preempt the states’ regulation of information services but not telecommunications services.¹¹¹ The court cited several pieces of legislation and numerous FCC reports, and concluded that through these authorities, “Congress has clearly stated that it does not intend to regulate the Internet and information services.”¹¹² Since the VOIP services offered by Vonage were classified by the court as infor-

103. *Id.* at 4913 (footnotes omitted).

104. 290 F. Supp. 2d 993 (D. Minn. 2003).

105. *See id.* at 995-96.

106. *Id.*

107. *Id.* at 997.

108. *Id.* (quoting 47 U.S.C. § 230(b) (2000)).

109. *Id.* at 999 (quoting § 153(20)).

110. *Id.* (citations omitted).

111. *See id.* at 1001-03.

112. *Id.* at 1003.

mation services, the court concluded that “until Congress speaks more clearly on this issue, [the states] may not regulate an information services provider such as Vonage as if it were a telecommunications provider.”¹¹³

In a subsequent court action on the matter, the court refined its ruling.¹¹⁴ The state regulatory agency argued that the court should modify its finding that Vonage’s VOIP service was an “information service.”¹¹⁵ It offered new evidence that 97% of Vonage’s VOIP services touch the PSTN and that its VOIP services should, therefore, be regulated as a telephone service.¹¹⁶ The court disagreed with this reasoning stating that, “whether calls come into contact with the PSTN is [sic] does not alter the Court’s conclusion that Vonage’s services constitute information services.”¹¹⁷

In December of 2004, the Eighth Circuit Court of Appeals upheld the district court’s ruling.¹¹⁸ The Eighth Circuit based its ruling on an FCC order¹¹⁹ issued while the appeal was pending. This FCC memorandum concluded that VOIP could not be separated into interstate and intrastate components for regulation by both the states and the federal government.¹²⁰ In reaching this decision, the Commission observed that a Vonage customer’s phone number “is not necessarily tied to the user’s physical location for either assignment or use, in contrast to most wireline circuit-switched calls,”¹²¹ and that these “characteristics of [Vonage’s service] preclude any practical identification of, and separation into, interstate and intrastate communications for purposes of effectuating a dual federal/state regulatory scheme” for VOIP.¹²² The Commission found that Minnesota’s rules for telephone companies could not be applied to Vonage “without negating valid federal policies and rules.”¹²³ Furthermore, the FCC stated conclusively, that it—and not state commissions—had the exclusive power to determine which regulations apply to VOIP.¹²⁴

However, the FCC has not completely removed the states from all aspects of VOIP regulation. It previously observed that “states will continue to play their vital role in protecting consumers from fraud, enforcing fair business practices, for example, in advertising and billing, and generally responding to consumer inquiries and complaints.”¹²⁵ Perhaps most importantly, the FCC expressed no opinion as to whether Vonage’s service should

113. *Id.*

114. *Vonage Holdings Corp. v. Minn. Pub. Util. Comm’n*, No. Civ. 03-5287, 2004 WL 114983 (D. Minn. Jan. 14, 2004), *aff’d*, 394 F.3d 568 (8th Cir. 2004).

115. *Id.* at *3.

116. *Id.* at *4.

117. *Id.*

118. *Vonage Holdings Corp. v. Minn. Pub. Util. Comm’n*, 394 F.3d 568 (8th Cir. 2004).

119. *In re Vonage Holdings Corp.*, 19 F.C.C.R. 22,404 at 22,404 (2004).

120. *Id.*

121. *Id.* at 22,408.

122. *Id.* at 22,411.

123. *Id.* at 22,404.

124. *Id.* at 22,405.

125. *Id.*

be classified as an information service or telecommunications service under the Telecommunications Act.

These holdings tend to show that, absent very clear directions from Congress to the contrary, the courts and the FCC will continue to keep VOIP services outside the scope of state regulation and taxation except for purposes of consumer protection.

VI. CONGRESSIONAL DEBATES RELATING TO VOIP

While the courts and the FCC were addressing the novel issues surrounding VOIP, Congress stepped into the fray. In April of 2004, Senator John Sununu (R-NH) sponsored a bill designed to clear up much of the confusion concerning the place of VOIP services in the current regulatory framework. This legislation, entitled the VOIP Regulatory Freedom Act of 2004 (VRFA),¹²⁶ was crafted to “encourage continued investment in and continued use of [VOIP] for sending voice traffic and in order to make sure consumers continue to have the benefits of lower costs, new features, and better services that is the potential of [VOIP].”¹²⁷ While this bill was not enacted during the 2004 session, it is likely that a bill with substantially similar provisions will come before Congress in the future. The debate surrounding this bill has seen some of the most thorough discussion of VOIP to date.

The VOIP Regulatory Freedom Act of 2004 had three main objectives.¹²⁸ First, it “declare[d] [that VOIP] is a technology that uses national and global broadband data networks, . . . and therefore [Congress] should have Federal jurisdiction” over VOIP.¹²⁹ Second, it “preempt[ed] States from regulating in this area, . . . because . . . we do not need . . . a patchwork of 50 different sets of regulations that would stifle the innovation [and] the investment” in VOIP.¹³⁰ Finally, the act was designed to clarify the definitions of numerous telecommunications terms that have become muddled since the Telecommunications Act of 1996 was passed.¹³¹ The text of the bill states it was drafted “[t]o provide a clear and unambiguous structure for the jurisdictional and regulatory treatment for the offering or provision of voice-over-Internet-protocol applications”¹³²

As with any piece of legislation, Congress had to balance the interests of numerous groups when drafting this bill. VRFA addressed some of the interests of the states by requiring VOIP service providers to participate in the current federal Universal Service Fund¹³³ and comply with some E911

126. VOIP Regulatory Freedom Act of 2004, S. 2281, 108th Cong. § 1 (2004).

127. 150 CONG. REC. S3777-78 (daily ed. Apr. 6, 2004) (statement of Sen. Sununu).

128. *See id.* at S3777, S3777-78.

129. *Id.*

130. *Id.*

131. *See id.*

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

133. *See* 150 CONG. REC. S3777 (daily ed. Apr. 6, 2004) (statement of Sen. Sununu). For a detailed

service requirements.¹³⁴ Since law enforcement personnel have become increasingly dependent on access to telecommunications services to aid in their investigations, VRFA also gave the FCC the authority to develop VOIP-specific rules in support of law enforcement, requiring that they be comparable to the means available to law enforcement to eavesdrop on traditional telecommunications.¹³⁵ Lastly, the bill precluded states from taxing VOIP.¹³⁶ While this was no doubt an ambitious bill, its sponsor explicitly stated that the bill was not designed to replace the Telecommunications Act of 1996, commenting that “we have narrowly tailored this bill to deal with the voice-over-Internet-protocol applications. It should be clear that [sic] [this] is not an effort to rewrite the 1996 Telecommunications Act.”¹³⁷ A number of groups found shortcomings with VRFA. A brief summary of those concerns is set out below.

A. Law Enforcement and VOIP

The rise of VOIP communications presents many problems for law enforcement personnel, who are accustomed to tapping voice communications for eavesdropping purposes with relative ease. In fact, “[E]lectronic surveillance [is] one of the most effective tools government has to combat crimes such as terrorism, espionage, and organized crime, [and is] often the only effective tool.”¹³⁸ One of the main concerns of the Department of Justice (DOJ) regarding VOIP technology is that it “not become a haven for criminals, terrorists, and spies.”¹³⁹ As with any communications technology, if it “becomes known that law enforcement has difficulty detecting communications over . . . [VOIP], criminals [will] quickly migrate to [it]”¹⁴⁰

The Department of Justice has three main concerns about electronic surveillance that it feels must be addressed in any effort to regulate VOIP:

- (1) [T]hat public safety and national security will be compromised unless court orders for electronic surveillance can be implemented by providers;
- (2) that assistance requirements should apply to every service provider that provides switching or transmission, regardless of the technologies they employ; and
- (3) that if any particular technology is singled out for a special exemption from these require-

description of how the Universal Service Fund subsidizes the costs of rural telecommunications services, see Freiden, *supra* note 65.

134. See 150 CONG. REC. S3777 (daily ed. Apr. 6, 2004) (statement of Sen. Sununu). For a definition of E911 services, see *infra* note 167.

135. See *id.*

136. See *id.*

137. *Id.*

138. *VOIP Regulatory Freedom Act of 2004: Hearing on S. 2281 Before the S. Com. on Commerce, Science & Transportation*, 108th Cong. (2004) [hereinafter Parsky Testimony] (testimony of Laura Parsky, Deputy Assistant Attorney General, Criminal Division, U.S. Dept. of Justice), available at http://commerce.senate.gov/hearings/testimony.cfm?id=1230&wit_id=3537.

139. *Id.*

140. *Id.*

ments, that technology will quickly attract criminals and create a hole in law enforcement's ability to protect the public and the national security.¹⁴¹

Currently, most forms of electronic surveillance are governed by the Communications Assistance for Law Enforcement Act (CALEA).¹⁴² The purpose of CALEA was,

[T]o preserve the government's ability, pursuant to court order or other lawful authorization, to intercept communications involving advanced technologies such as digital or wireless transmission modes, or features and services such as call forwarding, speed dialing and conference calling, while protecting the privacy of communications and without impeding the introduction of new technologies, features and services.¹⁴³

CALEA sought to balance three policies: "(1) to preserve a narrowly focused capability for law enforcement agencies to carry out properly authorized intercepts; (2) to protect privacy in the face of increasingly powerful and personally revealing technologies; and (3) to avoid impeding the development of new communications services and technologies."¹⁴⁴

The DOJ believes that these goals are still tenable as applied to VOIP communications and believes that applying CALEA requirements to VOIP communications, even if they are eventually classified as information services and not "communications services" as defined by CALEA, would be in the best interests of the public.¹⁴⁵ DOJ suggested two changes to VRFA to afford law enforcement access to VOIP communications similar to that provided by CALEA for other media.¹⁴⁶

The first proposed change involved a definition setting forth which services are accessible to law enforcement. The bill allowed law enforcement personnel access to "connected VOIP applications,"¹⁴⁷ which are defined as "a VOIP application that is capable of receiving voice communications from, or sending voice communications to, the public switched telephone network."¹⁴⁸ DOJ is concerned that this definition could be interpreted in such a way as to exclude some forms of VOIP communications, and it would prefer a broader definition of this term.¹⁴⁹

141. *Id.*

142. Communications Assistance for Law Enforcement Act, Pub. L. No. 103-414, 108 Stat. 4279 (1994) (codified at 47 U.S.C. §§ 1001-1010 (2000)).

143. Parsky Testimony, *supra* note 138.

144. *Id.*

145. *See id.*

146. *See id.*

147. VOIP Regulatory Freedom Act of 2004, S. 2281, 108th Cong. § 4 (2004).

148. *Id.* § 7(2).

149. *See* Parsky Testimony, *supra* note 138.

The second desired change dealt with the level of access law enforcement would have to VOIP communications under the bill. VRFA required that VOIP service providers enable access by law enforcement “not less than that required of information service providers.”¹⁵⁰ DOJ is concerned that this will mean that the level of access will be much less than that provided by CALEA, which specifically excludes information services from its scope.¹⁵¹ The Department would instead like to see the CALEA standards applied to VOIP.¹⁵²

The opposite view—that VOIP communications should not be subject to CALEA-like requirements—also has some support. First of all, some observers point out that CALEA-like requirements are unnecessary for VOIP because Internet service providers already cooperate fully with law enforcement personnel.¹⁵³ Additionally, many dispute the assertion that VOIP will become “a haven for terrorists and drug dealers” if CALEA-like requirements are not mandated for VOIP service providers.¹⁵⁴ As an example, they point to the Internet, which has not become such a “haven” even though it is an information service that does not fall under the umbrella of CALEA.¹⁵⁵ Advocates of this approach assert that the admittedly important interests of law enforcement must be balanced against the other national interests of “promoting innovation [in communications technology], maintaining American leadership of Internet technology development, expanding access, keeping costs down, enforcing competition, protecting privacy, and enhancing network security”¹⁵⁶ When all of these factors are considered advocates maintain, “that the regulatory framework of CALEA—designed for the telephone network—is ill-suited to the Internet and Internet applications” such as VOIP.¹⁵⁷ Finally, they argue that, under 18 U.S.C. § 2518(4), “all providers of VOIP services are already under a legal obligation to cooperate with all court orders for interception.”¹⁵⁸ Furthermore, they argue:

[L]aw enforcement should develop the capability to extract call-identifying information from packet streams. The government will have to develop this capability in-house anyhow because it will have to be able to deal with sophisticated criminals who can entirely avoid third party service providers and communicate directly and with custom-built protocols. Far and away the most effective ap-

150. *Id.* (quoting S. 2281 § 5).

151. *Id.*

152. *See id.*

153. *VOIP Regulatory Freedom Act of 2004: Hearing on S. 2281 Before the S. Com. on Commerce, Science & Transportation*, 108th Cong. (2004) [hereinafter *Dempsey Testimony*] (testimony of Mr. James X. Dempsey, Executive Director, Center for Democracy and Technology), available at http://commerce.senate.gov/hearings/testimony.cfm?id=1230&wit_id=3538.

154. *Id.*

155. *Id.*

156. *Id.*

157. *Id.*

158. *Id.*

proach to Internet interception is for law enforcement to develop the ability to understand Internet communications.¹⁵⁹

B. Interactions Between Technological Development, Market Forces, and Government Regulation

One problem with trying to regulate the VOIP industry in a piecemeal fashion with very specific requirements is that slight evolutions in the technology could instantly make such a regulatory framework obsolete and ineffective.¹⁶⁰ Likewise, a rigid regulatory framework could also work to stifle innovation and impede the development of new technologies.¹⁶¹ If service providers can meet the requirements of a particular regulatory scheme more easily by adopting one protocol or format over another, then those formats could become the de facto industry standard overnight, even if they are not otherwise the most cost-efficient or valuable to consumers.¹⁶² This argument cuts in favor of light regulation of the industry—at least until it becomes more developed.

Nevertheless, there is no doubt that some regulation, however light, will have to be imposed on the industry. But should it come from the states or the federal government? Currently, telephone services are regulated by both the states (usually through a state's Public Utilities Commission)¹⁶³ and the federal government through the FCC, acting under Congressional mandate.¹⁶⁴ Generally, as discussed above, the states regulate and tax intrastate calls, while the FCC regulates aspects of interstate calls and many other components of the PSTN.¹⁶⁵

VOIP services combine both local and long-distance calling into one service, so it is unclear at first blush whether the states or the federal government should have jurisdiction over them. Not surprisingly, the VOIP industry favors a national or federal regulatory scheme for its services.¹⁶⁶ It cites several reasons why federal regulation would be better, including the necessity of “a predictable, national framework for the development of these inherently mobile and borderless services.”¹⁶⁷ Additionally, it maintains that consistent regulation is necessary “to expand and . . . offer the kind of choice and value envisioned by the 1996 Telecommunications Act,” to ad-

159. *Id.*

160. *See* Rutledge Statement, *supra* note 31.

161. *See id.*

162. *See id.*

163. *See, e.g.*, 74 AM. JUR. 2D *Telecommunications* § 21 (2001).

164. *See* 47 U.S.C. § 151 (2000).

165. This is a gross oversimplification of the regulatory schemes involved. For a more detailed description of telecommunications regulation generally, *see* 74 AM. JUR. 2D *Telecommunications* § 27 (2001).

166. *See* Rutledge Statement, *supra* note 31.

167. *Id.*

dress the “legacy of access charges and inter-carrier compensation, and [to] creat[e] new mechanisms for supporting universal service.”¹⁶⁸

C. E911 Service and VOIP

VOIP could also have a significant impact on E911 services.¹⁶⁹ Although many of us now take E911 services for granted, unless affirmative steps are taken now to adapt VOIP and E911 services to accommodate each other, incompatibilities could lead to a degradation of emergency services as a whole.¹⁷⁰ If E911 services are to provide satisfactory levels of service,

[they] must work with a wide range of VoIP and IP-enabled products and services. . . . includ[ing] both voice and data, whether serving a fixed location, or nomadic locations that may change from day to day, or operating wirelessly in a much greater area (including roaming from area to area), during a single call.¹⁷¹

The current regulatory scheme of the E911 system is already complicated by a “jurisdictional patchwork of rules for various types of communications, providers and stakeholders[.] Wireline [telephone] issues are regulated by States. Wireless [cellular] issues are regulated by the FCC. 9-1-1 Public Safety Answering Points [PSAPs] are often local. . . . [and] VoIP can be international.”¹⁷² Additionally, E911 providers historically have had problems integrating new types of technology into their systems.¹⁷³ Because of the current status of E911 regulations, the last thing that emergency services personnel want are additional layers of varying regulations.¹⁷⁴ For this reason, they have requested that Congress provide a uniform approach for E911 and VOIP so that they will have “the ability to locate an emergency caller from any device, at anytime, everywhere.”¹⁷⁵

The National Emergency Number Association (NENA) argues that “[t]here will likely be VoIP applications that need to support 9-1-1 calls terminating at [911 call centers] without ever touching the Public Switched

168. *Id.*

169. 911 service and E911 service are used interchangeably in this Comment. However, there are differences between the two terms. Basic 911 service generally only connects a caller to a 911 operator, while enhanced or E911 service usually provides additional information to the operator such as a street address and call back number. See *In re of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, 15 F.C.C.R. 17,442 at 17,445 (2000) (memorandum opinion and order), for a more thorough discussion of E911 capabilities.

170. *The VOIP Regulatory Freedom Act of 2004: Hearing on S. 2281 Before the S. Comm. on Commerce, Science & Transportation*, 108th Cong. (2004) [hereinafter Jones Testimony] (testimony of Mr. David Jones, Director of Emergency Services, Spartanburg County Communications/9-1-1), available at http://commerce.senate.gov/hearings/testimony.cfm?id=1230&wit_id=3540.

171. *Id.*

172. *Id.*

173. *Id.*

174. *See id.*

175. *Id.*

Telephone Network. Legislative definitions must allow for treatment of the full extent of options for IP and E9-1-1 as the future unfolds.”¹⁷⁶

Additionally, there are some caller location issues that must be worked out before effective E911 services can be deployed over VOIP. As discussed above, VOIP is a geographically independent technology, and E911 operators could have problems determining the location of an incapacitated caller. Recognizing these problems, the government and VOIP service providers have been voluntarily developing software solutions to address these issues for some time.¹⁷⁷

Finally, as do many other players with a stake in VOIP, E911 centers have a direct financial interest in the future classification of the service. Much of the funding for the current E911 system comes from charges imposed on telephone and wireless subscribers.¹⁷⁸ Therefore, as these customers begin to transition to VOIP services, the “loss of conventional service fees and surcharge revenue, and the uncertainty of any requirement to replace that critical operational funding stream in the VoIP environment” could have a significant negative impact on emergency services.¹⁷⁹

NENA suggested six “guidelines for establishing a public policy, technical and operational blueprint for the advancement of Internet-based service offerings for 9-1-1.”¹⁸⁰ These are: (1) “[establishing] a national E9-1-1 VoIP policy;” (2) “encourag[ing] vendor and technology neutral solutions and innovation;” (3) “retain[ing] consumer service quality expectations;” (4) “support[ing a] dynamic, flexible, open architecture system design process for 9-1-1;” (5) “develop[ing] policies for 9-1-1 compatible with the commercial environment for IP communications;” and (6) “promot[ing] a fully funded 9-1-1 system.”¹⁸¹ The organization would support the VRFA if changes that address these concerns were incorporated into the bill.¹⁸²

D. State Regulatory Entities and VOIP

The National Association of Regulatory Utility Commissioners (NARUC) has several concerns about VOIP. These include: (1) the continued provision of universal service funds to subsidize the costs of providing telecommunications services to rural customers; (2) competitive forces in the VOIP marketplace, and the role of regulation in promoting an efficient market; and (3) assuring that adequate consumer protection is provided for VOIP customers.¹⁸³

176. *Id.*

177. *See In re Vonage Holdings Corp.*, 19 F.C.C.R. 22,404 at 22,404 (2004).

178. *See Jones Testimony*, *supra* note 170.

179. *Id.*

180. *Id.*

181. *Id.*

182. *See id.*

183. *The VOIP Regulatory Freedom Act of 2004: Hearing on S. 2281 Before the S. Comm. on Commerce, Science & Transportation*, 108th Cong. (2004) [hereinafter *Wise Testimony*] (testimony of The Honorable Stan Wise, Commissioner, Georgia Public Service Commission), available at <http://com->

Concerned about the impact of VRFA in tandem with the definitions in the 1996 Act, NARUC suggests that a different classification of service approach be used.¹⁸⁴ This functional approach would categorize services not by how the technical definitions of the technology employed fit within the Telecommunications Act, but by their functional nature.¹⁸⁵ In other words, the service would be classified by how the consumer uses it—a phone, whether VOIP-enabled or connected to the PSTN, would be treated as the same type of service under this model.¹⁸⁶

Another concern of NARUC is the potential for incumbent phone companies—who offer the only facilities to the consumer’s premises in some markets—to assert a monopoly-like market power in some locations.¹⁸⁷ NARUC would remedy this potential problem by allowing a light regulatory touch on the VOIP markets—something not provided by the VOIP Regulatory Freedom Act.¹⁸⁸

Finally, NARUC believes that the issue of inter-carrier compensation must be addressed by any Congressional action directed at the VOIP industry.¹⁸⁹ Inter-carrier compensation is essentially a government-mandated mechanism for allowing service providers to lease capacity on the facilities of other service providers that own the lines running to the end-customer’s premises.¹⁹⁰ This would allow, for example, a VOIP provider to operate on the networks of an incumbent phone or cable company for a set rate and with a guaranteed level of service.¹⁹¹ NARUC appears to be correct when it states that without adequate guidance in this area, traditional telecommunications networks—on which VOIP and other services depend—could collapse due to an inadequate compensation scheme.¹⁹² The possibility of this type of failure is even more likely for rural phone companies, which have fewer customers per facility among which to spread costs.¹⁹³ Accordingly, the organization would provide provisions to guard against this danger in any legislation addressing VOIP regulatory treatment.¹⁹⁴

[merce.senate.gov/hearings/testimony.cfm?id=1230&wit_id=3541](http://commerce.senate.gov/hearings/testimony.cfm?id=1230&wit_id=3541).

184. *See id.*

185. *See id.*

186. *See id.*

187. *See id.*

188. *See id.*

189. *See id.*

190. For a more detailed description of inter-carrier compensation, see Candeub, *supra* note 26, at 37.

191. *See id.*

192. *See Wise Testimony, supra* note 183.

193. *The VOIP Regulatory Freedom Act of 2004: Hearing on S. 2281 Before the S. Comm. on Commerce, Science & Transportation*, 108th Cong. (2004) [hereinafter Macias Statement] (statement of Mr. Arturo “Archie” Macias, General Manager, Wheat State Telephone Company), available at <http://commerce.senate.gov/pdf/macias061604.pdf>.

194. *Id.*

E. The VOIP Industry's Rebuttal Arguments

The VOIP industry responded to many of these arguments by suggesting that market forces would be adequate to deal with most of these issues.¹⁹⁵ They cited the “four simple Internet Freedoms” recently enumerated by then-FCC Chairman Michael Powell as support for this position.¹⁹⁶ These are the freedom of the consumer to: (1) access content of their choosing; (2) use applications of their choosing; (3) attach personal devices of their choosing; and (4) obtain information about service plans.¹⁹⁷ By assuring that these freedoms are protected, the government can “preserve consumer choice, foster competition, and promote investment in infrastructure and Internet applications.”¹⁹⁸ The industry argues that if these freedoms are to be preserved, any regulation must be reserved for the federal government:

[The VOIP industry] cannot be subjected to a multitude of disparate, irreconcilable, cumbersome, and economically debilitating local rules. It is evident that IP-based communications obliterate traditional geographic distinctions and jurisdictional categories. In fact, IP-based communications transcends [sic] national borders. An IP-based communications service provider could deliver services to residents in Arizona, from a computer based in South Carolina, or even from a computer in Australia.¹⁹⁹

Following this general premise, the industry argues that government can best accomplish most of the policy goals relevant to VOIP by “push[ing] [the] industry to develop solutions that work best for particular technologies and network configurations while achieving the desired . . . goals.”²⁰⁰ For example, Vonage, driven mostly by customer demand for E911 services, has been working with government agencies to supply these services to its customers for some time now.²⁰¹ Further, the VOIP industry argues that “[v]oice, in an IP-based world, is really no different than other applications such as data, video, email, instant messaging, and presence applications. Legislation should logically exclude all IP-based applications, not just voice, from unnecessary government interference.”²⁰²

Although it would prefer little or no regulation of VOIP, the industry does recognize that there are some policies that probably cannot be achieved

195. *The VOIP Regulatory Freedom Act of 2004: Hearing on S. 2281 Before the S. Comm. on Commerce, Science & Transportation*, 108th Cong. (2004) [hereinafter Pulver Testimony] (testimony of Mr. Jeff Pulver, President & CEO, pulver.com), available at http://commerce.senate.gov/hearings/testimony.cfm?id=1230&wit_id=3542.

196. *See id.*

197. *See id.*

198. *Id.*

199. *Id.*

200. *Id.*

201. *See In re Vonage Holdings Corp.*, 19 F.C.C.R. 22,404 at 22,431 (2004).

202. Pulver Testimony, *supra* note 195.

through market forces alone, and some government intervention is, therefore, justified.²⁰³ Among these policies are universal service programs, which they suggest could be enlarged to become a “Universal Broadband” policy.²⁰⁴ Many believe that such a policy would significantly help rural economies because a lack of adequate broadband resources is a serious barrier to economic development in these areas.²⁰⁵ Furthermore, the industry believes that inter-carrier compensation issues, which the industry maintains need to be spelled out more clearly, should be subject to regulation.²⁰⁶ Additionally, the VOIP industry concedes that it might be necessary for the government to intervene if one service provider gains a large enough market share to exert monopoly power.²⁰⁷ Finally, the industry would like clear restatements of the law as soon as possible, so that its members “may proceed and make business decisions with certainty.”²⁰⁸

F. An Alternative Model for Regulating the Telecommunications Industry

In addition to the functional model advocated by NARUC and the traditional model based on dividing communications into telecommunications and information services, commentators have proposed at least one other model—the “Layers Model Framework.”²⁰⁹ This model presents a significantly different prism through which to view VOIP. This framework is more closely aligned with the underlying engineering principles used to develop our modern communications systems.²¹⁰ It would essentially start by combining all types of communications technologies—both regulated and unregulated—into one comprehensive regulatory framework.²¹¹ Then, instead of dividing them into smaller units based upon either the service provided, the geographic boundaries, the technologies employed, or some other “vertical” method, they would be regulated “horizontally,” using a “Layers Model Framework.”²¹²

Although commentators suggest models with differing numbers of layers, all of these models have at least three basic levels,²¹³ including the

203. See *id.* (noting that some regulation might be warranted when “a particular social good or policy goal” would not be achievable otherwise).

204. See *id.* (“Companies like mine want to bring the promise of IP-based communications to all Americans and to all the world . . .”).

205. See, e.g., Al Senia, *VoIP Plays Role in Economic Revitalization*, AMERICA’S NETWORK, July 15, 2004, at 13, 13.

206. Pulver Testimony, *supra* note 195.

207. *Id.* Pulver appears to contemplate the market power a Regional Bell Operating Company (RBOC) could exert if it became the dominant provider of VOIP in a geographic region. See *id.*; Senia, *supra* note 205, at 14 (noting that small cities are ignored by RBOCs).

208. Pulver Testimony, *supra* note 195.

209. Richard S. Whitt, *A Horizontal Leap Forward: Formulating a New Communications Public Policy Framework Based on the Network Layers Model*, 56 FED. COMM. L.J. 587, 592 (2004).

210. *Id.* at 594.

211. *Id.* at 591.

212. *Id.* at 592.

213. See *id.* at 617, 621-22.

“physical network layer,” “the logical layer,” and the “content layer.”²¹⁴ Under this model, the “physical network layer” would consist of the physical medium, such as a phone or cable connection used to deliver services to a user and would be regulated as telephone services traditionally have been.²¹⁵ The “logical layer” would consist of the underlying communications protocols concerning how the data is formatted and routed, and would be subject to its own regulations.²¹⁶ Finally, the “content layer” would consist of the applications that are actually employed by the end-user and would allow for regulation of issues like intellectual property rights and obscenity.²¹⁷ Although several more layers would probably be necessary to implement such a model in practice, the underlying theories would be the same.²¹⁸

For example, instead of trying to regulate (or exempt from regulation) an e-mail—including its content, functionality, and the phone lines on which it travels—from sender to receiver with one body of regulations, the horizontal model would regulate these aspects individually.²¹⁹ This model has the advantage of providing a consistent treatment of competing technologies that the current framework does not provide.²²⁰ It treats all physical connections equally; all data formats equally; and all applications which a consumer uses, such as VOIP, equally.²²¹ Therefore, physical connections to consumers would be regulated consistently regardless of what medium is employed.²²² This approach contrasts sharply with the differing treatment of cable and phone companies that is a result of the current scheme.²²³ Similarly, content could be regulated separately regardless of how the consumer accesses it.²²⁴

The underlying markets for communications services also more closely resemble this structure than the framework currently in use.²²⁵ Therefore, the government would theoretically be able to tailor regulations to specifically accommodate the competitive conditions of markets at each layer.²²⁶

If this model were implemented, VOIP would simply be another type of application, subject to regulation only for content purposes.²²⁷ Almost all of the public policy concerns mentioned above could be addressed in some way by regulations at the “physical network layer,” bringing cable compa-

214. *Id.* at 617 (quoting Robert Cannon, *The Legacy of the Federal Communication Commission's Computer Inquiries*, 55 Fed. Comm. L.J. 167, 195 (2003)).

215. *See id.* (citing Cannon, *supra* note 214, at 195).

216. *See id.*

217. *See id.*

218. *See id.* at 621-24.

219. *Id.* at 617.

220. *See id.*

221. *Id.* at 618.

222. *See id.* at 616-19.

223. *See id.* at 615-16.

224. *See id.* at 623.

225. *Id.* at 615-16.

226. *Id.* at 617.

227. *Id.* at 662-65.

nies, wireless providers, and satellite providers under a regulatory scheme similar to the one imposed on the phone companies today.²²⁸

VII. FCC REGULATION OF VOIP E911 SERVICE

In early 2005, some VOIP service providers did not offer any 911 service, while others required their customers to request that the service be activated.²²⁹ Others had been developing and improving their 911 offerings of their own volition for quite a while.²³⁰ During this time, some of the predicted shortcomings of VOIP began to manifest themselves in the real world. In at least three instances, VOIP subscribers tried to dial 911 during an emergency and were unable to connect to a 911 operator.²³¹ During one incident in February of 2005, a Vonage subscriber attempted to dial 911 during a home invasion burglary after her parents were shot by intruders.²³² A voice message informed her that emergency access was not available on her line.²³³ Fortunately, the attackers fled and the victims survived their injuries.²³⁴ This incident prompted the Texas Attorney General's Office to file suit against Vonage alleging that the company is "deceiving consumers by not revealing in its television commercials, brochures or other marketing materials that customers must proactively sign up for 9-1-1 service."²³⁵ Similarly, VOIP customers in both Connecticut and Florida were unable to reach a 911 operator when their children needed urgent medical attention.²³⁶

Some state Attorneys General responded to this problem by pushing VOIP providers to give more explicit disclosures about the 911 capabilities of their services.²³⁷ However, the FCC order referenced in the *Vonage* appeal made it clear that the states could not directly regulate the 911 services of VOIP providers.²³⁸

Upon learning that some VOIP subscribers were having difficulties accessing emergency services, the FCC acted quickly and decisively to remedy the situation. On June 3, 2005, it released an order requiring many

228. *Id.* at 653-63.

229. *See* Press Release, Office of the Attorney Gen. of Tx., Texas Attorney General Abbot Takes Legal Action to Protect Internet Phone Customers (Mar. 22, 2005) [hereinafter Press Release, Texas Attorney General], <http://www.oag.state.tx.us/oagnews/release.php?id=850>.

230. *See, e.g.*, Press Release, Vonage Holdings Corp., Vonage Announces Participation in NENA's Next-Generation E9-1-1 Forum (Oct. 14, 2004), http://www.vonage.com/corporate/press_911.php?PR=2004_10_14_3.

231. *See, e.g.*, Press Release, Texas Attorney General, *supra* note 229; *see* Press Release, Conn. Attorney Gen.'s Office, Attorney General Warns Consumers That Certain Internet Phone Services Offer Limited or No 9-1-1 Access (Apr. 25, 2005) [hereinafter Press Release, Connecticut Attorney General], <http://www.ct.gov/ag/cwp/browse.asp?a=1949> (follow link to Apr. 25, 2005); Alicia A. Caldwell, *Pair Crusades for Better Access to 911 from High-Tech Phones*, ORLANDO SENTINEL, May 7, 2005, at B1.

232. Press Release, Texas Attorney General, *supra* note 229.

233. *Id.*

234. *Id.*

235. *Id.*

236. Press Release, Connecticut Attorney General, *supra* note 231; Caldwell, *supra* note 231.

237. *See, e.g.*, Press Release, Texas Attorney General, *supra* note 229.

238. *In re Vonage Holdings Corp.*, 19 F.C.C.R. 22,404 at 22,430-33 (2004).

VOIP service providers to provide 911 services to all of their customers within 120 days.²³⁹ While the Commission has yet to adopt a formal definition of VOIP, it has used the term in reference to “any IP-enabled services offering real-time, multidirectional voice functionality, including, but not limited to, services that mimic traditional telephony.”²⁴⁰ The Commission believed that these new requirements “discharge[] the Commission’s statutory obligation to promote an effective nationwide 911/E911 emergency access system by recognizing the needs of the public safety community to get call back and location information and balancing those needs against existing technological limitations of interconnected VoIP providers.”²⁴¹

The new 911 requirements do not apply to all VOIP services, only those that are “interconnected.” The order defines an interconnected VOIP service as having the following attributes:

- (1) [T]he service enables real-time, two-way voice communications;
- (2) the service requires a broadband connection from the user’s location;
- (3) the service requires IP-compatible [customer premises equipment];
- and (4) the service offering permits users generally to receive calls that originate on the PSTN *and* to terminate calls to the PSTN.²⁴²

Limiting the order’s scope to these services makes sense because these are the types of VOIP services that consumers would most likely expect to function like a standard telephone in emergency situations.²⁴³ These are the services that customers would use for all practical purposes as a replacement for their traditional telephone service.²⁴⁴ On the other hand, a consumer would probably not reasonably expect VOIP services used in conjunction with applications such as online gaming (which do not allow calls to be sent to or received from the PSTN) to provide access to emergency services.²⁴⁵ The definition of interconnected services adopted by the Commission quite sensibly excludes these types of services from its scope.

As previously indicated, the portable nature of VOIP presents special problems for 911 operators attempting to determine the location of a caller.²⁴⁶ In fact, VOIP service providers usually have no way of determining the origin of a customer’s call.²⁴⁷ The Commission hopes to alleviate this problem by requiring that interconnected VOIP providers acquire a

239. *In re IP-Enabled Services*, F.C.C. 05-116, ¶ 37 (May 19, 2005) (First Report and Order and Notice of Proposed Rulemaking).

240. *Id.* at 18 (quoting 19 F.C.C.R. at 4866, para. 3 n.7).

241. *Id.* at 22.

242. *Id.* at 13 (footnotes omitted).

243. *Id.* at 12-13.

244. *Id.*

245. *Id.* at 12 n.72.

246. *See supra* Part III.C.

247. *See In re IP-Enabled Services*, F.C.C. 05-116, ¶ 25 (May 19, 2005) (First Report and Order and Notice of Proposed Rulemaking).

“Registered Location” for each of their customers.²⁴⁸ The Registered Location is defined as “the physical location at which the service will first be utilized.”²⁴⁹ This Registered Location could then be passed on to the emergency services provider if a customer makes a 911 call over their interconnected VOIP service. Additionally, the order requires interconnected VOIP providers whose service is portable to provide their customers with the ability to update their physical location in a timely manner as it changes.²⁵⁰ However, there will probably be some delays in refreshing the location information of a customer after it has changed, at least initially.²⁵¹ At present, there is no way for the location of a portable VOIP device to be updated automatically without the participation of the customer; although, numerous methods have been proposed.²⁵² Nevertheless, in the future, the Commission plans to adopt an order requiring “an advanced E911 solution for [portable] interconnected VoIP that must include a method for determining a user’s location without assistance from the user.”²⁵³

Next, the Commission prohibited interconnected VOIP providers from allowing their customers to opt-out of E911 service, and it required providers, as a condition of providing service, to afford E911 service to all of their customers.²⁵⁴ The E911 service provided by interconnected VOIP providers “must transmit all 911 calls, as well as a call back number and the caller’s ‘Registered Location’ for each call[] to the . . . designated statewide default answering point, or appropriate local emergency authority that serves the caller’s Registered Location and that has been designated for telecommunications carriers under . . . the Commission’s rules.”²⁵⁵ The Commission left interconnected VOIP providers to choose among the following methods to satisfy these requirements:²⁵⁶ 1) interconnecting to the E911 network indirectly through a third party, 2) interconnecting directly to the E911 network, or 3) employing any other method that allows them to provide E911 service.²⁵⁷

In addition to access requirements, the order imposed upon interconnected VOIP providers the requirement to “advise every subscriber, . . . in plain language, the circumstances under which E911 service may not be available through the interconnected VoIP service or may be in some way limited by comparison to traditional E911 service.”²⁵⁸ Finally, the order

248. *Id.* at 22-23.

249. *Id.* at 27.

250. *Id.*

251. *See id.* at 27 n.143 (stating that updating location could require between 24 and 48 hours). However, by utilizing the same type of system as the E911 architecture for mobile phones, the Registered Location could eventually be updated in real time. *Id.*

252. *Id.* at 33.

253. *Id.* at 22.

254. *Id.* at 28.

255. *Id.* at 22-23 (citing 47 C.F.R. § 64.3001 (2004)) (footnotes omitted).

256. *Id.* at 23-24.

257. *Id.* at 1.

258. *Id.* at 29.

requires that all interconnected VOIP providers issue warning stickers, which explain their services' E911 limitations and instruct their customers to place the warning near their VOIP device.²⁵⁹

VIII. ANALYSIS

A. Regulation of VOIP

After a careful consideration of the arguments set out above, it is apparent that some regulation of VOIP is necessary to promote important government policies such as universal service, E911, and competitive markets. Although the level of regulation required to achieve these policy goals is debatable, even die-hard supporters of keeping the VOIP industry free from "cumbersome" rules concede that a complete laissez-faire approach would be inappropriate.

However, the argument that regulation of VOIP must necessarily come from the federal government—and not the states—has some problems. The rationale most frequently cited for federal regulation—the undue burden of having to comply with fifty different regulatory frameworks—is not a problem unique to VOIP. A number of industries are currently subject to regulations or laws that vary from state to state. There is no doubt that these industries would prefer this collage of rules to be replaced by a single legal framework as well. They would probably cite the same justifications that the VOIP industry is championing, and there would seem to be little reason to allow freedom from regulation in one context and not the other.

On the other hand, the fact that most other enterprises are more closely associated with their physical location than VOIP providers could offer a justification for treating VOIP differently and regulating it at the federal level. VOIP is more akin to a trucking company or a railroad than to an industry where companies operate in fixed locations in multiple states. Federal laws specific to transportation industries prevent the kinds of disruptions that could be caused by inconsistent state laws.²⁶⁰ The geographic independence of a VOIP provider could justify similar federal preemption for its services.

Another justification for federal regulation seems to lie in the interstate nature of any call placed on a VOIP network and the impossibility of separating interstate components from intrastate components. Even if tracing software allows the originating point and terminating point of a VOIP communication to be determined, there is no way to be sure that any call—even one placed to a neighbor across the street—consists entirely of intrastate packets of data. The packets could conceivably travel out of the state and back into the state again before being reassembled on your neighbor's

259. *Id.* The requirements of this order have been embodied in final rules at 47 C.F.R. §§ 9.1, 9.3, and 9.5.

260. *See, e.g.*, 13 AM. JUR. 2D *Carriers* § 34 (2000).

premises. If all of the packets of a VOIP call do not necessarily stay within the state, it seems that all VOIP calls would have the potential to be interstate in nature and should therefore be subject to federal—and not state—regulation. Under this approach, the only real interest the states would have in VOIP regulation would be powers related to consumer protection, such as deceptive advertising practices and similar issues.

The Layers Model Framework seems to be the best method of addressing most of these regulatory concerns. It would allow almost all of the policy goals outlined above to be accomplished by regulation of the “physical network layer.” It seems to be an elegant solution that bases law upon reality, instead of attempting to cram new network technologies into our existing legal definitions. However, implementing such a scheme would require a major change in thinking by Congress, the FCC, and numerous industries, and it would no doubt take years to implement. Additionally, it might prove to be too cumbersome in practice to segregate each individual layer for regulatory purposes.

The recent FCC order imposing E911 requirements on interconnected VOIP providers could foreshadow more comprehensive regulation of this technology in the future. If it becomes possible to update the Registered Location of a consumer automatically and in real time for E911 purposes and to make that information available for other purposes, then many of the jurisdictional issues discussed above would disappear.

B. Taxation of VOIP

If VOIP service is just another facet of the overall Internet experience, it makes little sense to tax it, while at the same time leaving other aspects of Internet service free from taxation. This policy appears to single out VOIP based on deceptive and superficial similarities between it and traditional telephone services.

However, assuming for the moment that VOIP should be taxed, who should collect the revenue? If the states are to collect the revenue, assuming that the location problems discussed above can be resolved, which state should get to tax the call? The state where the call originated, or the state where the customer’s billing address is located?²⁶¹ Looking at how customers view phone service, it makes more sense to tax VOIP usage at the consumer’s place of residence—where they are billed for the service—rather than the location from which the call originates. This approach seems consistent with how a number of other consumer items are taxed. For example, even though automobile owners can drive their cars in multiple states, they generally only pay taxes and registration fees for the cars in their state of residence.²⁶² The same general reasoning should apply to VOIP services as

261. These answers will not necessarily be the same. See *supra* Part III.C for a more detailed discussion of the problems associated with locating a VOIP caller.

262. See, e.g., 7A AM. JUR. 2D *Automobiles and Highway Traffic* § 60 (1997).

well and cuts in favor of taxation by the state where the customer is billed. Additionally, from a practical standpoint, this method would likely be much easier for a state to implement than a method based on caller location.

Theoretically, the federal government would have no problem placing a tax analogous to the federal excise tax for telephone calls on VOIP. Although there would be some international taxation issues involved with such a tax, determining taxation authority based on the billing address of the caller would again be a relatively simple solution.

Applying the layered network approach to VOIP, the physical connection to the consumer could also be taxed. This model would allow for taxation by both the federal and state governments. Such a tax could be in the form of a flat tax on access, a bit tax based on usage of all applications (including VOIP) that use the access line,²⁶³ or perhaps, a tax based on the consumer's connection speed. Taxing a physical line based on connection speed would be a relatively efficient way to collect revenue and avoid some of the jurisdictional issues outlined above. Further, such a scheme would go far in bearing some relation to the consumer's usage while not presenting an excessively burdensome, chilling effect on consumer use of communications technologies.

IX. CONCLUSION—WHAT DOES THE FUTURE HOLD FOR VOIP?

While the VOIP Regulatory Freedom Act was not ultimately enacted, the debate surrounding its introduction provides a preview of what we can expect from Congress over the next few years. As matters now stand, there are many unsettled questions concerning VOIP and communications services in general.

Many of these questions concern the scope of the FCC's authority over VOIP. The FCC's recently imposed 911 requirements for interconnected VOIP providers could signal the beginning of further federal regulation of VOIP for other purposes, such as universal service.

Perhaps the most important question in communications regulation today is whether Congress will enact a revised Telecommunications Act in the near future. Many of the problems described in this Comment result from attempts to apply the definitions developed in the 1996 Act to new technologies that make those classifications obsolete. Adopting fundamentally new definitions would certainly alleviate many of these problems. Approaching all of these issues as communications technology problems and not as either a telecommunications service or information service problem

263. The idea of a bit tax has been previously proposed and is considered by many to be a bad idea. See, e.g., Charles E. McLure, Jr., *Taxation of Electronic Commerce: Economic Objectives, Technological Constraints, and Tax Laws*, 52 TAX L. REV. 269, 275 (1997). Currently, the ITFA bans this form of taxation. Generally, we try to impose excise taxes on things that we want to discourage use of such as tobacco, alcohol, and gasoline. Communications arguably should not fall into this category. For a more detailed discussion of bit taxes, see Kevin J. Smith, *Internet Taxes: Congressional Efforts to Control States' Ability to Tax the World Wide Web*, 7 RICH. J.L. & TECH. 3 (2000).

would bring additional clarity to these issues. The Layers Model Framework provides one mechanism for approaching communications services in a unified way.

While VRFA takes steps in the right direction for clearing up some of these problems, a bill of that nature might not go far enough to cure the problems in the current scheme. At its heart, VRFA appears merely to patch some of the problems that have arisen in the wake of the Telecommunications Act of 1996, and it does not address the underlying definitional problems that have caused them. If Congress enacted a bill like this, it would likely require supplements and piecemeal modifications every few years. Congressional resources might be better spent on a massive overhaul of the Telecommunications Act itself, perhaps based on the Layers Model Framework, but this would be a major undertaking with far-ranging repercussions in areas not directly related to VOIP.

The emergence of even more advanced technologies such as Media Over Packet (MOP) technology is also relevant to VOIP debates. MOP is not really a substitute for VOIP but is a more generic category of next-generation services that could grow to encompass the functionality provided by VOIP as well as instant messaging, fax, and video applications.²⁶⁴ Conceivably, any stopgap efforts to fix the issues VOIP has raised will be undone by widespread use of this newer technology; although, regulation based on the Layers Model Framework could probably accommodate MOP.

At least for the time being, it seems that the courts, the FCC, and the states are managing to adapt themselves to these new technologies in spite of the current system's inability to categorize them precisely. Perhaps they will continue to do so until Congress speaks definitively on this matter and finally determines how VOIP and other advanced technologies should fit into our regulatory and taxation frameworks. In the meantime, we should discover for ourselves how these new technologies can fit into our lives.

Clinton Howard Brannon

264. Sam Omatseye, *As VOIP Evolves, MOP Lurks in the Shadows*, RCR WIRELESS NEWS, Aug. 2, 2004, at 4.