REGULATION ON THE HORIZON: ARE REGULATORS POISED TO ADDRESS THE STATUS OF IP TELEPHONY?

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I. INTRODUCTION

Unburdened by regulation, the practice of sending domestic long-distance and international voice communications over the Internet has flourished. In less than two decades, Internet calls are expected to dominate the telecommunications landscape. At present, providers of phone-to-phone Voice over Internet Protocol ("VoIP" or "IP telephony"), services are not burdened with the same regulatory obligations imposed upon traditional providers of circuit-switched telecommunications services ("Plain Old Telephone Service" or "POTS"). Unlike their competitors in the heavily regulated telephone industry, the current regulatory regime exempts IP telephony providers from the obligation to pay hefty access charges and international settlements. Nor do VoIP providers need to make lump sum payments into funds designed to support universal telephone service. This has given rise to an arbitrage opportunity in which providers of IP telephony can challenge traditional phone service on a far less costly basis, contributing in part to the explosive growth of the young IP telephony industry.

To date, however, VoIP services have been almost exclusively limited to long-distance and international service offerings. The trend is changing; both cable companies and telephone companies are beginning to rollout local exchange VoIP offerings as well. Accordingly, the technology ad-

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1 See Michael Desmond, Enterprise Technology: IP Telephony Goes to Work, PC World, at http://www.pcmag.com/resources/printer/article/0,aid,53003.clk.pfv,00.asp (Aug. 2001) (stating that large IP-based deployments are underway because of the potential of large cost savings through the use of the IP network). IP-based applications, such as voice-enabled commerce, Web-based conference calling and high-fidelity PC-to-phone communications, will drive total IP telephone traffic to 470 billion minutes by 2005. Id. See Press Release, IDC, IDC Forecasts Web Talk Applications Will Drive IP Telephony Growth to 47% of Total Long Distance Traffic in 2005, at http://www.idc.com/getdoc.html?containerId=pr51114 (Nov. 28, 2000) (explaining that services such as dialpad.com reached one million registered users in sixty days and that users of PhoneFree.com are logging in excess of forty million minutes per month); see also Business Wire, CommWorks IP Telephony System Surpasses Four Billion Minutes of Voice Traffic, News.com, at http://lnvestor.cnet.com/investor/news/newsitem/0-9900-1028-7794594-0.html (Nov. 6, 2001) (discussing that CommWorks IP telephony equipment now carries more than 420 million minutes of voice traffic per month in North America, Europe and Asia).

2 See infra Section III.A.2 and Section IV.

advances driving the use of VoIP at the local level will create new regulatory challenges not previously explored and, in some instances, possibly beyond the reach of federal regulators. Indeed, most providers of VoIP take the position that the service they provide is an information service, not a "telecommunications service." While this classification frees VoIP providers from the burdens of common carrier regulation, it also strips them of any of the rights or benefits afforded to common carriers. For example, the use of VoIP for the provision of local services may affect the interconnection rights of IP telephony providers because non-telecommunications carriers do not have interconnection rights under Section 251. Nor do non-telecommunications carriers currently have a right to obtain telephone number resources from the North American Numbering Plan Administrator. Moreover, state regulators may view the jurisdictional nature of the VoIP local product as determinative that these services are solely within their state's jurisdiction.

Legislators and regulators are well aware of the technological gains made by providers of IP telephony and are watching closely as phone-to-phone VoIP attains a degree of functional equivalency to that of a traditional telecommunications service. Prodded by regulated telecommunications carriers fearful of having their profits siphoned away by more agile IP telephony competitors, regulators are beginning to question why IP telephony providers offering similar functionality to that of circuit-switched services should be regulated any differently. As technological advances and industry convergence continue to blur the line between IP-based telephony services and traditional circuit-switched telephone service, this nascent industry may be treading dangerously close to the sticky web of telecommunications regulation and its associated costs.

VoIP has provided consumers with a low-cost alternative to traditional long-distance and international POTS for sometime. The growth of this service has been fueled, in large part, by freedom from regulation. Providers are now beginning to look to VoIP as a last mile solution to providing local voice services as well. This article examines how VoIP differs from traditional POTS; how the past and present domestic and international regulation may predict the future regulation of this service; and what role, if any, states can be expected to play in the growth and demand for local VoIP services.

II. WHAT IS IP TELEPHONY?

For over one hundred years, telephone companies have used circuit-switched technology to transport voice traffic over the public switched telephone network ("PSTN"). In a circuit-switched system, the path taken by the transmitted voice signals is determined by the physical path and the state of the telecommunications network at the time of transmission. In contrast, VoIP services transport voice traffic over the public Internet, using the Internet Protocol (IP) to carry the voice data over the Internet. VoIP services can be categorized into two types: session initiation protocol (SIP) and session border controller (SBC) services. SIP services use the SIP protocol to establish, modify, and terminate voice sessions over the Internet. SBC services provide a gateway between the SIP session and the traditional telephone network.

6 See generally In re Federal-State Joint Board on Universal Service, Report to Congress, 13 FCC Rcd. 11,501, para. 3 (1998) [hereinafter Report to Congress]; H.R. 1291, 106th Cong. (2000) (proposed to amend the Act to include "[n]othing . . . shall preclude the Commission from imposing access charges on the providers of Internet telephone services, irrespective of the type of customer premises equipment used in connection with such services").
switched environment, a fixed amount of bandwidth provides a dedicated transmission path for the duration of the call, even if no information is being transmitted. The conversation is routed through a series of switches until it reaches its final destination, thereby establishing a dedicated line between the participants.

IP telephony, like access to the Internet, relies on packet switching rather than circuit switching to deliver voice and data. Data is broken down into individual packets of digital bits that are transmitted through numerous switches or routers until they reach their destination. Unlike the dedicated bandwidth used in circuit switching, each packet of information shares the available bandwidth with other unrelated packets. In order for this process to work, each packet must be individually “addressed” with the ultimate destination for that packet. Although each packet may take a different route, the packets are reassembled once they reach their destination. Because the process of packetizing, transmitting and de-packetizing the conversation must be done quickly and seamlessly to avoid any disruption in the conversation, IP telephony uses a real time transport protocol (“RTP”) to ensure that the packets are delivered in a timely manner.

There are three general methods for providing IP telephony services to consumers: computer-to-computer, telephone-to-computer (and vice versa) and phone-to-phone. Phone-to-phone IP telephony may be provided using either the public Internet or a private IP-based network. In either of these situations, “gateways” must be used to allow the standard circuit-switched telephones to communicate with the packet-switched IP-based network or Internet. The first gateway converts the circuit-switched signal from one user’s telephone into digital data, which is then packetized and transmitted over the public Internet with other data communication or over the service provider’s private IP network. Once the packetized data reaches its destination, a second gateway reassembles the packets, de-packetizes the data and converts the data back to a circuit-switched signal. The gateways could be in the same local area, in the case of local IP telephony calls, or in two different calling areas, states or countries in the case of an interexchange, interstate or international transmission.

Rather than a standard phone, computer-to-computer IP telephony uses a microphone, speakers, a sound card, software that provides access to the Internet and an Internet connection, preferably a fast connection such as a cable modem. Like an e-mail message, once addressed to the proper destination, the call travels over the Internet to the distant computer. Beyond their normal monthly Internet-access fees, consumers generally pay no additional charges for calls using computer-to-computer technology.

Computer-to-telephone IP telephony is very similar to computer-to-computer IP telephony and likewise uses a microphone, speakers and a sound card. Computer-to-telephone IP telephony, however, also requires special software so that the subscriber can place calls to individuals who may not have access to a computer. In addition, unlike computer-to-computer IP telephony, there may be a small per-minute charge for this feature.

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12 See id.


14 See id.

15 See Intven, supra note 11.

16 Developed by the Internet Engineering Task Force (“IETF”), RTP adds a layer to the Internet protocol. It is designed to address problems caused when real-time interactive exchanges, such as video, are transported over local area networks (“LANs”) that were designed for data. Running video on a LAN means you can encounter significant end-to-end latency. RTP’s approach is to give video higher priority than connectionless data. See NEWTON’S TELECOM DICTIONARY 598 (17th ed. 2001).


19 Report to Congress, supra note 9, para. 84.

20 Tyson, supra note 18. A gateway is similar to the switching system in a traditional telephony environment. In addition, IP telephony providers can purchase dedicated circuits from other carriers and use those circuits to originate or terminate IP-based calls. Report to Congress, supra note 9, para. 89.

21 Tyson, supra note 18.

22 Id.

23 Id.

24 Id. (describing Net2Phone’s calling plans in which the
III. REGULATION: PAST, PRESENT AND FUTURE

Currently, IP telephony is largely unregulated by the Federal Communications Commission ("Commission" or "FCC"), the international community or the various state commissions. As the technology for VoIP advances, creating more cost-effective offerings with minimal quality of service distinctions, each of these regulators will be forced to reexamine existing regulatory policies. Based on current debates, the ultimate determination of whether, or the degree to which, regulation will be extended to VoIP services will most likely turn on public safety and public interest concerns. 25

first five minutes of the call is free and every minute after five minutes is $0.9 cents per minute. 25 In the Report to Congress, the Commission stated that some forms of IP telephony would probably be subject to universal service obligations, yet the Commission noted its authority to forbear from the other forms of regulation that generally accompany universal service obligations (i.e., consumer protection and public safety regulations). Report to Congress, supra note 5, paras. 91-92. More recently, the Commission has expressed similar concerns that its classification of wireline broadband Internet-access services as information services (which would remove those services from traditional common carrier regulation) would have implications on telecommunications service providers’ basic public protection obligations — national security, network reliability and consumer protection. In re Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, Universal Service Obligations of Broadband Providers: Computer III Further Remand Proceedings: Bell Operating Co. Provision of Enhanced Services; 1998 Biennial Reg. Review - Review of Computer III and ONA Safeguards and Requirements, Notice of Proposed Rulemaking, 17 FCC Rcd. 3019, para. 54 (2002) [hereinafter Wireline Broadband NPRM]. Although the Commission’s Wireline Broadband NPRM appears to restrict its review to wireline broadband Internet access services, which arguably exclude VoIP because it is not an Internet access service, the Wireline Broadband NPRM does ask whether universal service will be affected by a migration of voice traffic to broadband platforms. Id. para. 82. While any ruling in this proceeding would not appear to be determinative of the degree of regulation VoIP services will be subject to, it will be instructive because phone-to-phone VoIP services have been determined by the Commission to more closely resemble traditional basic transmission offerings. See Report to Congress, supra note 9, para. 85; see also infra notes 36-40 and accompanying text (explaining the Commission’s findings in the Report to Congress). Presumably, if such regulatory obligations are imposed on “information services” they are likely to extend to phone-to-phone VoIP services. 26 As part of the FCC’s effort to overhaul the interstate access charge regime, it has issued several access charge-related decisions, all of which are intended to lower the costs of interexchange carriers or local carriers to use the network facilities of other carriers to complete calls. These include the adoption of a plan to decrease access charges paid by long-distance companies to price cap local exchange carriers by $3.2 billion. The plan became effective on July 1, 2000. In re Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Low-Volume Long-Distance Users, Federal-State Joint Board on Universal Service, Sixth Report and Order, 15 FCC Rcd. 12962 (2000) [hereinafter CALLS Order]; see also Rivka Tadjer, Long-Distance Offers a Dime a Dozen, Internet Week, Apr. 6, 1998, at T22; see also David Poppe, Virtual View, Miami Herald, Aug. 10, 1998, at 15. In addition, the FCC recently initiated a proceeding to examine all intercarrier compensation schemes. In re Developing a Unified Intercarrier Compensation Regime, Notice of Proposed Rulemaking, 16 FCC Rcd. 9610 (2001) [hereinafter Intercarrier Compensation NPRM]. Pending the resolution of a unified compensation regime, the FCC adopted interim regimes for ISP-bound traffic and access charges paid by interexchange carriers to CLECs. In re Implementation of the Local Competition Provisions in the Telecommunications Act; Intercarrier Compensation for ISP-Bound Traffic, Order on Remand and Report and Order, 16 FCC Rcd. 9151 (2001) [hereinafter ISP Intercarrier Compensation Order], remanded by, WorldCom, Inc. v. FCC, 288 F.3d 429 (D.C. Cir. 2002) (remanding, but not vacating, the ISP Intercarrier Compensation Order because the FCC had no basis to rely on Section 251(g) for its determinations), reh’g en banc, denied, 2002 U.S. App. Lexis 20541 (D.C. Cir. Sept. 24, 2002); In re Access Charge Reform; Reform of Access Charges Imposed by Competitive Local Exchange Carriers, Seventh Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd. 9923 (2001).

A. The Federal Communications Commission Distinction: Telecommunications Service/Information Service

The stakes of avoiding telecommunications regulation are high. In the United States, the typical long-distance provider pays about two cents per minute for the origination and completion of domestic interstate calls on the networks of local phone companies. 26 Long-distance companies can pay over 30 times as much to terminate calls abroad. 27 Tack on a federally mandated annual "contribution" of approximately 7.2 percent of company revenues for the support of affordable universal telephone service, and it becomes abundantly clear just how costly telecommunications

25 In the Report to Congress, the Commission stated that some forms of IP telephony would probably be subject to universal service obligations, yet the Commission noted its authority to forbear from the other forms of regulation that generally accompany universal service obligations (i.e., consumer protection and public safety regulations). Report to Congress, supra note 9, paras. 91-92. More recently, the Commission has expressed similar concerns that its classification of wireline broadband Internet-access services as information services (which would remove those services from traditional common carrier regulation) would have implications on telecommunications service providers' basic public protection obligations — national security, network reliability and consumer protection. In re Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, Universal Service Obligations of Broadband Providers: Computer III Further Remand Proceedings: Bell Operating Co. Provision of Enhanced Services; 1998 Biennial Reg. Review - Review of Computer III and ONA Safeguards and Requirements, Notice of Proposed Rulemaking, 17 FCC Rcd. 3019, para. 54 (2002) [hereinafter Wireline Broadband NPRM]. Although the Commission's Wireline Broadband NPRM appears to restrict its review to wireline broadband Internet access services, which arguably exclude VoIP because it is not an Internet access service, the Wireline Broadband NPRM does ask whether universal service will be affected by a migration of voice traffic to broadband platforms. Id. para. 82. While any ruling in this proceeding would not appear to be determinative of the degree of regulation VoIP services will be subject to, it will be instructive because phone-to-phone VoIP services have been determined by the Commission to more closely resemble traditional basic transmission offerings. See Report to Congress, supra note 9, para. 85; see also infra notes 36-40 and accompanying text (explaining the Commission's findings in the Report to Congress). Presumably, if such regulatory obligations are imposed on "information services" they are likely to extend to phone-to-phone VoIP services. 26 As part of the FCC's effort to overhaul the interstate access charge regime, it has issued several access charge-related decisions, all of which are intended to lower the costs of interexchange carriers or local carriers to use the network facilities of other carriers to complete calls. These include the adoption of a plan to decrease access charges paid by long-distance companies to price cap local exchange carriers by $3.2 billion. The plan became effective on July 1, 2000. In re Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Low-Volume Long-Distance Users, Federal-State Joint Board on Universal Service, Sixth Report and Order, 15 FCC Rcd. 12962 (2000) [hereinafter CALLS Order]; see also Rivka Tadjer, Long-Distance Offers a Dime a Dozen, Internet Week, Apr. 6, 1998, at T22; see also David Poppe, Virtual View, Miami Herald, Aug. 10, 1998, at 15. In addition, the FCC recently initiated a proceeding to examine all intercarrier compensation schemes. In re Developing a Unified Intercarrier Compensation Regime, Notice of Proposed Rulemaking, 16 FCC Rcd. 9610 (2001) [hereinafter Intercarrier Compensation NPRM]. Pending the resolution of a unified compensation regime, the FCC adopted interim regimes for ISP-bound traffic and access charges paid by interexchange carriers to CLECs. In re Implementation of the Local Competition Provisions in the Telecommunications Act; Intercarrier Compensation for ISP-Bound Traffic, Order on Remand and Report and Order, 16 FCC Rcd. 9151 (2001) [hereinafter ISP Intercarrier Compensation Order], remanded by, WorldCom, Inc. v. FCC, 288 F.3d 429 (D.C. Cir. 2002) (remanding, but not vacating, the ISP Intercarrier Compensation Order because the FCC had no basis to rely on Section 251(g) for its determinations), reh'g en banc, denied, 2002 U.S. App. Lexis 20541 (D.C. Cir. Sept. 24, 2002); In re Access Charge Reform; Reform of Access Charges Imposed by Competitive Local Exchange Carriers, Seventh Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd. 9923 (2001).
regulation could be to the burgeoning IP telephony industry.28

In the United States, VoIP's avoidance of the above burdens rests upon an artificially imposed regulatory distinction: telecommunications services, such as basic local telephone service and long-distance service, are subject to all of the trappings of telecommunications regulation (e.g., access charges and universal service contributions) while information services, such as e-mail and Internet access, are not.29 Born out of the latter category, VoIP has flourished regulation-free.

The manner in which a service is defined ultimately determines whether or not it will be dragged into the labyrinth of filing requirements and subsidization schemes that characterize telecommunications regulation. The Communications Act of 1934, as amended ("Act"), defines "telecommunications" as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."30 Telecommunications service is "the offering of telecommunications for a fee directly to the public. . .regardless of the facilities used."31 Information services, on the other hand, are "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications.32

Phone-to-phone IP-based telephony services blur the line between "telecommunications" and the "information service" aspects of Internet access. The problem: the IP telephony industry may be getting a bit too good at what it does. Until recently, providers of IP telephony have not been able to pose a viable competitive threat to providers of traditional circuit-switched telecommunications services because IP telephony providers could not offer comparable quality of service ("QoS") and reliability. Due to considerable QoS advances, however, the gap between POTS and IP telephony appears to be narrowing.33 Indeed, several providers of VoIP have made bold assertions that they can offer services with the same functionality and reliability as circuit-switched services.34 Further evidence of the diminishing differences between POTS and VoIP is the ability of consumers to purchase a telephone handset that will connect them directly to a provider of VoIP long-distance service with the push of a button.35

Although QoS remains an obstacle to the proliferation of phone-to-phone IP services, a number of observers — including the FCC — have remarked that it has begun to "resemble traditional basic transmission offerings" and might have to be regulated as telecommunications.36 In its Report to Congress, the Commission

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28 See Proposed Second Quarter 2002 Universal Service Contribution Factor, Public Notice, 17 FCC Rcd. 4451 (2002); Proposed First Quarter 2002 Universal Service Contribution Factor, Public Notice, 16 FCC Rcd. 21,329 (2001) [collectively Universal Service Public Notices]. All providers of telecommunications service must contribute to the Universal Service Fund. The fund was established to support affordable basic telecommunications services for (1) low-income customers, (2) customers in high cost rural areas and (3) schools, libraries and rural health care providers. The fund also supports access to advanced telecommunications services for schools, libraries and rural health care providers. See 47 U.S.C. §224 (2000).

29 In its Access Charge Reform Order, the Commission concluded that ISPs are not subject to the existing access charge system because they use the local telephone network in a manner analogous to other "end users," rather than in the manner that interchange carriers ("IXCs") use the network. See In re Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing, and End User Common Line Charges, First Report and Order, 12 FCC Rcd. 15,982, paras. 544–48 (1997) [hereinafter Access Charge Reform Order], aff'd Southern Bell Tel. Co. v. FCC, 153 F.3d 525 (8th Cir. 1998). As a result, ISPs are allowed to use the same state-tariffs business services and pay the same federal charges, including subscriber line charges, as other end users. ISPs (and by extension their customers) do not pay any interchange carrier access charges. Id.; see also ISP Interconnection Compensation Order, supra note 26, para. 11 (reaffirming this conclusion); Interconnection Compensation NPRM, supra note 26, para. 6 (same).


33 Some sources report that buyers are reluctant to continue to invest in circuit-switched equipment that may soon be obsolete. Telecom, Comm. Daily, July 12, 2002. More importantly, IP-based equipment allows businesses to lower costs "by reducing telephone toll charges and operations costs." Id. While the industry's growth slowed in recent months, shipments of IP-based equipment "are projected to grow to 42 million in 2007 from 1.9 million last year." Id.


36 As the Commission recognized, "to the extent that we conclude that certain forms of 'phone-to-phone' IP telephony services should be characterized as 'telecommunications services,' the providers of those services would fall within the 1996 Act's mandatory requirement to contribute to universal
stated "certain 'phone-to-phone IP telephony' services lack the characteristics that would render them 'information services' within the meaning of the statute, and instead bear the characteristics of 'telecommunications services.'"\(^{37}\) The Commission tentatively defined the term "phone-to-phone IP telephony" to mean instances in which the provider: (1) holds itself out as providing voice telephony or facsimile transmission service; (2) allows customers to use the same CPE (telephone handsets) used to make voice calls over the PSTN; (3) permits calls to ordinary telephone numbers; and (4) transmits calls without making any net change in form or content.\(^{38}\) The significance of the FCC's definition is that it reflects the first time the FCC took steps to distinguish the types of IP telephony and how those services compare to "telecommunications services" thus bringing phone-to-phone IP telephony closer to regulation.

Despite these similarities, the Commission stopped short of finding that phone-to-phone IP telephony is a telecommunications service, noting that it would be inappropriate for the Commission "to make any definitive pronouncements in the absence of a more complete record focused on individual service offerings."\(^{39}\) The Commission also explained that it should "avoid creating regulatory distinctions based purely on technology," noting that "Congress did not limit 'telecommunications' to circuit-switched wireline service mechanisms."\(^{39}\) Report to Congress, supra note 9, para. 14.

\(^{37}\) Id. paras. 83, 89.
\(^{38}\) Id. para. 88.
\(^{39}\) Id. paras. 83, 91.
\(^{40}\) Id. para. 98. Thus far, the Commission's statements regarding the provision of IP telephony also suggest that the Commission has not yet distinguished, for regulatory purposes, IP telephony based on whether it is provided over the public Internet or over separate private IP networks. Id. para. 84 n.173.

\(^{41}\) See generally, e.g., In re Independent Data Communications Manufacturers Association Petition for Declaratory Ruling that AT&T's InterSpan Frame Relay Service is a Basic Service; and American Telephone & Telegraph Co., Petition for Declaratory Ruling that All IXCs Be Subject to the Commission's Decision on the IDCMA Petition, Memorandum Opinion and Order, 10 FCC Rcd. 13,717, paras. 22, 54 (1995) (finding that all interexchange carriers must offer packet-switched, frame relay service on a common carrier basis); In re Winstar Wireless Fiber Corp., Request for Waiver of Sections 101.65(a)(3) and 101.305(c)(2) of the Commission's Rules, Order, 14 FCC Rcd. 118, para. 5 (1999) (noting that Winstar's operations using fixed-wireless technology are common carrier in nature); In re Establishment of Policies and Procedures for Consideration of Applications to Provide Specialized Common Carrier Services in the Domestic Public Point-to-Point Microwave Radio Service and Proposed Amendments to Parts 21, 43, and 61 of the Commission's Rules, Final Report and Order, 78 F.C.C.2d 1291, para. 2 (1980) (noting that the FCC received 2560 applications for the provision of common carrier services via microwave facilities).

\(^{42}\) Wireline Broadband NPRM, supra note 25, para. 7 n.10.

Universal service historically consisted of high-cost loop support, which provides support to eligible carriers serving high-cost areas, and Lifeline/LinkUp, which provides support to low-income consumers for telephone service and installation. Section 254 of the Act also directed the Commission to create the schools and libraries program and the rural health care program, which both provide support to schools, libraries, and rural health care providers, respectively, for telecommunications services and Internet access. All of these mechanisms are referred to collectively as "universal service." See Wireline Broadband NPRM, supra note 25, at 3048 n.115.

\(^{44}\) See Report to Congress, supra note 9, para. 7 (stating that before the passage of the Telecommunications Act of 1996, "charges to long distance carriers and rates for certain intrastate services provided to carriers and to end users were priced above costs, which enabled local telephone companies to keep rates for basic local telephone service at affordable levels throughout the country").
support to companies that provide telecommunications services, Internet access and internal connections to schools, libraries, and rural health care providers and in areas of America where the cost of providing service is high. In addition to the federal fund, many states have established or are in the process of establishing some type of state universal service funding mechanism.

Federal universal service obligations apply to all telecommunications carriers that provide interstate telecommunications services, with each carrier contributing "on an equitable and non-discriminatory basis." In addition, universal service obligations may be placed on "any other provider of interstate telecommunications" if the Commission believes the public interest would be served by doing so. To fund universal service, all covered providers contribute a certain percentage of the amount billed to their residential and business customers for interstate and international telecommunications services into a central fund. The exact percentage that companies contribute is adjusted every quarter based on projected universal service demands.

States with universal service programs likewise have established contribution formulas. Indeed, the purpose of the Commission's Report to Congress was to classify carriers as providers of either information services or telecommunications services and thereby determine whether they were required to contribute to the federal universal service fund.

In its Universal Service Order in 1997, the Commission found that Internet access services do not fall within the definition of "telecommunications service" and therefore Internet service providers ("ISPs") are not required to make contributions to the universal service fund. The Commission reasoned that, because Internet access services "alter the format of information through computer processing applications such as protocol conversion and interaction with stored data," they are information services for purposes of universal service and not subject to contribution obligations.

As discussed above, in its Report to Congress, the FCC stopped short of characterizing phone-to-phone IP telephony as a telecommunications service. In a NPRM addressing the streamlining of the universal service system, the Commission reiterated its view that certain forms of phone-to-phone IP telephony bear the characteristics of telecommunications services, which could subject those services to mandatory universal service obligations. The Commission is now seeking further comment on the issue, stating that "the accelerating development of new technologies like 'voice over Internet' increases the strain on regulatory distinctions such as interstate/intrastate and telecommunications/non-telecommunications, and may reduce the overall amount of assessable revenue reported under the current system."
the Commission has not yet reached a definitive conclusion on the classification of IP telephony services, it is clear that the Commission regards universal service as a fundamental obligation, a position that is supported by key members of Congress. The degree of importance the Commission places on its universal service obligation is highlighted in its recent decision addressing the classification of cable modem service and in its recent NPRM to address the appropriate framework for broadband access to the Internet over wireline facilities and the application of universal service obligations to broadband providers. In the Cable Modem Ruling, the Commission determined that cable modem service is properly classified as an interstate information service subject to Title I regulation, not a cable service subject to Title VI regulation, and that there is no separate offering of telecommunications service by cable modem providers. The Commission defines cable modem service, for the purpose of this proceeding, as "a service that uses cable system facilities to provide residential subscribers with high-speed Internet access, as well as many applications or functions that can be used with high-speed Internet access." Cable operators can provide VoIP services as a feature of their cable modem services. These VoIP services, like other VoIP services, are treated as information services. This treatment arguably is further reinforced by the Commission's Cable Modem Ruling.

In this respect, the Commission found that cable modem service as currently offered by cable operators is an integrated offering — the telecommunications component is not separable from the data processing or information service capabilities of the service. Cable operators providing cable modem service over their own facilities are not offering telecommunications service to end users; rather, they are using telecommunications to provide end users with cable modem service. In the NPRM portion of the Cable Modem Ruling, the Commission seeks comment on what factors would indicate that a cable operator is offering a stand-alone telecommunications service and asks what regulations should apply to that service. Importantly, the Commission asks whether it would be appropriate to forbear from common carrier regulation where a cable operator is offering a stand-alone telecommunications service to ISPs or subscribers. The Commission tentatively concluded that forbearance would be justified because common carrier regulation is not necessary for the protection of consumers or to ensure that rates are just and reasonable and not unjustly or unreasonably discriminatory.

In the Wireline Broadband NPRM, the Commission reviews the historical "assumption that consumers use the network for traditional voice-related services and that those voice services are provided over circuit-switched networks." The Commission's review is prompted by the need to assess the affect of traditional services migrating to a broadband platform. The fundamental question of this proceeding is: "[i]n an evolving tele-

55 Report to Congress, supra note 9, para. 4 ("[O]ur duty and intention [is] to ensure that financial support for federal universal service support mechanisms is maintained."); Wireline Broadband NPRM, supra note 25, para. 65 (the Commission will continue to pursue and protect the core objectives of universal service).

56 In preparing the Report to Congress, the Commission considered thousands of comments from interested parties, including Representative White and Senators Snowe, Rockefeller, Kerrey, Stevens, Burns, McCain, Ashcroft, Ford, Abraham and Wyden. See Report to Congress, supra note 9, at 11,501, apps. A, B (listing all the parties filing comments for the Commission's consideration).

57 See In re Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Red. 4798, para. 110 (2002) [hereinafter Cable Modem Ruling]; Wireline Broadband NPRM, supra note 25, para. 65. As expected, several groups have appealed the FCC's finding that cable modem service is an interstate information service that is not subject to open access requirements. Many of these parties believe the FCC should have classified cable modem service as a telecommunications service and imposed telecommunications regulation on the service. See Brand X Internet v. FCC, Nos. 02-70518, 02-70684, 02-70685, 02-70686, 02-70879, 02-70518, 02-70684, 02-70685, 02-70686, 02-70879 (9th Cir. filed Mar. 22, 2002). The appeals filed thus far will be consolidated and heard in the Ninth Circuit, which has previously found (contrary to the FCC's statements that the definitions are mutually exclusive) that cable modem service was both an information service and a telecommunications service imposed telecommunications regulation on the service. Therefore, there is a chance that the Ninth Circuit may overturn the FCC's finding that cable modem service is an information service.
communications marketplace, should facilities-based broadband Internet access providers be required to contribute to support universal service and, if so, on what legal basis? This proceeding is intended to build on the Commission's analysis in the Report to Congress, which is the primary proceeding in which the Commission has previously analyzed VoIP services. As indicated above, this proceeding does not appear to seek to resolve the classification issues of phone-to-phone VoIP services raised in the Report to Congress. However, it does specifically ask commenters "whether they expect voice traffic to migrate to broadband Internet platforms" and what potential impact such migration may have on the Commission's "ability to support universal service in an equitable and nondiscriminatory manner."67

2. Information Service Providers Are Free from Intercarrier Compensation

Using a similar analysis to that employed in the Universal Service Order, the FCC also decided to exempt ISPs from the payment of access charges. In its Access Charge Reform Order, the Commission concluded that ISPs are not subject to the existing access charge system because an ISP's use of the local telephone network is more akin to the manner in which the typical phone customer or "end user" makes use of the local telephone network, as opposed to the manner in which a long-distance provider ("interexchange carrier" or "IXC") uses the network.68 As a result, ISPs can purchase telephone lines in the same manner and at the same prices as a typical business customer, permitting the ISP to use local telephone networks to link their customers to the Internet at no additional cost for local network access.69

Interconnection arrangements between carriers are currently governed by a complex system of intercarrier compensation regulations that vary based upon whether the interconnecting party is a local exchange carrier, an interexchange carrier, a commercial mobile radio service ("CMRS") carrier, or an enhanced service provider, and whether the service is classified as local or long-distance, interstate or intrastate, or basic or enhanced. "Access charges" are the payments that long-distance carriers and wireless providers make to local exchange carriers to originate and terminate long-distance calls over local carrier facilities. "Reciprocal compensation" is paid by one local exchange carrier to another for the transport and termination of local calls.70 As a general matter, FCC rules govern access charges for interstate long-distance calls; state rules govern intrastate access charges.71 The FCC has penultimate jurisdiction over reciprocal compensation required by Section 251(b)(5) of the Communications Act.72 However, state commissions also have a role through their oversight of interconnection agreements between incumbent and competitive local

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66 Id.
67 Id. para. 82.
68 Access Charge Reform Order, supra note 29, paras. 344–48. The FCC reaffirmed this conclusion in the ISP Intercarrier Compensation Order and Intercarrier Compensation NPRM. See ISP Intercarrier Compensation Order, supra note 26, para. 11; Intercarrier Compensation NPRM, supra note 26, para. 6.
69 Similarly, the FCC has said that computer-to-computer IP telephony is not a telecommunications service, primarily because vendors who sell the software and hardware needed to make IP voice calls with a computer are merely selling customer premises equipment ("CPE"), not the transmission capacity contemplated in the Act's definition of "telecommunications service." Likewise, the FCC has reasoned that ISPs generally have no way of knowing whether their customers are using Internet access services to make computer-to-computer voice calls or simply to surf the web. See Report to Congress, supra note 9, paras. 77, 87.
70 Section 251(b)(5) of the Communications Act purports to extend reciprocal compensation to all "telecommunications carriers." This rule has since been modified to make reciprocal compensation applicable to all traffic, subject to certain exceptions. See ISP Intercarrier Compensation Order, supra note 26, para. 54. But see American Tel. & Tel. Corp. v. Iowa Utils. Bd., 525 U.S. 366, 367 (1999) (upholding the Commission's general rulemaking authority over such traffic); see generally Bell Atl. Tel. Cos. v. FCC, 206 F.3d 1 (D.C. Cir. 2000) (upholding the Commission's authority over such traffic); see also WorldCom, Inc. v. FCC, 288 F.3d 429 (D.C. Cir. 2002) (several competitive carriers and state utility commissions have challenged the Commission's decisions and authority regarding the nature of ISP-bound traffic). To be clear, the ISP Intercarrier Compensation Order only addressed reciprocal compensation and did not modify the Commission's current access charge regime. That regime will remain in place pending the outcome of the Commission's review of all intercarrier compensation mechanisms (i.e., both reciprocal compensation and access charges) in the Intercarrier Compensation NPRM proceeding.
exchange carriers, which generally establish the specific rates and terms for reciprocal compensation.\textsuperscript{78}

The FCC has long exempted ISPs (and their predecessors, "enhanced service providers") from the payment of interstate access charges.\textsuperscript{74} The FCC recently concluded that Sections 201 and 251(i) of the Communications Act affirm its role "in continuing to develop appropriate pricing and compensation mechanisms for traffic — such as Internet-bound traffic — that travels over convergent, mixed, and new types of network architectures."\textsuperscript{79} The FCC's decision regarding compensation for the termination of ISP-bound traffic may be instructive as to the FCC's likelihood of imposing access charges or other intercarrier compensation regimes on VoIP traffic where none have previously been imposed.\textsuperscript{76}

The Commission refused to permit carriers to recover costs for ISP-bound traffic terminated on their networks if the carrier was not terminating such traffic prior to the issuance of the FCC's decision.\textsuperscript{77} The FCC in essence established a "bill-and-keep" regime for all carriers not yet terminating ISP-bound traffic. As discussed below, this application of the ISP Intercarrier Compensation Order is consistent with the FCC's overall goal to establish a "bill-and-keep" regime for all intercarrier compensation arrangements. It further suggests that where no exchange of compensation currently exists, (e.g., information services and VoIP service), the Commission will be reluctant to impose such intercarrier compensation requirements. The states have challenged the FCC's assertion of jurisdiction.\textsuperscript{79} Nonetheless, it would appear that, at least in the first instance, the scope of IP telephony providers' liability for intercarrier compensation for interstate access and reciprocal compensation, if any, is likely to be determined by the FCC, regardless of whether an IP telephony offering is local or interstate.\textsuperscript{80}

Significantly, the FCC's intercarrier compensation regime has undergone many changes in recent years. Most recently, the Commission adopted an interim regime to revise the access charge payments long-distance carriers make to competitive local exchange carriers ("CLECs") in order to bring those rates closer to incumbent local exchange carrier ("ILEC") rates.\textsuperscript{81} At the same time it established the interim regime, the Commission released a NPRM seeking comment on its proposal to establish "bill-and-keep" as a


\textsuperscript{74} In its Access Charge Reform Order, the Commission concluded that ISPs are not subject to the existing access charge system because they use the local telephone network in a manner analogous to other "end users," rather than in the manner that interexchange carriers ("IXCs") use the network. As a result, ISPs are allowed to use the same state-tariffed business services and pay the same federal charges, including subscriber line charges, as other end users. ISPs (and by extension their customers) do not pay any interexchange carrier access charges. Access Charge Reform Order, supra note 29, paras. 344–48.

\textsuperscript{75} ISP Intercarrier Compensation Order, supra note 26, para. 23.

\textsuperscript{76} On May 3, 2002, the D.C. Circuit remanded the ISP Intercarrier Compensation Order back to the FCC. See WorldCom, Inc. v. FCC, 288 F.3d 429 (D.C. Cir. 2002). The court found that the FCC could not reasonably rely on Section 251(g) to reach its decision. Id. at 434. In light of that finding, the court did not address the other issues on appeal, such as the mirroring rule or the new market rule. Moreover, the court did not vacate the ISP Intercarrier Compensation Order. Id. at 430. Several parties have filed petitions for rehearing, which the court is currently considering. The FCC has yet to issue further notice of proposed rulemaking in response to the court's remand.

\textsuperscript{77} See ISP Intercarrier Compensation Order, supra note 26, para. 81.

\textsuperscript{79} Id. para. 2 n.6. Bill-and-keep is defined as "an arrangement in which neither of two interconnected networks charges the other for terminating traffic that originates on the other network. Instead, each network recovers from its

\textsuperscript{80} ISP Intercarrier Compensation Order, supra note 26, para. 1. Although this appears to be fairly clear with respect to the imposition of interstate access charges and reciprocal compensation, 47 U.S.C. §251 (2000); AT&T Corp. v. Iowa Util. Bd., 525 U.S. 366 (1999) (it is unclear whether the FCC's jurisdiction extends to intrastate access charges). See Intercarrier Compensation NPRM, supra note 26, para. 121 (stating "we seek comment (particularly from state public utility commissions) on whether the state commissions have authority to mandate bill and keep arrangements for intrastate access charges"). The Commission has also been deferential to assessing the states' role in the Wireline Broadband NPRM. See Wireline Broadband NPRM, supra note 25, paras. 62–64.

\textsuperscript{81} See In re Access Charge Reform; Reform of Access Charges Imposed by Competitive Local Exchange Carriers, Seventh Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd. 9929 (2001) [hereinafter CLEC Access Charge Order].
unified compensation regime that would cover both access charge and reciprocal compensation payments. The FCC's goal is to have all carriers move to a unified system in which carriers no longer charge each other for the use of their networks, but recover their costs from their end users originating calls. With this as the Commission's goal, it would be inconsistent to require VoIP services, historically free from access charges, to become subject to such charges.

In the Report to Congress, the Commission explicitly deferred the question of whether, and to what extent, phone-to-phone VoIP providers should be required to pay access charges for originating and terminating interstate traffic over the facilities of local exchange carriers, leaving the door open to become subject to such charges. In the Report to Congress, the Commission stated:

[To the extent [the Commission] conclude[s] that certain forms of phone-to-phone IP telephony service are 'telecommunications services,' and to the extent that providers of those services obtain the same circuit-switched 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. For example, it may be difficult for the LECs to determine whether particular phone-to-phone IP telephony calls are interstate, and thus subject to the federal access charge scheme, or intrastate. [The Commission] intend[s] to examine these issues more closely based on the more complete records developed in future proceedings.]

The FCC also noted, however, that it is authorized to forbear from imposing "any rule or requirement" on IP telephony should it conclude an offering is a "telecommunications service." The Commission has continued to ponder whether to impose access charges on providers of long-distance IP telephony. Eighteen months after the Report to Congress, in the Advanced Services Remand Order, the Commission reiterated that providers of phone-to-phone IP telephony may become subject to access charges in the future. More recently, in the Intercarrier Compensation NPRM, the Commission explained that "long-distance calls handled by ISPs using IP telephony are generally exempt from access charges under the enhanced service provider ("ESP") exemption," and suggested moving to a unified regime for all carriers to avoid the opportunities for regulatory arbitrage created by the current system, including the advantage IP telephony providers obtain by being exempt from access charges when traditional interexchange carriers are not.

The Commission has not directly addressed whether providers of IP telephony service should be required to pay reciprocal compensation for the transport and termination of local calls. Exempting IP telephony calls from intercarrier compensation rules applicable to equivalent telecommunications services would appear to create the same arbitrage and other issues, unless those compensation rules were a unified "bill-and-keep" regime imposed on all providers. In a unified intercarrier compensation regime — whether federal or state — IP telephony would probably be included. However, as indicated above, the FCC appears to be reluctant to extend intercarrier compensation obligations to arrangements where none currently exist because its goal is to eliminate all intercarrier compensation arrangements by moving to a bill-and-keep regime.

3. Information Service Providers Enjoy Freedom from a Host of Other Federal Regulatory Requirements

Information service providers also avoid federal

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82 See generally Intercarrier Compensation NPRM, supra note 26, para. 1.
83 Id. para. 9.
84 Report to Congress, supra note 9, para. 91.
85 Id. para. 92 (citing 47 U.S.C. §160).
86 In re Deployment of Wireline Service Offering Advanced Telecommunications Capability, Initial Order on Remand, 15 FCC Rcd. 385, paras. 37–38 (1999) (subsequent history omitted) (hereinafter Advanced Services Remand Order) (reaffirming that DSL-based advanced services are telecommunications services and that ILECs must provide nondiscriminatory access to network elements used to provide such services).
87 Intercarrier Compensation NPRM, supra note 26, para. 6 n.5.
88 See id. paras. 2, 12.
89 See ISP Intercarrier Compensation NPRM, supra note 26, para. 81.
90 See id. Even if intercarrier compensation rules are extended to IP telephony providers, the obligation of providers to pay compensation to local exchange carriers will depend upon whether and the extent to which they use the facilities of local exchange carriers to terminate calls. Generally, IP telephony providers will have to interconnect with local exchange carriers in order to terminate calls on the public switched telephone network. No intercarrier compensation would be due for a call that originates and terminates totally on cable facilities. If a cable operator contracts with an interexchange carrier to provide long-distance services to its local IP telephony customers, the obligation to pay any access charges due to a terminating IEC would probably fall on the interexchange carrier.
surcharges for the administration of the North American Numbering Plan, Local Number Portability Administration and the Telecommunications Relay Services Fund, all of which apply to providers of telecommunications services.\textsuperscript{91} Federal privacy, access by individuals with disabilities, truth-in-billing and Communications Assistance for Law Enforcement Act obligations also do not extend to information service providers. These additional fees and consumer protection measures are likely to apply if phone-to-phone IP telephony services are determined to be telecommunications services and may apply even if IP telephony services are not classified as "telecommunications services."\textsuperscript{92}

a. Privacy

Under Section 222 of the Communications Act, telecommunications carriers are obligated to protect the privacy of the customer proprietary network information ("CPNI") of their subscribers.\textsuperscript{93} In its Report to Congress, the Commission acknowledged that IP telephony may be subject to the Commission’s CPNI requirements because it so closely resembles a telecommunications service.\textsuperscript{94} In an on-going rulemaking examining the use of IP-based telecommunications relay services ("IP Relay"), the Commission is likewise seeking comment on the extent to which an end-user’s proprietary information will remain secure in the IP environment and how the Commission can best protect the privacy of calls made by IP Relay users and the caller profiles of those users.\textsuperscript{95}

In addition, many consumer protection advocates are concerned with the privacy ramifications of the move to IP-based telephony because IP telephony networks place all data on a single line, which makes monitoring and surveillance much easier.\textsuperscript{96} These consumer advocates are therefore urging IP telephony providers to integrate encryption technologies into their service to protect the privacy of IP telephony calls.\textsuperscript{97} Given these concerns, providers of IP telephony are likely to be subjected to rules intended to protect subscriber privacy.

b. Access by Individuals with Disabilities

Section 255 of the Communications Act requires providers of telecommunications services to ensure that their services are accessible and usable by individuals with disabilities.\textsuperscript{98} While the Act limits this obligation to telecommunications service providers, the Commission has broadly interpreted this provision to include "all entities that make telecommunications services available."\textsuperscript{99} And, it has used its ancillary jurisdiction to extend Section 255 to providers of voicemail and interactive menu services, which are considered to be information services.\textsuperscript{100} Notably, however, while Chairman Powell issued a separate statement supporting the Section 255 Order, he expressed his "grave concerns" over the Commission's use of ancillary jurisdiction to reach these services given Congress's apparent intent to limit Section 255 to telecommunications services.\textsuperscript{101}

The Commission has since issued a Further No-
tice of Inquiry seeking comment on the application of Section 255 to IP telephony services.\textsuperscript{102} In the Further NOI, the Commission asked about the current status of industry efforts to develop accessible IP telephony equipment, especially given the extent to which IP telephony will become an effective substitute for traditional circuitswitched technology.\textsuperscript{105} Chairman Powell recently stated that the Commission will continue to focus on accommodating special needs, especially in areas the market will not address effectively.\textsuperscript{104} Overall, however, the Commission seems to favor voluntary industry action in this regard over government regulation, and has recognized the Voice on the Net ("VON") Coalition’s voluntary commitment to ensure that IP telephony services are accessible to individuals with disabilities and that access needs are taken into account in the development of new products and services.\textsuperscript{105}

However, some industry experts say “[i]t’s too early to tell what effect [VoIP] deployment could have on telephone users with disabilities.”\textsuperscript{106} Although the industry is working toward a solution, there is no uniform standard for the assistive technologies (“ATs”) used by those with hearing disabilities and, therefore, ATs may not be compatible with the new technologies being deployed.\textsuperscript{107} As a result, the industry, along with the FCC’s Technology Advisory Council, will continue to look at these issues and at possible solutions, such as creating “patches and adaptors” to allow new technologies to work with old ATs or migrating persons with disabilities to new ATs, that may be more compatible with VoIP technology.\textsuperscript{108}

\subsection*{c. Truth-in-Billing}

Under the FCC’s rules, telecommunications common carriers have certain consumer protection obligations, including providing truthful, non-misleading telephone bills to their subscribers.\textsuperscript{109} These rules require that consumer telephone bills be clearly organized, identify the service provider, contain full and non-misleading descriptions of service offerings, and provide contact information for each service provider on the bill.\textsuperscript{110} The Commission described its “truth-in-billing” rules as “fundamental statements of fair and reasonable practices,” and, while it rejected the idea that certain carriers should be wholly exempted from them “solely because competition exists in the markets in which they operate,” it declined to impose the full panoply of truth-in-billing rules on the wireless industry given the lack of consumer complaints about its billing practices.\textsuperscript{111}

Even before IP telephony providers become a significant source of competition for traditional local exchange carriers, they may find themselves subject to these or other similar consumer protection obligations because they are held to be common carriers or because the FCC asserts ancillary jurisdiction to extend these obligations to them. Moreover, if states perceive a void in this area, they may attempt to impose consumer protection requirements of their own on providers of IP te-

\begin{thebibliography}{99}
\bibitem{footnote102}See Section 255 Order and Further NOI, supra note 99. In addition, the Commission recently issued a Declaratory Ruling and Second Notice of Proposed Rulemaking regarding how Internet Protocol Telecommunications Relay Service calls should be classified for compensation purposes. See \textit{generally} In re Provision of Improved Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; Petition for Clarification of WorldCom, Inc., \textit{Declaratory Ruling and Second Proposed Notice of Rulemaking}, 17 FCC Rcd. 7779 (2002).
\bibitem{footnote105}Section 255 Order and Further NOI, supra note 99, paras. 77-82. The Commission has also asked for information regarding a new IP telephony service being used by several carriers to provide relay services to persons with disabilities. See, \textit{e.g.}, Consumer Information Bureau Seeks Additional Comment on the Provision of Improved Telecommunications Relay Service, \textit{Public Notice}, 16 FCC Rcd. 13,100 (2001); Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, \textit{Report and Order and Further Notice of Rulemaking}, 15 FCC Rcd. 5140 (2000).
\bibitem{footnote107}Section 255 Order and Further NOI, supra note 99 para. 176; see also Letter from Bruce D. Jacobs, Counsel to the VON Coalition, to Magalie R. Salas, Secretary, Federal Communications Commission, WT Dkt. No. 96-198 (July 7, 1999), available at http://www.fcc.gov/e-file/ecfs.html. The VON Coalition is a trade association whose member companies are involved in the development of voice services using data networks, including the Internet. Member companies include service providers such as Delta Three, IDT, ITXC and USA Global LINK and their suppliers, including Cisco, Intel, Microsoft, Netspeak and Vocaltec.
\bibitem{footnote109}47 C.F.R. §§64.2400-01 (2001).
\bibitem{footnote110}47 C.F.R. §64.2401 (2001).

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Indeed, the FCC's truth-in-billing rules specifically state that they do not "preempt the adoption or enforcement of consistent truth-in-billing requirements by the states."118 Local franchising authorities also may attempt to assert their consumer protection authority under the Cable Act114 as a basis for regulating cable operators' IP telephony services.

d. CALEA

Congress enacted the Communications Assistance for Law Enforcement Act ("CALEA") to ensure that law enforcement officials with proper authorization are able to conduct electronic surveillance effectively and efficiently in the face of rapid advances in telecommunications technology.115 CALEA applies only to "telecommunications carriers," which are defined under CALEA to include any "person or entity engaged in the transmission or switching of wire or electronic communications as a common carrier for hire."116

The Commission, in its order implementing CALEA, found that facilities that are used to provide both telecommunications and information services are subject to CALEA, but facilities "used solely to provide" information services are not.117 The Commission indicated that it did so in order to reach only those "services or facilities that provide a customer or subscriber with the ability to originate, terminate or direct communications."118 A finding that IP telephony is an information service therefore would not necessarily relieve providers from complying with CALEA. Moreover, the Commission has authority under CALEA to reach any provider of "wire or electronic communication switching or transmission service to the extent that . . . such service is a replacement for a substantial portion of the local telephone exchange service."119 This provision arguably provides the Commission with authority to reach providers of IP telephony, and the Commission may decide to exercise such authority at the behest of the FBI or other law enforcement agencies once IP telephony becomes more widespread.120

The FCC's repeated decisions to defer its consideration of whether to classify phone-to-phone IP telephony as "telecommunications service" for purposes of determining regulatory treatment should provide little comfort to IP telephony providers. All of the FCC's prior statements reflect a common thread. The FCC is keeping its options open, and where the public interest will be served by increased contributions to the universal service fund or the imposition of other consumer protection measures, the FCC is well-positioned to apply such regulations to VoIP providers.121

The application of CALEA requirements to VoIP is of even greater importance in a time of increased homeland security. Indeed, some in the industry predict the FBI's stricter enforcement of CALEA requirements will "eliminate the ability to deploy VoIP networks" given that CALEA is now an integral part of homeland security.122 Recognizing the inherent difficulties in VoIP networks meeting CALEA's requirements, the industry is working together "to create [an] interoperable IP network capable of replacing tel-
day’s circuit-switched network.” Despite these voluntary efforts, after the September 11th attacks one thing is clear: it will be difficult to convince regulators that VoIP networks are not required to comply with CALEA obligations. As one industry expert recently stated, “Security is the voice over IP showstopper.”

B. Congress May Limit the Regulatory Debate

Congress had begun to take notice of IP telephony in recent years. H.R. 1291, the “Internet Access Charge Prohibition Act of 2000 (“Upton Access Bill”),” was introduced by current House Telecommunications Subcommittee Chairman Fred Upton (R-Mich.) to codify the FCC’s longstanding exemption from access charges for ISPs. An amendment added by the House Commerce Committee at the instigation of the United States Telecommunications Association, however, appeared to invite the Commission to impose access charges on providers of IP telephony. As amended, the Upton Access Bill stated that “[n]othing... shall preclude the Commission from imposing access charges on providers of Internet telephone services, irrespective of the type of customer premises equipment used in connection with such services.”

H.R. 1291 passed the House by a voice vote, but was never considered by the Senate. In response to the Upton Access Bill, Representative Edward Markey (D-Mass.), the senior Democrat on the Telecommunications Subcommittee, introduced a bill that would have specifically prohibited the Commission from imposing access charges on providers of IP telephony. Neither measure has been reintroduced this year, but the flurry over H.R. 1291 doubtlessly presages fuller legislative debates over IP telephony as it becomes more visible in the marketplace and threatens the revenues of traditional carriers.

Congress’s regulatory impulses have also been active with the enactment of numerous bills dealing with the deployment of broadband services to consumers. The proposed legislation brings both Congress and the Commission one step closer to “regulating” the Internet. The chief legislation in this series of bills is H.R. 1542, the “Internet Freedom and Broadband Deployment Act of 2001” (“Tauzin-Dingell Bill”), which was introduced by Representative W.J. “Billy” Tauzin (R-La.), the Chairman of the House Committee on Energy and Commerce, and was passed by the House of Representatives on February 27, 2002. Among other things, the Tauzin-Dingell Bill prevents the Commission from regulating the “rates, charges, terms or conditions for, or entry into the provision of, any high speed data service or Internet backbone service, or Internet access service.”

The bill, however, preserves the Commission’s existing authority over unfair billing practices, disclosure of telephone subscriber information, transmission of pornography and access to high speed services by persons with disabilities. Moreover, the Tauzin-Dingell Bill would permit ILECs to provide interLATA high speed data or Internet backbone services without prior approval as is currently required by Section 271 of the Communications Act. The bill, however, does contain a limitation that would prevent ILECs from providing interLATA voice telephone services by means of high speed data or Internet backbone services without prior approval under Section 271. While the legislation awaited a

123 Id.
124 Id. at 3.
126 Access charges are paid by long-distance carriers to local exchange telephone companies for the use of local facilities to originate and terminate long-distance calls. Even in this regard the Bill was probably ineffective, because it precluded only “contribution[s] for the support of universal service... based on a measure of time that telecommunications services are used in the provision of such Internet access service.” Upton Access Act, §2(1)(1). This limited ban arguably would not have barred access charges paid to local telephone companies to carry traffic from customers to an ISP’s point of presence.
127 Id. §2(1)(2).
130 H.R. 1542, 107th Cong. (2002) (referred to Senate Committee after being received from House) [hereinafter Tauzin-Dingell Bill].
131 Id. §232(a).
132 Id. §232(d)(2)-(3).
133 See id. §6(a); see also 47 U.S.C. §271 (2000). The Tauzin-Dingell Bill, however, would require ILECs to give the Attorney General thirty days advance notice of its intent to commence high speed or Internet backbone service in any State where it also provides local telephone service, but the Attorney General may not publicly disclose the notice. Tauzin-Dingell Bill §6(c)(1)-(3).
134 See id. §6(k).
vote on the House floor, an attempt by several representatives to attach a broadband tax to the bill was defeated.  

A new bill introduced by Senators John Breaux (D-La.) and Don Nickels (R-Okla.) largely has replaced the Tauzin-Dingell Bill, which attempts to create regulatory parity between ILECs and their competitors. The Breaux-Nickels Bill would create "regulatory parity" between cable modem services and DSL services and would require the FCC to adopt rules to ensure that both types of broadband access services are subject to the same regulatory requirements or no regulatory requirements. More importantly, the Breaux-Nickels Bill would prohibit any state from regulating "broadband services, broadband access services, and the facilities and equipment used to provide such services." Under Breaux-Nickels, "broadband service" is defined as "any service that is used to provide access to the Internet and consists of or includes the offering of a capability to transmit information at a rate that is generally not less than 256 kilobits per second in at least one direction," and similarly, "broadband access service" is defined as "a service that combines computer processing, information storage, protocol conversion, and wire routing with transmission to enable users to access Internet content and services."

On the Senate side, Senator John McCain (R-Ariz.) introduced the "Consumer Broadband Deregulation Act" on August 1, 2002. The McCain Broadband Bill is intended to "ensure that residential broadband services exist in a minimally regulated environment" so that "the market, not government, regulates the deployment of broadband services." The McCain Broadband Bill does not define “consumer broadband service,” other than to limit the term to "interstate residential" Internet access, and leaves the FCC with the responsibility for defining which services are sufficiently "high speed" to qualify as a "consumer broadband service" eligible for the deregulation under the bill. The McCain Broadband Bill has been referred to the Senate Committee on Commerce, Science, and Transportation. The McCain Broadband Bill would deregulate the rates, terms and conditions for the retail offering of residential broadband Internet access services and remove all federal, state and local regulatory authority over such services. However, the McCain Broadband Bill explicitly permits the FCC, states and local governments to exercise their authority over other types of services even if those services are provided over the same facilities used to provide consumer broadband service. As a result, the bill does not affect the ability of the FCC and state commissions to regulate VoIP-like services provided over the same facilities as consumer broadband service.

Likewise, Senators Sam Brownback (R-Kan.) and Ernest Hollings (D-S.C.) have introduced bills to spur the deployment of broadband services to consumers. Senator Brownback introduced two new broadband deployment bills, the "Broadband Deployment and Competition Enhancement Act of 2001" and the "Rural Broadband Deployment Act of 2001." Like the Tauzin-Dingell, Breaux-Nickels and McCain Bills, these bills prohibit federal, state or local regulation of the rates, terms and conditions of retail advanced services offered by ILECs. Moreover, the Brownback Broadband Bill requires the FCC to modify its regulations to eliminate rules that result in "different or disparate" treatment of advanced services or high-speed Internet access services. Similarly, Senator Hollings introduced the "Broadband Telecommunication Deployment Act of 2002," which seeks to substantially improve consumer broadband access through an investment-based strategy, providing $2 billion in low-interest loans and grants to fund the build out of

The introduction of these recent bills reflects Congress’s continued focus on the area of new technologies. Although the bills are an effort, in the first instance, to reduce regulation of advanced services or high-speed Internet access services, they appear to preserve the possible future application of regulation to VoIP services.

IV. TREATMENT OF INTERNET TELEPHONY ABROAD

VoIP for international calls is a proven market. Indeed, countries with the highest degree of regulation and legacy subsidy systems promote some of the most lucrative arbitrage opportunities for long-distance IP telephony providers.\footnote{See John Williamson, Peering Into the VoIP Void, GLOBAL TELEPHONY, May 30, 1999.} Despite an aggressive effort by the FCC to bring international accounting rates closer to cost, many countries continue to subsidize domestic phone service by allowing monopoly providers to charge disproportionately high settlement rates for incoming international calls (generally paid by U.S. long-distance companies). Whether or not a foreign incumbent phone company has a policy with respect to the termination of VoIP, the IP telephony provider can effectively bypass settlement rates by purchasing local lines (already subsidized) and using those lines for connection to the Internet. To the incumbent telephone company, a phone-to-phone IP call originating in the United States and terminating on its network looks like nothing more than a local call. Even if the local incumbent could tell that a transmission was coming from the Internet, current circuit-switched architectures cannot ascertain whether the packets zipping across their networks are data or voice.\footnote{Carol L. Bowers, The Net Takes On Long Distance, UTIL. BUS., Jan. 30, 2000.}

VoIP’s ability to bypass international settlements threatens to undermine the very business model upon which the international voice traffic industry is founded. Consequently, IP telephony is on the radar screens of regulators abroad. International regulatory bodies, such as the International Telecommunications Union (“ITU”), have recognized the potential damaging effects VoIP can have on the telecommunications status quo. In response to the growing popularity of VoIP services, the ITU held a World Telecommunication Policy Forum (“WTPF”) dedicated to the issue of IP telephony in March 2001.\footnote{By its charter, the WTPF may not mandate regulatory outcomes with binding force, but shall prepare reports for consideration by the ITU’s member states. 2001 ITU Report of the Secretary-General on IP Telephony, Final Report, paras. 1.4, 1.8, at http://www.itu.int/osg/spu/wtpf/wtpf2001/index.html (Jan. 31, 2001) [hereinafter Secretary-General Report].} The major goals of the forum were to assist the ITU member countries with the changes in the telecommunications environment; with the emergence of IP telephony, specifically with human resource development; and with education on the new technologies.\footnote{Report of the Secretary-General on IP Telephony, Final Report, paras. 1.4, 1.8, at http://www.itu.int/osg/spu/wtpf/wtpf2001/index.html (Jan. 31, 2001) [hereinafter Secretary-General Report].} Specifically, the ITU focused on the challenges presented by the transition to IP-based networks from a technical perspective, an economic perspective and a regulatory perspective.\footnote{Id. para. 5.}

The conclusions reached at the WTPF demonstrate the dynamic between the role of telecommunications in “developed” countries, such as the United States, and “developing” countries like many of the countries in Africa. While several incumbent Public Telecommunication Operators (“PTOs”) announced that “they will migrate all their international [telecommunications] traffic onto IP platforms” as a means to offer new and lower-priced services, many remain concerned with the use of IP telephony in the local telephone market.\footnote{Id. para. 2.} In fact, most policy-makers expect the Public Switched Telephone Network (“PSTN”) to remain a viable contender for many years because of the economics involved in the migration to IP telephony services, especially for developing countries.\footnote{Id. para. 1.8.} Like many regulators and legislators in the United States, many PTOs in
developing countries believe the use of IP-based technologies in the PSTN “may undermine not only their current revenue streams but also existing universal service programmes.”\(^{158}\) As a result of the WTPF, the ITU is now conducting workshops and other forums throughout the world to facilitate the introduction of IP telephony to developing countries.\(^{159}\)

Several countries permit IP telephony subject to certain restrictions.\(^{160}\) Initially, China banned the provision of VoIP completely.\(^{161}\) Now, China allows IP telephony services, but only to a limited extent. A court ruling in 1999 upheld the legality of rules allowing for multiple phone-to-phone IP telephony competitors.\(^{162}\) However, China’s Ministry of Information and Industry (“MII”), which has authority over telecommunications in China, soured the court’s ruling by limiting the provision of IP telephony to a few select licensed carriers (China Telecom, China Unicom and Jitong) on a “limited trial” basis.\(^{163}\) Despite this setback, China appears to be growing more and more receptive to VoIP. Recognizing the benefits of IP telephony in meeting China’s quickly growing teledensity, the MII has allowed ITXC Corp., a U.S. VoIP provider, to enter into an operating agreement to exchange VoIP traffic with China Telecom.\(^{164}\) Since the inception of the operating agreement, China has become one of ITXC’s top international destinations. The MII also decided in May 2000 to upgrade the status of IP telephony from a “limited trial” service to an “approved service.”\(^{165}\) Furthermore, the MII recently has extended IP-based services throughout the country by granting licenses to other groups.\(^{166}\)

Now, China’s monopoly providers are facing tough competition from new VoIP providers as millions of customers begin to use a low-cost IP telephony service for international calling.\(^{167}\) In fact, some predict that over a third of China’s international traffic may be routed over the Internet in upcoming years.\(^{168}\) Moreover, according to Edward Tian, CEO of China Netcom, a licensed VoIP provider in China, IP telephony providers will grab one-third of China Telecom’s business in the next five years if the company’s pricing scheme does not change.\(^{169}\)

Several other countries allow VoIP to be provided only by the incumbent PTO or by other licensed operators.\(^{170}\) Indeed, license restrictions are one of the principle means by which international regulatory authorities address the legality of IP telephony.\(^{171}\) These types of terms and conditions in existing licenses can be seen as either prohibitive or supportive of VoIP, depending on the restrictions placed on the provider and the types of providers permitted to offer VoIP services. Often, only the incumbent PTO is permitted to offer IP-based services to reduce the erosion of the government’s revenue stream.\(^{172}\) IP telephony is forbidden in Bolivia, Egypt, Nepal and Uganda unless offered by a licensed operator.\(^{173}\)

On the other hand, other countries like Japan, Hong Kong and Singapore\(^{174}\) allow IP telephony

\(^{158}\) Id. para. 1.10.


\(^{160}\) Secretary-General Report, supra note 156, para. 4.5. The WTPF found that there are four broad national policy approaches to IP telephony: 1) inclusion of some or all forms of VoIP within the regulatory regime; 2) prohibition of all IP telephony; 3) forbearance from regulation of IP telephony and 4) uncertainty. Id. para. 4.6.


\(^{162}\) U.S. Cites Log in China Telecom Deregulation Efforts, COMM. DAILY, June 3, 1999.


\(^{165}\) Id.

\(^{166}\) China Case Study, supra note 163, at 17.

\(^{167}\) Leslie Chang, Internet Phone Service Catches on With Millions in China, WALL ST. J., Dec. 21, 1999, at A14. [hereinafter Chang].

\(^{168}\) See id. Other government estimates predicted that the IP telephony market in China would reach $12.2 billion (U.S.) by 2002. China Case Study, supra note 163, at 6.

\(^{169}\) See Chang, supra note 167.

\(^{170}\) Secretary-General Report, supra note 156, para. 4.10.

\(^{171}\) Id.

\(^{172}\) Id.

\(^{173}\) Michael Minges & Tim Kelly, IP Telephony . . . Around the World, ITU News at 15 (Feb. 2001) [hereinafter Around the World]. In Nepal, however, fax services using IP protocols are permitted by any carrier. Id. at 15, tbl. 2.

\(^{174}\) Id. at 15. At the end of September 2000, Singapore already had licensed 70 IP telephony providers. Id. at 15, tbl. 2.
unpredictable international regulatory landscape for VoIP, the EC indicated a 180-degree reversal of its earlier determination. In initiating a proceeding on telecommunications reform, the EC warned that future VoIP regulation may change, stating that "[t]here is no reason to regulate this service [VoIP] differently from other voice telephony services. Provision of IP-based communications services (including voice over Internet services) would be covered by general authorizations."180 Highlighting the fact that the VoIP industry may become a victim of its own technological advances, the EC also indicated that Internet telephony providers may be regulated under the same regime as their voice counterparts when VoIP service quality equals that of traditional voice telephony.181

At the WTPF, Nicholas Argyris, director of communications services and policy regulation at the EC, stated that IP telephony will be covered by a "new regulatory framework" that the EC will adopt in 2002. The framework will strive for "technical neutrality" and an overarching policy that spans all communications services, including IP-based networks.182 Moreover, Argyris confirmed that VoIP is currently not regulated in Europe because it is not yet considered a "substitutable service" for basic voice services.183

V. STATES COULD PLAY A MORE ACTIVE ROLE IN THE FUTURE REGULATION OF PHONE-TO-PHONE IP TELEPHONY SERVICES

Various industry players looking to provide consumers more cost effective and efficient innova-

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177 Id.


182 See Donegan, supra note 181.

183 See MacMillan, supra note 181; EC Supplemental Communication, supra note 181; see also Donegan, supra note 181.
tive local exchange products have recently announced plans to deliver local service via VoIP networks. As indicated above, most of the debate regarding the regulatory treatment of VoIP services has focused on the use of VoIP technology for the provision of interstate and international services. The providers of these services have been shielded from FCC Title II regulation based on claims that they are providing information services. The FCC's most recent review of IP telephony has not required a change in this reasoning. Moreover, historically, information services have been free from state regulation as a result of the FCC's preemption of state regulation of information services. Generally, once the FCC exercises its Title I authority over an "information service" (as it proposes to do in both the Wireline Broadband NPRM and the Cable Modem Ruling), any state regulations interfering with the FCC's exercise of its authority would likely be preempted. In the Computer Inquiry proceedings, the FCC found that information services must remain free of state and federal regulations to promote the competitive growth of such services. As a result, the FCC preempted the imposition of certain state regulatory requirements on information service providers that would have resulted in the application of inconsistent regulatory requirements at the state and federal levels. The Ninth Circuit upheld the FCC's narrowly-tailored preemption because the FCC was able to demonstrate that it would preempt only those state regulations that would negate the FCC's regulatory goals or otherwise frustrate the FCC's purposes.

In the Cable Modem Ruling, the FCC appears to be establishing a similar precedent. In that decision, the FCC finds that services provided via cable modem service are interstate services subject to the FCC's jurisdiction. More importantly, the FCC recognizes that a patchwork of state regulations may result in inconsistent requirements affecting cable modem service and may limit the FCC's ability to fulfill its policies concerning the promotion, investment and deployment of broadband services. In light of those findings, the FCC is currently seeking comment on the need to preclude state authorities from regulating cable modem services and facilities, even if some of those services may be characterized as telecommunications services. Given the FCC's previous preemption of state regulations governing information services in the Computer Inquiry proceedings and its current statements in the Cable Modem Ruling, state commissions' ability to impose burdensome regulations on local VoIP services provided via cable modem service may be limited if those regulations interfere with the FCC's overarching national policy goals.

How the FCC might respond to state challenges of its authority over cable modem services, features of cable modem services and VoIP services is difficult to predict, but two recent state decisions may shed some light. The New York Public Service Commission ("PSC") has issued a decision in a complaint proceeding between two carriers, finding that a provider of long-distance services using IP telephony is subject to access charges because it is providing a telecommunications service, not an information service. Although the New York PSC relied heavily on the FCC's analysis of VoIP services in the FCC's Report to Congress, the New York PSC chose to subject the IP telephony provider to intrastate access charges. Conversely, the FCC has repeatedly refrained from subjecting VoIP providers to access charges or any other regulatory requirements.

Despite the assignment of access charges by the New York PSC in the DataNet Decision, its application of the FCC's phone-to-phone IP telephony definition may suggest a willingness on the part of...
the PSC to treat differently VoIP offerings that require customer premise equipment ("CPE"). Specifically, the New York PSC considered whether DataNet allowed its customers to place ordinary calls over the public switched telephone network without being required to use different CPE.\(^{192}\)

A review by the FCC of its preemption authority with respect to the DataNet Decision could prove useful in determining how the FCC intends to address the classification of VoIP services going forward. The DataNet Decision raises two issues for the FCC to consider: whether state regulation of intrastate long-distance VoIP services interferes with the promotion of its national broadband policies and whether VoIP service should ever be considered intrastate. Relevant to the FCC's consideration of these issues is the FCC's tentative conclusion in its Intercarrier Compensation proceeding that all intercarrier compensation arrangements are within its jurisdiction, including intrastate access charges.\(^{193}\) The likelihood of such a review may be slight because of the DataNet Decision's limited precedential value. The New York PSC specifically noted that this issue was part of a specific complaint proceeding involving DataNet's service and does not constitute a general policy ruling.\(^{194}\)

Several other states have discussed VoIP services, but none have regulated the service per se. For example, in January 1999, the South Carolina PSC established a generic docket to examine the issue of IP telephony, but because the South Carolina PSC was concerned about the far-reaching implications of such a proceeding, it voted to hold the matter in abeyance.\(^{195}\) Likewise, the Nebraska PSC and the North Carolina Utilities Commission ("NCUC") also have examined their role in the regulation of IP telephony. The Nebraska PSC, on its own motion, opened a docket to determine what types of services are included in the definition of IP telephony, as well as the responsibilities VoIP providers have to consumers and concluded that, "because IP telephony does not place the same burdens upon the network as does traditional switched telecommunications, the obligations of its providers should not be the same."\(^{196}\) Similarly, when presented with the issue in connection with an interconnection agreement between BellSouth and Intermedia, the NCUC declined to determine whether IP telephony should be included in the definition of switched access traffic until the service was defined with some certainty.\(^{197}\) On the other hand, in the context of an interconnection arbitration, the Florida PSC has determined that the definition of switched access traffic should include IP telephony.\(^{198}\)

The jurisdiction of state commissions over IP te-
Internet telephony calls generally travel over the public Internet or a geographically expansive IP network, and the Commission recently reaffirmed that traffic delivered to ISPs is interstate for jurisdictional purposes. Moreover, having determined that cable modem service is an interstate information service, the FCC also sought comment on the regulatory implications of that determination. For example, the FCC invited “comment on any other forms of State and local regulation that would...discourage investment in advanced communications facilities, or create an unpredictable regulatory environment.” Such an invitation may encourage interested parties to seek to have the FCC exercise its preemption authority to prevent state regulation of VoIP services provided as a feature of cable modem service. While the FCC has determined that Internet access service is predominately interstate and, therefore, outside state jurisdiction, this conclusion has not been applied to IP-based telephony and may not apply to services that do not provide access to the Internet. Insight into how states can be expected to respond is reflected in the challenge mounted by a group of state commissions to the FCC’s determination regarding the interstate jurisdictional nature of Internet traffic, and those proceedings initiated by certain states to address IP telephony that are described above. In the absence of definitive guidance from the FCC regarding the jurisdictional nature of VoIP services, IP telephony services perceived to be purely intrastate — calls that originate and terminate within the same state — may become subject to a host of regulations historically imposed on telecommunications services at the state level.

Recently proposed local VoIP services appear to offer a service that does precisely that — provide customers with a service that originates and terminates in the state. The application of this technology for the provision of local exchange services raises a host of new issues beyond universal service, access charges and the other federal obligations identified above. One new issue is whether providers of local IP telephony services should be subject to the same basic local exchange service requirements to which traditional local exchange carriers are subject. Some of these requirements are: to provide 911 emergency services; equal access to long-distance carriers; state entry regulation; tariffing and other regulatory compliance obligations including miscellaneous surcharges; number portability; resale and interconnection. The effect of each of these potential regulations is discussed below.

A. 911 Emergency Services

Most states require local exchange carriers to provide access to public safety and emergency services as a requirement for offering service in the state. Such requirements are usually imposed on all providers of local exchange service, regardless. See Bell Atl. Tel. Cos. v. FCC, 206 F.3d 1 (D.C. Cir. 2000). On remand, the FCC reaffirmed that ISP-bound traffic is jurisdictionally interstate in nature and not subject to reciprocal compensation. See ISP Intercarrier Compensation Order, supra note 26, para. 1.

203 See ISP Intercarrier Compensation Order, supra note 57, para. 99.

204 See WorldCom, Inc. v. FCC, 288 F.3d 429 (D.C. Cir. 2002).

205 But see California v. FCC, 567 F.2d 84, 86 (D.C. Cir. 1977) (finding that when state regulation of intrastate equipment or facilities would interfere with achievement of a federal regulatory goal, the FCC’s jurisdiction is paramount and thus the FCC could regulate Foreign Exchange (“FX”) service and Common Control Switching Arrangement (“CCSA”) facilities even though those facilities are located entirely within single states, cert. denied, 434 U.S. 1010 (1978).

206 See supra note 1.

less of the technology used to provide that service. Providing access to 911 emergency services over IP-based networks appears to be technically feasible.206

While state law generally governs local 911 service, the FCC has recognized its importance for all telecommunications end-users. Providing nondiscriminatory access to 911 services to new entrants is a prerequisite for Bell operating companies seeking FCC authorization to provide interLATA service under Section 271.207 In fact, Ameritech's failure to provide such access contributed to the dismissal of its application to provide interLATA service in Michigan.208 The Commission also requires wireless carriers to provide access to emergency services for their subscribers.209 Given the federal and state interest in ensuring access to emergency services for all Americans, it is likely that providers of IP-based local telephone services will be required to provide access to 911 services for their customers. Even if IP telephony is marketed as a "secondary" or "no frills" offering, regulators will be unlikely to tolerate the possibility that the inability to reach an emergency service provider over an IP line could lead to death or serious injury.

A greater challenge for IP telephony providers, however, may be ensuring that customers can complete calls in an emergency. The electricity that comes in over the phone line, which allows them to continue to operate even during a power outage, powers most conventional single line phones.210 Because packet-switched networks do not have the same built-in power source that circuit-switched networks do, they are far more likely to be subject to service outages.211 To address similar reliability concerns, many states currently require cable operators that provide telecommunications services to supply a backup power source or a "network reliability unit."212 IP telephony providers may be subjected to similar backup power requirements as they become more prevalent substitutes for circuit-switched services.213

As is the case with conventional wireline telephone service, state regulators of providers of local IP telephony would probably impose a 911 requirement. Even without such a requirement, IP telephony providers may face civil liability for failure to connect emergency calls if death or injury results. Providers may attempt to reduce their liability in emergencies by conspicuously disclosing the limitations of their service to prospective customers, but such disclosures are unlikely to prevent lawsuits. The risk of liability will remain as long as there is a possibility that customers will not be able to complete calls in an emergency. If IP providers market their services as seamless substitutes for traditional telephone service, the liability risk will increase. Compliance with 911 regulations made applicable to IP telephony may be the most effective protection against such lawsuits.214

B. Equal Access to Long-distance Carriers

Local exchange carriers providing wireline services must provide their subscribers with equal access to long-distance providers under the Com-

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208 See In re Application of Ameritech Michigan, Pursuant to Section 271 of the Communications Act of 1934, as amended, to Provide In-Region, InterLATA Services in Michigan, Memorandum Opinion and Order, 12 FCC Rcd. 20,543, para. 5 (1997) (rejecting application for failure to provide nondiscriminatory access to operations support system, interconnection, 911 and E911 services).


210 See Newton's Telecom Dictionary 19 (15th ed. 1999). If the AC power fails, the telephone system can still operate by switching to a backup battery power supply, often called an uninterruptible power supply ("UPS"). Id. at 618.

211 See David Wallace, Using the Internet to Cut Phone Calls Down to Size, N.Y. Times, July 19, 2001, at G5.


214 Cf. Pub. L. No. 106-81, §4 (giving wireless carriers the same protection from liability as landline carriers in processing emergency calls).
mission's rules.\textsuperscript{215} Equal access allows end users to access the facilities of the long-distance carrier of their choice by dialing "1" or a five-digit access code (10XXX).\textsuperscript{216} Most competitive local exchange carriers ("CLECs") currently offer subscribers equal access, in large part, because state regulations require them to,\textsuperscript{217} although their obligation to do so under federal law is unclear.\textsuperscript{218} The FCC did not even propose to apply equal access obligations to all wireless carriers until 1994, twelve years after the first cellular licenses were awarded,\textsuperscript{219} and it is likely to be just as hesitant to apply equal access requirements to other emerging technologies like IP telephony.\textsuperscript{220} The related ban on unauthorized changes of a subscriber's carrier selection, or "slamming," also applies to all telecommunications carriers except CMRS providers.\textsuperscript{221}

In the context of a local VoIP offering, it is unclear whether IP telephony providers would be required to offer equal access, at least initially. The determination would probably hinge on whether the service was viewed as a basic local exchange service or a separate additional or secondary service to the customer's primary local exchange offering. This could be dictated in part by the way

\textsuperscript{215} Id.; 47 U.S.C. §251(g) (2000); see also In re MTS and WATS Market Structure Phase III, 100 F.C.C.2d 860, 862 (1985).
\textsuperscript{216} See In re Investigation of Access and Divestiture Related Tariffs, 101 F.C.C.2d 911, para. 1 (1985).
\textsuperscript{217} See generally Complaint of AT&T Communications of New York, Inc. Against Bell Atlantic-New York Concerning Bell Atlantic-New York's Management of the Primary Interexchange Carrier (PIC) Program, Proceeding on Motion of the Commission to Examine the Migration of Customers Between Local Carriers, Notice Inviting Comment in Case Nos. 00-C-0897, 00-C-0188 (N.Y. P.S.C. Dec. 28, 2000) (investigating the development of a system for freeze administration that will address the alleged shortfalls of the presubscription system); Application of Verizon N.Y. to Introduce Rates and Regulations for Unauthorized ISP PIC Changes, Decision in Dkt. No. 00-11-08 (Conn. D.P.U.C. Dec. 27, 2000) (approving Verizon's tariff for rates and regulations for unauthorized ISP PIC changes so that the charges will be assessed to the alleged unauthorized ISP carrier).
\textsuperscript{218} Compare 47 U.S.C. §251(g) (2000) (requiring "each local exchange carrier" to provide equal access) with Universal Service Order, 12 FCC Rcd. para. 79 (explaining that statutory and policy considerations prevent the extension of "symmetrical" equal access obligations to all carriers receiving universal service support); see also Notice of Inquiry Concerning a Review of the Equal Access and Nondiscrimination Obligations Applicable to Local Exchange Carriers, Notice of Inquiry, 17 FCC Rcd. 4015 (2002) (examining whether CLECs should be subject to equal access obligations).
\textsuperscript{219} See In re Equal Access and Interconnection Obligations Pertaining to Commercial Mobile Radio Services, Notice of Proposed Rulemaking and Notice of Inquiry, 9 FCC Rcd. 5408, 5412-50 (1994). These equal access requirements were later repealed with respect to wireless carriers. 47 U.S.C. §251(g) (2000) (applying equal access obligations to local exchange carriers providing wireline services).
\textsuperscript{220} See generally, e.g., 16 N.Y.C.R.R. § 605.1 (2002) (outlining the obligations of companies providing local exchange service); Proceeding on Motion of the Commission to Examine Issues Related to the Continuing Provision of Universal Service and to Develop a Regulatory Framework for the Transition to Competition in the Local Exchange Market, Case 94-C-0095, Opinion and Order Adopting Regulatory Framework, Opinion No. 96-13, at 31 (N.Y. P.S.C. May 22, 1996) (discussing the services all local exchange carriers are required to provide): DPUC Review of Procedures Regarding the Certification of Telecommunications Companies and of Procedures Regarding Requests by Certified Telecommunications Companies to Expand Authority Granted in Certificates of Public Convenience and Necessity, Dkt. No. 94-07-03, Decision (Conn. D.P.U.C. Mar. 15, 2001) (explaining the requirements for obtaining authority to provide local exchange services).
slamming requirements (those rules that prohibit the changing of a customer’s telephone service provider without the customer’s consent).

C. Entry Regulation, Resale, Number Portability and Interconnection

State commissions vary radically in their application of entry regulations. Most states continue to require any entity engaged in the provision of intrastate telecommunications services to seek authority prior to providing such services, and in many instances, these requirements apply to carriers providing only dedicated services or even resold services. Consequently, if phone-to-phone IP telephony services were determined to be intrastate telecommunications services, it is likely that the provision of such services by a new entrant would be subject to entry regulations.

Once such services are deemed to be telecommunications services, the provider becomes subject to all local exchange carrier requirements of the Communications Act, including number portability, resale and interconnection obligations. These obligations may pose special problems for local VoIP providers utilizing new technologies to offer their services. For example, a cable company providing local VoIP service through its digital set top box, which is also used for other cable products, may not be capable of providing the resale of its local VoIP service to other local exchange carriers. Alternatively, where such services are not determined to be telecommunications services and VoIP providers are not recognized local exchange carriers, these providers have no legal right to interconnect with other carriers or right to obtain telephone number resources. Both of these components are critical to a successful local voice service offering and could pose a practical barrier to entering or sustaining a position in the local marketplace.

VI. CONCLUSION

The regulatory status of IP telephony has not been definitively established. Regardless of that status, however, it is unlikely that — beyond the short term — providers of IP telephony will be able to avoid regulation completely. International, federal and state regulators have already begun considering whether universal service, access charges and various consumer protection rules should apply. As IP telephony providers make strides toward functionality and service levels comparable to that of circuit-switched telephony, they will grow more effective at arbitraging anachronistic regulatory regimes worldwide. This will inevitably lead to VoIP providers siphoning funds from entrenched subsidy mechanisms, thereby forcing the hand of regulators.

The IP telephony industry ultimately will be called upon to explain why it should remain unregulated. If VoIP truly achieves QoS levels on par with that of POTS, those who wish to stifle the growth of VoIP will be armed with the powerful argument that parity of service demands parity of regulation. The strength of the “parity of service/parity of regulation” argument will essentially leave regulators with two choices: (1) Regulate phone-to-phone VoIP in order to attain regulatory parity with POTS; or (2) Gradually deregulate POTS to achieve “deregulatory parity” with phone-to-phone VoIP when the services are truly substitutes.

The movement around the globe tends overwhelmingly toward the deregulation of telecommunications services. Accordingly, the second option will prove the most popular. The question thus becomes will old regulatory structures be dismantled before VoIP attains similar QoS standards to that of POTS? Considering that deregulatory efforts are a slow and politically sensitive process, the answer is, probably not.

Thus, some degree of regulation will be applied, but probably not all the rules identified above will ultimately be imposed — and those that are imposed will probably not be imposed all at once. It appears clear though, that the more IP telephony is touted as a substitute or even a complement for basic telephone service, the more likely regulation becomes. Offering IP telephony as a secondary or “no frills” service may help re-


\[225\] In re Implementation of the Local Competition Provi-

\[226\] See supra note 3.
duce the range of regulation, but it most likely will not prevent regulation entirely.