
The Regulation of Voice-Over-Internet-Protocol in the United States, the European Union, and the United Kingdom

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ABSTRACT

The objectives of this study are to: (1) define Voice-Over-Internet-Protocol (“VoIP”), its typology, and switching characteristics; (2) present, in some detail, U.S. VoIP law and policy and the major issues surrounding it; (3) briefly cover the highpoints of E.U. and U.K. VoIP regulation and compare it to that of the U.S.; and (4) draw conclusions pertaining to the future development of VoIP law and policy.

VoIP is a technology allowing the user to make telephone calls over the Internet. In the U.S., the Federal Communications Commission (“FCC”) is presently engaged in rulemaking pertaining to many VoIP-related issues: jurisdiction, regulatory criteria, whether to maintain a bias toward non-regulation, rate of substitution, degree of divergence in rules for different classes of firms, recent innovations, disability access, provision of “911” services, access charges, universal service charges, consumer protection, economic regulation, wireless-based service, cable-based service, rural service, and law enforcement surveillance. On November 9, 2004, the FCC ruled that it has jurisdiction to regulate VoIP, not state public utility commissions.

After VoIP-regulation in the European Union and in the United Kingdom is concisely covered, a comparison is made among the U.S., E.U., and U.K. In all three, VoIP has enjoyed

the luxury of being virtually unregulated; this deliberate bias by the respective regulatory bodies in favor of non-regulation has been made in order to foster its growth. Looking to the future, however, the three regulatory bodies agree on this point: As VoIP service continues to improve and becomes a viable substitute for traditional telephone service, the greater the likelihood that VoIP regulation will increase.

TABLE OF CONTENTS

I. OBJECTIVES OF THE STUDY	164
II. WHAT IS VoIP?	164
Four Types of VoIP Calling	165
Computer-to-Computer	
Computer-to-Telephone	
Telephone-to-Computer	
Telephone-to-Telephone	
Circuit-Switching vs. Packet-Switching	165
III. VoIP LAW AND POLICY: THE UNITED STATES	166
VoIP: An “Information Service”	166
VoIP: Doesn’t Contribute to Universal Service Fund	167
VoIP: Doesn’t Pay Access Charges	168
The Unsuccessful “VoIP Regulatory Freedom Act of 2004”	169
The FCC’s Present Rulemaking on VoIP.	169
Regulatory Criteria	
Bias Toward Non-Regulation While Keeping it as an Option	
Different Rules for Different Classes of Firms?	
Recent Innovations	
Disability Access	
“911” Services	
Access Charges	
Universal Service	
Consumer Protection	
Economic Regulation	
Wireless-based VoIP	
Cable-based VoIP	
Rural VoIP Services	
Law Enforcement Surveillance	
F. The FCC Decisions of November 9, 2004	174
IV. VoIP LAW AND POLICY: THE EUROPEAN UNION	176
The Draft Notice	176
The Status Notice: Four Regulatory Criteria	176
The EU Directive: Services vs. Networks	178
Future Regulation?.	178
V. VoIP LAW AND POLICY: THE UNITED KINGDOM	179
Before 25 June 2003	179
After 25 June 2003	179
Current Rulemaking	180
VI. TOWARDS AN INTERNATIONAL REGULATORY	
SCHEME FOR VoIP	180
VII. CONCLUSIONS	181

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I. OBJECTIVES OF THE STUDY

The objectives of this study are to: (1) define Voice-Over-Internet-Protocol (“VoIP”), its typology, and its switching characteristics; (2) present, in some detail, U.S. VoIP law and policy and the major issues surrounding it; (3) briefly cover the highpoints of E.U. and U.K. VoIP regulation and compare them to that of the U.S.; and (4) draw conclusions pertaining to the future development of VoIP law and policy.

II. WHAT IS VOIP?

VoIP is a technology allowing the user “to make telephone calls using a broadband Internet connection instead of a regular (or analog) phone line.”¹ Some VoIP services allow the user to only call those using the same service, while others allow the user “to call anyone having a telephone number—including local, long distance, mobile, and international numbers.”² Some services only work through the user’s computer or a special VoIP telephone, but other services allow the user to use the traditional Public Switched Telephone Network (“PSTN”) with an adaptor.³ VoIP’s popularity is booming; business usage is increasing at an annual rate of 71 percent, and Vonage (a leading VoIP provider) reports it is adding 20,000 new customers each month.⁴

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1. Federal Communications Commission, *FCC Consumer Facts: VoIP/Internet Voice* at <http://www.fcc.gov/cgb/consumerfacts/voip.html> (last visited Mar. 23, 2005).

2. *Id.*

3. *Id.*

4. Eric Hellweg, *Untangling Internet Telephony*, TECHNOLOGY REVIEW, May 28, 2004, available at http://www.technologyreview.com/articles/04/05/wo_hellweg052804.asp?p=1 (last visited Mar. 23, 2005).

A. Four Types of VoIP Calling

There are four means of talking to another person using VoIP:

1. Computer-to-Computer: Calling from one computer to another is the easiest method to use. All that is needed is some software (typically free), a microphone, speakers, a sound card and a broadband connection to the Internet. Ordinarily, computer-to-computer calls are free regardless of the distance.⁵
2. Computer-to-Telephone: Anyone having a telephone can be called from a computer. Software (typically free) is required, just as in computer-to-computer calling. However, the calls often have a small per-minute charge.⁶
3. Telephone-to-Computer: Some telephone companies provide special numbers or calling cards which enable a telephone customer to call someone with a computer. The disadvantage is that this will not work unless the recipient's computer has installed the telephone company's software. However, this type of long-distance call is much cheaper than a traditional long-distance call.⁷
4. Telephone-to-Telephone: Using "gateways," any telephone in the world can connect with any other telephone. The user must first dial into a service provider's gateway, which in turn connects the user through its Internet network. The extra step of having to dial into the service provider's gateway is a disadvantage but the long distance rates are usually much cheaper than traditional long distance service.⁸

B. Circuit Switching vs. Packet Switching

The traditional type of technology used in transmitting telephone calls is circuit switching. When two parties converse in a traditional telephone call, the circuit is maintained for the duration of the call. This process is inefficient because the circuit is in effect even when the two persons are not talking and the line is not being used. In other words, the line is wasted whenever it is not being used, i.e.,

5. Jeff Tyson & Robert Valdes, *How IP Telephony Works*, HOW STUFF WORKS at 2, at <http://computer.howstuffworks.com/ip-telephony.htm> (last visited Mar. 23, 2005).

6. *Id.*

7. *Id.* at 4-5.

8. *Id.*

when the persons are not talking.⁹

A technology superior to circuit switching exists; it is known as packet switching. VoIP employs this technology. Packet switching keeps the circuit active just long enough for the communications to be transmitted. How is this accomplished? “The sending computer chops data into . . . small packets, with an address on each one telling the network where to send them. When the receiving computer gets the packets, it reassembles them into the original data.”¹⁰ The advantages of packet switching over circuit switching are numerous: reduced time of maintaining the circuit, a computer can accept information from numerous other computers simultaneously, and reduced cost of transmission of the message. Because of these advantages, packet switching is expected to eventually replace circuit switching entirely.¹¹

III. VOIP LAW AND POLICY: THE UNITED STATES

A. VoIP: An “Information Service”

The Telecommunications Act of 1996¹² distinguished “telecommunication service” from “information service.” This is a critical distinction because telecommunication services are burdened with more regulation than information services.

The Act defined “Telecommunication 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.”¹³ In contrast, “information service” was defined 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.”¹⁴

The FCC interpreted these definitions to mean that PSTN firms provide “telecommunications service,” but Internet service providers and VoIP are an “information service” and are not subject to

9. *Id.*

10. *Id.*

11. *Id.* at 2-3.

12. 47 U.S.C. § 151 et seq. (2005).

13. *Id.* § 153(46).

14. *Id.* § 153(20).

regulation.¹⁵ Hence, to date, VoIP has been allowed to develop largely unburdened with regulation. However, it is important to note that the FCC observed that telephone-to-telephone VoIP closely resembles a “telecommunications service” and may be subject to future regulation.¹⁶

B. VoIP: Doesn't Contribute to Universal Service Fund

Pursuant to a directive of Congress, the FCC administers the Universal Service Fund (“USF”).¹⁷ The purpose of the USF is to generally promote access to reasonably-priced telecommunications services on a nationwide basis. Specifically, the USF is designed to collect funds from telecommunications service providers and use them to finance the following types of activities:

1. Providing discounted telephone service to low-income persons;
2. Subsidizing telecommunications firms which provide telephone service in areas where the cost of providing such service is high;
3. Giving financial aid to schools and libraries so they can access educational resources available via the telecommunications network; and
4. Helping health-care organizations in rural areas access advanced diagnostic and medical services which are ordinarily employed in urban areas.¹⁸

Long distance telephone firms, local telephone firms, wireless telephone companies, paging companies and even payphone providers are required to make USF “donations” if their service crosses state lines.¹⁹ The USF charges may be passed on to the consumer in the form of higher charges for services. To date, VoIP providers have not been required to pay USF charges. PSTN firms contend that this gives VoIP providers an unfair advantage in the pricing of their services.²⁰

15. *In re Federal-State Joint Board on Universal Service*, 13 F.C.C. Rcd 11501, 11503-04 (1998).

16. Hank Intven et al., *Internet Telephony: The Regulatory Issues*, 21 HASTINGS COMM. & ENT. L.J. 1, 5 (1998).

17. See 47 U.S.C. § 151 et seq. (2005).

18. Federal Communications Commission, Consumer & Governmental Affairs Bureau, *Universal Service Fund Increases: What Every Consumer Should Know*, at <http://ftp.fcc.gov/cgb/consumerfacts/usfincrease.html> (last visited Mar. 23, 2005) [hereinafter Universal Service Fund].

19. *Id.*

20. *Id.*

C. VoIP: Doesn't Pay Access Charges

Access charges provide additional financing for the universal service program. Access charges are per-minute fees paid by U.S. long-distance and cellular firms to local telephone companies for the right to "originate and terminate phone calls on the local networks."²¹ Access charges apply to both incoming and outgoing calls.²² Since the mid-1990's, the local telephone companies have argued that access charges should be imposed on Internet service providers (ISPs) because their customers utilize the local telephone lines. The additional Internet use reduces the amount of time that the lines are available for telephone calls.²³ This argument has increased in intensity since the advent of VoIP providers because the telephone companies are afraid that Internet telephony will begin to replace their service and that additional revenues will be lost. Local telephone companies contend that VoIP is a telecommunications service, not an information service, and should be mandated to pay access charges.²⁴

In response to the concerns of the local telephone firms, the FCC requested public comment on the payment of access charges by ISPs in December, 1996.²⁵ On May 7, 1997, the FCC reached a decision to continue to not charge access fees to the ISPs. The reason? Because the FCC ruled that ISPs are "enhanced service providers," i.e., they are "end users" of the telephone lines rather than "carriers."²⁶ As a result of this decision, ISPs are not required to pay interstate access charges. Like other business users of telephone lines, however, ISPs continue to pay a flat monthly charge for their business lines and a per-minute charge for outgoing calls. They are not currently required, however, to pay the access fee, i.e., a per-

21. Dennis W. Moore, Jr., *Regulation of the Internet and Internet Telephony Through the Imposition of Access Charges*, 76 *TEX. L. REV.* 183, 188 (1997).

22. Universal Service Fund, *supra* note 18.

23. Jared Sandburg and Thomas E. Weber, *Why the \$19.95 Internet Fees May Not Last*, WALL ST. J., Dec. 24, 1996, at B1.

24. Petition of America's Carriers Telecommunications Association Before the Federal Communications Commission, *In Re The Provision of Interstate and International Interexchange Telecommunications Service via the "Internet," by Non-Tariffed, Uncertified Entities* (filed Mar. 4, 1995), available at http://www.fcc.gov/bureaus/common_carrier/other/actapet.html (last visited Mar. 23, 2005) [hereinafter *Petition of America's Carriers*].

25. Federal Communications Commission, *Fact Sheet on the FCC, Internet Service Providers, and Access Charges*, at http://www.fcc.gov/bureaus/common_carrier/factsheets/ispfact.html (last visited Mar. 23, 2005).

26. *Id.*

minute charge for outgoing calls.²⁷

This ruling did not end the access fee debate. As VoIP telephone-to-telephone technology continued to improve, the quality of the VoIP service began to be more comparable to the traditional telephone service. In its 1998 report to Congress, the FCC noted:

To the extent [the Commission] concludes that certain forms of phone-to-phone IP telephony are ‘telecommunications services,’ and to the extent that providers of those services obtain the same circuit-switching access as obtained by other interexchange carriers, and therefore impose the same burdens on the local exchange as do other interexchange carriers, [the Commission] may find it reasonable that they pay similar access charges. On the other hand, [the Commission] likely will face difficult and contested issues relating to the assessment of access charges on these providers.²⁸

VoIP providers argue against access charges on several fronts.²⁹

D. *The Unsuccessful “VoIP Regulatory Freedom Act of 2004”*

On April 5, 2004, Senator John Sununu (R-N.H.) introduced a bill entitled the “VoIP Regulatory Freedom Act of 2004.” The purpose of this bill is to establish federal jurisdiction over VoIP and to exempt VoIP from carrier access charges, state taxes, and local regulations. The bill would prohibit the FCC from delegating VoIP regulatory authority to state and local governments. To date, however, the bill has failed to garner substantial support because of state resistance to federal regulatory preemption, and also because of a belief that all telecommunications law will be reformed in the near future.³⁰

E. *The FCC’s Present Rulemaking on VoIP*

On March 10, 2004, the FCC issued its “Notice of Proposed Rulemaking” in the matter of IP-enabled services. In a 56-page document, the FCC outlined the development of VoIP and the current issues pertaining to possible regulation of this new medium.³¹

Comments were required to be submitted within sixty days, and

27. Petition of America’s Carriers, *supra* note 24, at 2.

28. *In re Federal-State Joint Board on Universal Service*, Report to Congress, 13 FCC Rcd. 1,591, para. 91 (1998).

29. Moore, *supra* note 21, at 213.

30. Roy Mark, *FCC Mulls November VoIP Vote*, INTERNET NEWS, Oct. 20, 2004, at 3.

31. Federal Communications Commission, *In the Matter of IP-Enabled Services: Notice of Proposed Rulemaking*, at <http://www.state.tn.us/tra/FCCFilings/FCC%20Comments-voip.pdf> (last visited March 23, 2005).

responses to those comments are due within ninety days.³² The Rulemaking process is expected to continue during the remainder of this year and should culminate in a comprehensive framework of decisions pertaining to VoIP regulation.³³

Chairman Michael K. Powell predicts that the current rulemaking will almost certainly result in some VoIP regulation in three areas: universal service, disability access, and emergency 911 service.³⁴ Other VoIP-related issues, as noted below, may also be regulated.

1. *Regulatory Criteria.* A basic issue concerns the categorization of IP-enabled services for determination of whether distinct regulatory treatment should be given. The factors to be considered by the FCC are: (1) whether the IP-enabled service under consideration is functionally equivalent to the PSTN; (2) whether the IP-enabled service can be fully substituted for the PSTN; (3) whether the IP-enabled service can interconnect with the PSTN and use the North American numbering plan; (4) whether the service under consideration merely facilitates peer-to-peer communications between or among end-users, or is a dedicated voice network offering additional enhanced functionality; and (5) whether the service should be regulated as a facility layer, protocol layer, or application layer.³⁵

2. *Bias Toward Non-Regulation While Keeping it as an Option.* At the outset of the Notice, the FCC recognized the dramatic growth in IP-enabled services and acknowledged that this growth was due, in no small part, to “an environment that is free of many of the regulatory obligations applied to traditional telecommunications services and networks.”³⁶ As a general undertaking, the FCC will consider whether the limited regulation of VoIP will continue. That decision-making process will include another look at the issue of whether VoIP is a “telecommunications service” or an “information service.”³⁷ In its “Stevens Report” to the Congress in 1998, the FCC stated that computer-to-computer VoIP should be considered an “information service” and not subject to regulation.³⁸ In the same report, however, the FCC opened the door to categorization of telephone-to-telephone VoIP as an “information service” (with concomitant possibility of regulation) provided four criteria were

32. *Id.* at 1.

33. Yuki Noguchi, *FCC Considers Regulating Internet-Based Phone Calls*, THE WASHINGTON POST, Feb. 13, 2004, at E01.

34. Mark, *supra* note 30, at Appendix, *Statement of Commissioner Michael K. Powell*.

35. Mark, *supra* note 30, at 26.

36. *Id.* at 2.

37. *Id.* at 31.

38. *Id.* at 20.

met: (1) the service was advertised as voice telephony; (2) ordinary touch-tone calls can be placed over the PSTN; (3) customers can call telephone numbers corresponding to the North American Numbering Plan, and associated international agreements; and (4) customer information is transmitted without changing its form or content.³⁹

3. *Rate of Substitution.* The efficiencies of IP-enabled services are now being realized in all other parts of the telecommunications networks. Because of the ever-increasing efficiency—and the associated lower cost—consumers are beginning to substitute VoIP for traditional telephone service. The FCC desires comment on the rate and extent of the substitution.⁴⁰

4. *Different Rules for Different Classes of Firms?* The FCC also recognizes that VoIP is now offered by owners of transmission facilities (e.g., television cable companies and PSTN providers such as AT&T) as well as by non-owners of transmission facilities.⁴¹ A general relevant issue is whether the regulatory rules for these two classes of firms should differ and, if so, how?⁴²

5. *Recent Innovations.* The FCC also is reviewing recent VoIP innovations. New services under consideration for possible regulation include: virtual telephone numbers, directory dialing, automated voicemail attendants, call pre-screening, call forwarding of pre-screened calls to other IP-enabled devices, unified mailboxes, embedding of traditional IP-enabled data services with voice features, and provision of IP-enabled services over cameras, home appliances, digital video recorders, medical devices, and other equipment.⁴³

6. *Jurisdictional Issues.* The FCC has noted that “Packets routed across a global network with multiple access points defy jurisdictional boundaries.”⁴⁴ One of the important questions to be addressed is the establishment of criteria for federal vs. state jurisdiction of VoIP. In other contexts, the FCC has used the end-to-end analysis, i.e., focusing on the end points of a telephone call in order to determine whether it is interstate (invoking federal jurisdiction) or intrastate (invoking state jurisdiction).⁴⁵ However, the difficulty in applying an end-to-end analysis to VoIP is that the points of origination and termination are not always known. In other words, “Does the end-to-end analysis, designed to assess point-to-

39. *Id.* at 20.

40. Mark, *supra* note 30, at 2.

41. *Id.* at 12.

42. *Id.* at 13-14.

43. *Id.* at 15-16.

44. *Id.* at 5.

45. Mark, *supra* note 30, at 29.

point communications, have any relevance in this new IP environment?"⁴⁶ (Refer to "Recent Events," *infra*, for an update on the jurisdictional issue).

7. *Disability Access.* The FCC will consider whether VoIP is currently accessible to disabled persons and whether regulatory changes are needed to improve access. A related issue is whether the accessibility requirements should vary between traditional telephone systems and VoIP. Additionally, the FCC will be considering whether manufacturers of VoIP-related equipment are sufficiently taking into account the needs of disabled users.⁴⁷

8. *"911" Services.* The FCC will engage in rulemaking pertinent to 911 emergency service for Internet telephony. Issues to be considered include whether the 911 service, either in a traditional or enhanced version, is applicable to VoIP. Also to be considered is definition of the critical regulatory 911 infrastructure.⁴⁸ Four criteria are to be used in determining whether VoIP should be required to include 911 service: degree of interconnection with the PSTN; whether there is reasonable expectation of access; the degree to which the service competes with traditional telephony; and whether it is technically and operationally feasible for VoIP to have 911 service.⁴⁹

9. *Access Charges.* As mentioned, VoIP providers have not been paying access charges; this may change. In its Notice, the FCC stated: "As a policy matter, we believe that any service provider that sends traffic to the PSTN should be subject to similar compensation obligations, irrespective of whether the traffic originates on the PSTN, on an IP network, or on a cable network. We maintain that the cost of the PSTN should be borne equitably among those who use it in similar ways."⁵⁰ Given this general policy as a backdrop, the FCC needs to determine how access charges will be assessed and in what instances.⁵¹

In one of its first decisions in the current rulemaking process, the FCC exempted the Free World Dialup Co. from access charges and other state regulations because the firm provides a computer-to-computer service not utilizing the PSTN.⁵²

10. *Universal Service.* As mentioned, VoIP providers have not

46. *Id.* at 29.

47. *Id.* at 21-22.

48. *Id.* at 35-36.

49. *Id.* at 38.

50. Mark, *supra* note 30, at 23.

51. *Id.* at 42-43.

52. *Id.*

been paying into the universal service fund; this may also change. The FCC is considering: (1) whether facilities-based and non-facilities-based VoIP providers should be required to make universal service contributions; (2) reformation of the traditional universal service formula in reference to VoIP; and (3) how the regulatory classification of IP-enabled services will affect each subgroup supported by the universal service fund: high cost, low income, schools and libraries, and rural health care programs.⁵³

11. *Consumer Protection.* Pursuant to the Telecommunications Act of 1996, a number of consumer protections are afforded subscribers of traditional telephony; for example, “Truth-in-Billing” in the customer’s invoice. In the current rulemaking, consideration will be given to whether these consumer protections should be extended to VoIP subscribers.⁵⁴

12. *Economic Regulation.* The rulemaking will consider whether current economic regulations in the Telecommunications Act⁵⁵ should be applied to VoIP providers. These regulations include: (1) a requirement for providers to offer their service “at rates, classifications, and practices that are just and reasonable;”⁵⁶ (2) a prohibition against price discrimination among similarly-situated customers; (3) an obligation to provide telephone number portability; and (4) interconnection requirements.⁵⁷

13. *Wireless-based VoIP.* Pursuant to Title III of the Telecommunications Act of 1996, special regulations may need to be promulgated with respect to VoIP which utilizes wireless telephony.⁵⁸

14. *Cable-based VoIP.* Pursuant to Title VI of the Telecommunications Act of 1996, special regulations may need to be promulgated with respect to VoIP which utilizes television cable.⁵⁹

15. *Rural VoIP Services.* The current rulemaking will consider whether special rules need to be adopted for VoIP offered in rural areas. This is due to the fact that rural providers have “lower subscriber density, smaller exchanges, and a lack of economies-of-scale” in comparison with providers in more urban settings.⁶⁰

16. *Law Enforcement Surveillance.* In this Post-September-11-

53. *Id.* at 42-43.

54. *Id.* at 48-49.

55. Title II of Telecommunications Act of 1996, 47 U.S.C. 201, *et seq.*

56. Mark, *supra* note 30, at 49.

57. *Id.* at 49-50.

58. *Id.* at 46.

59. *Id.* at 47.

60. *Id.* at 51-52.

World, terrorism is a real and present danger. Accordingly, law enforcement authorities have contended they need to be able to monitor VoIP communications. This issue will not be addressed in the current rulemaking, but it will be dealt with by the FCC “in the near future.”⁶¹

F. The FCC Decisions of November 9, 2004

On October 19, 2004, Chairman Powell stated his intention for the FCC to make a determination before the end of the year that VoIP is an interstate service and subject to federal jurisdiction, and therefore not subject to state regulation and taxation.

Speaking at the VON Conference in Boston, Powell stated: “We cannot avoid this question any longer. To 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.”⁶²

Oral arguments were expected to get underway on November 17, 2004 in the case of *Vonage Holdings Corp. v. Minnesota Public Utilities Commission*.⁶³ In that case, the Minnesota Public Utilities Commission was appealing the decision of the Minnesota District Court that VoIP services offered by Vonage are not subject to state regulation because of federal preemption of VoIP.⁶⁴

The FCC did not wait for the Court of Appeals to consider the jurisdictional issue in the *Vonage* case, however. Acting on a petition by the Vonage Holdings Corp. seeking federal preemption of an order of the Minnesota Public Utilities Commission, the FCC rendered a decision on the jurisdictional issue on November 9, 2004.⁶⁵ In a unanimous ruling, the FCC stated that “[A] type of Internet telephony service offered by Vonage Holdings Corp. called Digital Voice is not subject to traditional state public utility regulation.”⁶⁶ The FCC also declared that “[O]ther types of IP-

61. Yuki, *supra* note 33.

62. Donny Jackson, *Carlisle: VoIP Jurisdiction Could Be Settled Soon*, TELEPHONY ONLINE, Oct. 20, 2004, at 1.

63. 290 F.Supp. 2d 993 (D.Mn. 2003).

64. Jackson, *supra* note 62, at 2-3.

65. Stephen Labaton, F.C.C. *Takes on Oversight of Internet Phone Services*, N.Y. TIMES, Nov. 10, 2004, at 1-4, available at www.nytimes.com/2004/11/10/technology/ (last visited Mar. 29, 2005).

66. Federal Communications Commission, *FCC Finds That Vonage Not Subject to Patchwork of State Regulations Governing Telephone Companies*, FCC NEWS, Nov. 9, 2004, at 1, available at <http://www.fcc.gov> (last visited Mar. 23, 2005) [hereinafter *Vonage Not Subject to Patchwork*].

enabled services, such as those offered by cable companies, that have basic characteristics similar to Digital Voice would also not be subject to traditional state public utility regulation.”⁶⁷

In making these declarations, the FCC wanted all concerned parties to know that the FCC—not the state public utility commissions— has “the responsibility and obligation to decide whether certain regulations apply to IP-enabled services.”⁶⁸ The FCC stated that it has the “power to preempt state regulations that thwart or impede federal authority over interstate communications.”⁶⁹ Accordingly, state public utility commissions have no jurisdiction over VoIP and may not require firms providing VoIP service “to obtain a certificate of authority” or to “meet other rules and regulations governing telephone companies.”⁷⁰ The ruling also means that states cannot force VoIP firms to provide 911 service, according to FCC officials.⁷¹

In justifying its decision, the FCC noted that the Vonage VoIP service cannot “practically be separated into intrastate and interstate components, precluding dual state and federal regulatory schemes.”⁷² Since the Vonage customers can use the VoIP service from any broadband Internet connection in the world, it is “difficult to determine whether a call is local, interstate or international in nature.”⁷³ Furthermore, the FCC opined that “preemption was consistent with federal law and policies intended to promote the continued development of the Internet” and that “divergent state rules, regulations and licensing requirements could impede the rollout of such services.”⁷⁴

The FCC chose not to decide whether state laws pertaining to “taxation, fraud, commercial dealings, marketing, advertising and other business practices”⁷⁵ would be applicable to firms providing VoIP service. However, the FCC did acknowledge that it expects states to continue to protect consumers from fraud, to handle complaints, and to enforce fair business practices.⁷⁶

67. *Id.*

68. *Id.*

69. *Id.*

70. *Id.*

71. Paul Davidson, *FCC Exempts VoIP Phone Service from State Regulation*, USA TODAY, Nov. 10, 2004, at 1, available at http://www.usatoday.com/tech/news/2004-11-08-voip-usat_x.htm (last visited Mar. 23, 2005).

72. Vonage Not Subject to Patchwork, *supra* note 66,

73. *Id.*

74. *Id.*

75. *Id.*

76. *Id.*

The FCC noted that the rulemaking proceeding presently underway will decide at a later time: (a) whether VoIP is an “information service” or a “telecommunications service;” (b) whether VoIP firms must provide access to the disabled; and (c) whether payments will be required of VoIP firms for intercarrier compensation and for the universal service fund.⁷⁷

IV. VoIP LAW AND POLICY: THE EUROPEAN UNION

A. *The Draft Notice*

The EU Commission has been approaching VoIP in a careful and deliberate manner.

Facing the 1/1/1998 liberalization date for most of the EU’s telecommunications market, the Commission announced in early 1997 an intention to clarify its position toward VoIP. Accordingly, a draft notice was issued as a supplement to Directive 90/388/EEC (which dealt primarily with competition in the telecommunications sector). In that supplement—the draft notice—the Commission stated that VoIP was not “voice telephony” and therefore fell “within the liberalized area.” However, the EU emphasized this was a preliminary viewpoint and was subject to change after consideration of stakeholder opinions.⁷⁸

B. *The Status Notice: Four Regulatory Criteria*

After engaging in extensive consideration of public comments in hearings held between May and July 1997, the Commission issued its regulatory position on VoIP in a Status Notice dated 10 January 1998. No immediate regulation was provided for in that document. However, four criteria were enumerated which, if later found to be present, would make VoIP subject to regulation.⁷⁹ The criteria are whether VoIP communications are:

The Subject of a Commercial Offer—The Commission noted that voice communications is only one part of an integrated group of Internet services, and the voice communication is ancillary to those services, and so this criterion is not met. In order to meet this criterion, the VoIP service would have to be offered on a “standalone” basis, not merely as a supplement to an existing Internet

77. Vonage Not Subject to Patchwork, *supra* note 66, at 2.

78. Hank Intven, et al., *Special Feature: Internet Telephony—The Regulatory Issues*, 21 HASTINGS COMM. & ENT. L.J. 1, 21-22 (1998).

79. *Id.* at 22.

service.⁸⁰

For the Public—The Commission concluded this criterion would be met, since computer-to-phone and phone-to-phone voice communications transmitted over the Internet would be available to all members of the general public.⁸¹

To and From PSTN Termination Points (in other words, connecting two termination points on the PSTN at the same time)—The Commission concluded that this criterion is not met “if access to the Internet is obtained via leased circuits,” but that it would be met if local loops are used instead of leased circuits to connect two termination points.⁸²

Involving Direct Transport and Switching of Speech in Real-Time—The Commission stated this criterion was not met because of the “unpredictable congestion risk” of VoIP in its current state which made it difficult to attain a comparable level of reliability and speech quality as produced by PSTN. However, the Commission noted that, “Where organizations offering phone-to-phone Internet voice are guaranteeing quality of speech by bandwidth reservation and claim themselves that the quality of the service is the same as circuit-switched PSTN voice, this element of the voice telephony definition will obviously already have been met.”⁸³

The implications of the 1998 Status Notice were these: since all of the criteria had not currently been met, VoIP fell within the liberalized area of telecommunications services. No requirements for individual licenses could be imposed. No universal service charges could be assessed from VoIP providers. And neither did interconnection requirements apply to VoIP providers.⁸⁴ In 2000, in another promulgation, the EU confirmed the 1998 rulings.⁸⁵

C. The EU Directive: Services vs. Networks

EU VoIP law was further impacted by the 1999 EU Directive which requires member states to take a technologically neutral

80. *Id.* at 24.

81. *Id.* at 24.

82. *Id.* at 24.

83. Intven, et al., *supra* note 77, at 24-25.

84. *Id.* at 25-26.

85. Consultative communication on a review of the 1998 notice by the Commission on the status of voice on the Internet under Community law, and in particular, under Directive 90/388/EEC; Supplement to the Communication by the Commission to the European Parliament and the Council on the status and implementation of Directive 90/388/EEC on competition in the markets for telecommunications services—C 177/4, 27.6.2000.

perspective to voice/data services. In order to achieve technological neutrality, the 1999 EU Directive distinguishes between

(1) Electronic Communication Services: firms providing services using the infrastructure of a PSTN organization and (2) Electronic Communication Networks: any transmission system irrespective of the technology used and the information transmitted. Networks must comply with interconnection requirements, but services have no interconnection requirements.⁸⁶ To date, end-to-end Internet telephony has been categorized as a “service,” not a network. Accordingly, no license is required. Instead, the VoIP firm must merely file a notification form, and no approval is required.⁸⁷

D. Future Regulation?

The Commission continues to re-apply the four evaluation criteria as VoIP’s evolution unfolds.⁸⁸ In the future, the quality of VoIP service is expected to significantly improve and the requirements of the four criteria may be fulfilled. If and when that happens, VoIP regulation is expected to begin and its service providers will probably have to meet a licensing requirement, pay universal service charges and meet interconnection obligations.

Thus far, most EU states have not implemented the new EU Directives into their national telecommunications law. Accordingly, in October 2003, the EU announced that it had commenced legal action against nine of its member states (including France, Germany, and Belgium) for ignoring the implementation deadlines established in the EU Directives.⁸⁹

V. VOIP LAW AND POLICY: THE UNITED KINGDOM

A. Before 25 July 2003

The U.K.’s counterpart to the FCC is currently the Office of Communications (“OfCom”); OfCom’s predecessor was the Office of Telecommunications (“OfTel”). Pursuant to E.U. law, OfTel took a technologically-neutral stance in VoIP regulation.⁹⁰ OfTel ruled

86. Axel Spies, *Internet Telephony in Europe: No More Flying Under the Radar Screen*, BUSINESS COMMUNICATIONS REVIEW, Mar, 2004, at 33.

87. *Id.* at 33-34.

88. *Id.* at 25.

89. *Id.* at 34.

90. Office of Telecommunications, *Frequently asked questions on the regulation of Voice over Internet Protocol services* (2 April 2002) at 3 [hereinafter FAQ].

that VoIP service providers could be regulated only if one or more of the following criteria apply: (1) the service is marketed as a substitute for the PSTN; or (2) the service appears to the customer to be a substitute for the PSTN; or (3) the service provides the customer his/her sole means of access to the PSTN.⁹¹ Until 25 July 2003, a VoIP operator fulfilling one or more of these three criteria was required to have an individual voice telephony license or resale license in the U.K.⁹²

OfTel required VoIP providers meeting one of the above three criteria to furnish access to emergency services (999/112), directory enquiries and operator services.⁹³ OfTel required VoIP providers with “significant market power” to interconnect with other providers, and providers without significant market power were “free to negotiate interconnect arrangements between themselves.”⁹⁴ OfTel reserved the right to impose quality-of-service requirements upon VoIP providers and urged providers using traditional PSTN numbers to provide a quality-of-service comparable to that of the traditional telephone network.⁹⁵

B. After 25 July 2003

After 25 July 2003—in accordance with the new EU law—individual VoIP-provider licenses are no longer required. Instead, a simplified “general authorization” was adopted which merely requires that VoIP providers meet at least one of the three aforementioned criteria to submit a Registration Notice to OfCom.⁹⁶

Currently, VoIP providers may also apply to OfCom to be listed on the “Annex II List.” Those providers on the List have the right to interconnect with the facilities of the other carriers. This is important to the VoIP providers because it enables the providers’ customers to access telephones on the traditional PSTN “if the appropriate numbering schemes are in place.”⁹⁷

C. Current Rulemaking

U.K. VoIP law continues to evolve. Like its U.S. counterpart,

91. *Id.* at 5.

92. Spies, *supra* note 86, at 33-34.

93. FAQ, *supra* note 90, at 5.

94. *Id.* at 6.

95. *Id.* at 6.

96. Spies, *supra* note 86, at 33-34.

97. Spies, *supra* note 86, at 33-34.

OfCom is also currently engaged in rulemaking.⁹⁸ The following issues remain unresolved and are under consideration: (1) universal service contributions; (2) interception of VoIP messages (wiretapping) by law enforcement authorities; (3) interconnection rules and regulations; (4) annual fees (regulatory fees) assessed VoIP providers; (5) allocation of telephone numbers; (6) emergency calls; and (7) access to PSTN numbers.⁹⁹

VI. TOWARDS AN INTERNATIONAL REGULATORY SCHEME FOR VOIP

By its very nature, harnessed to the global Internet, VoIP is an international phenomenon. In the future, VoIP will undoubtedly become even more international as the number of countries employing VoIP continues to increase. As the VoIP evolution unfolds, and it begins to be regulated more and more, an international scheme of regulation will become essential because the law and policy of a multitude of user-nations will provide formidable differences and conflicts.

Before international law and policy can be formulated, it will be necessary to achieve a consensus on the definition of what VoIP consists of. The definition must indicate the specific types of services included under the term “VoIP.” To whom should the world turn to do this job? The International Telecommunication Union (“ITU”) may be the best organization to make such a definition. In fact, the ITU may already be in the process of accomplishing this task.¹⁰⁰ The ITU seems best suited for this job because it has previously considered the technology and issues of VoIP regulation.¹⁰¹ Furthermore, the ITU is in the best position to bring together the major players needed from industry and government.¹⁰² The ITU has extensive experience in assembling telecommunications expertise from many quarters and is already familiar with the law and policy of VoIP regulation currently in existence all over the world.¹⁰³

Once the definition has been formulated, the specific aspects of VoIP deemed suitable for regulation will have been pinpointed. At

98. Office of Communications: *Strategic Review of Telecommunications: Phase 1 Consultation* (December, 2003); and *Numbering Arrangements for Voice over Broadband Services: OfCom Consultation* (December, 2003).

99. Spies, *supra* note 86, at 33-34.

100. International Telecommunication Union, *World Telecommunication Policy Forum 2001 on IP Telephony* (2002), at <http://www.itu.int/newsarchive/wtpf> (last visited Mar. 23, 2005).

101. *Id.*

102. *Id.*

103. *Id.*

this point, the World Trade Organization (“WTO”) should enter the picture to determine whether VoIP should be internationally regulated and, if so, how. The WTO is an ideal body to carry out this task because most nations belong to it¹⁰⁴ and it has experience in the development of international agreements.¹⁰⁵ The WTO should utilize a plan of action similar to the WTO’s Basic Telecommunications Agreement.¹⁰⁶ Firstly, the member nations should negotiate, draft, and eventually adopt a general agreement. The general agreement would contain the definition prepared by ITU, minimal levels of basic service, and the most basic regulatory goals and guidelines. Additionally, it would address the issues of universal service funding, open markets, and competition. After the adoption of the general agreement, each member nation would have to prepare a schedule of its commitments to be undertaken in order to comply with it; these would be submitted to the WTO to be attached to the general agreement.¹⁰⁷

VII. CONCLUSIONS

To date, VoIP has enjoyed the luxury of being virtually unregulated. In order to foster its growth, the U.S., E.U., and U.K. continue to have a bias in favor of non-regulation of VoIP. However, all three are in agreement on this point: *The more that VoIP service parallels the traditional PSTN and becomes a viable substitute for it, the greater the likelihood that VoIP will be regulated.* Given the ever-improving quality-of-service of VoIP and the rate of substitution (for PSTN) already occurring, it is likely that VoIP will soon begin to be regulated. The most likely common targets for regulation in the U.S. and the U.K. are universal service payments, emergency telephone service, and wiretapping. The U.S. seems to be more likely than the U.K. to make rules pertaining to disability access, access charges, and several other issues. On the

104. World Trade Organization, *What is the WTO?*, available at http://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm (last visited Apr. 25, 2005).

105. World Trade Organization, *WTO Trade Topics—Basic Telecommunications—Schedules of Commitments and Lists of Article II Exemptions*, available at http://www.wto.org/english/tratop_e/serv_e/serv_e.htm (last visited Apr. 25, 2005).

106. World Trade Organization, *The WTO in Brief* at 3, available at http://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm (last visited Apr. 25, 2005).

107. Shaun P. Montana, Note, *An Approach to the International Regulatory Issues of IP Telephony*, 8 B.U. J. SCI. & TECH. L. 682 (Summer 2002).

other hand, the U.K. may be more likely to draft rules in reference to interconnection and allocation of telephone numbers.

Because of the inherent international nature of VoIP, it will soon become necessary to consider whether VoIP regulation should assume a global scale. The ITU should be asked to develop a set of definitions of VoIP and its technology and systems.

Whereupon, the WTO should convene to consider all VoIP-related issues to determine whether worldwide regulations are in order and, if so, which ones to adopt and how best to implement and enforce them. However, the WTO should keep the bias in favor of non-regulation and allow VoIP to prosper and to grow, as unfettered as possible, for the benefit of all.