

Regulatory Status of VoIP in the Post-*Brand X* World

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Executive Summary

During the past several years, the Federal Communications Commission has engaged in a series of rulemakings to determine the regulatory status of Voice over Internet Protocol (VoIP). The Supreme Court's *Brand X* decision clarifies that even if the FCC's determination conflicts with that of a court, the FCC's judgment holds sway as long as the decision is reasonable. We believe that VoIP should be classified as an information service, rather than a telecommunications service, for several reasons. First, the Internet Protocol nature of VoIP technology means that it functions like an information service, rather than a telecommunications service. Second, in the Telecommunications Act of 1996, Congress clearly sought to bring competition to all communications markets; encouraging the development of VoIP by classifying it as an information service comports with congressional intent. Third, economic analysis demonstrates that subjecting VoIP to the full panoply of regulation under Title II of the Telecommunications Act would significantly reduce consumer welfare. Fourth, the FCC's own experience shows that, if the FCC believes that some selective regulation is necessary, it has ample authority to impose targeted regulation without subjecting VoIP to all regulations that affect telecommunications services.

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“VoIP is clearly not your father’s telephone service.”¹
–Michael K. Powell, Former Chairman, FCC

Introduction

During the past several years, the Federal Communications Commission has engaged in a series of rulemakings to determine how services and applications that make use of Internet Protocol (“IP-enabled services”) will be regulated.² Such services and applications include instant messaging, interactive games, gambling, virtual private networks, maps, various video services, and (perhaps most significantly) VoIP, or Voice over Internet Protocol (“VoIP”). IP-enabled services, including VoIP, travel over the Internet or over private communications networks, but they all function by utilizing Internet Protocol to transfer individually-addressed packets of data over communications networks. This contrasts with traditional telephone service, which typically requires a dedicated path between the users for the entire duration of the call.³

VoIP creates a particularly interesting quandary. Like e-mail, file retrieval, video, and other information services, it involves the transfer of bits across a communications network. In addition, VoIP that connects with the rest of the telephone network is a much closer substitute for ordinary landline telephony than these other information services, and hence it holds greater potential to erode revenues for both local and long-distance telephone service.⁴ Faced with these realities, the FCC could arguably classify VoIP as a regulated telecommunications service, or it could allow VoIP to develop freely as an information service. If the FCC decides VoIP is a telecommunications service, VoIP could be subject to extensive regulation as a common carrier under Title II of the Communications Act.⁵

Recent court decisions establish that the FCC’s determination is indeed the critical one that will govern the regulatory status of VoIP. In particular, the *Brand X* decision clarifies that even if the FCC’s determination conflicts with that of a court, the FCC’s judgment holds sway as long as the decision is reasonable. Furthermore, the FCC retains wide latitude to change its mind.

We believe that VoIP should be classified as an information service, for several reasons. First, the Internet Protocol nature of VoIP technology means that it functions like an information

¹ *In re* Petition for Declaratory Ruling that AT&T’s Phone-to-Phone IP Telephony Services are Exempt from Access Charges, F.C.C. 04-97, WC Docket No. 02-361, (rel. April 21, 2004) [hereinafter AT&T] (statement of FCC Chairman Michael K. Powell).

² For a complete summary of past and pending legal and regulatory actions see *In re* IP-Enabled Services, F.C.C. 04-28, WC Docket No. 04-36, at 17, ¶ 23-24 (rel. March 10, 2004) [hereinafter IP-Enabled Services].

³ *Id.* at 7-17, ¶ 8-22.

⁴ *Id.* at 14, ¶ 16. This paragraph also notes that providers of other IP-enabled services, such as instant messaging and gaming, are also incorporating voice features. To the extent that these voice components serve as a substitute for local or long-distance phone calls, they may raise some of the same issues as Internet-Protocol telephony.

⁵ *Id.* at 30-31, ¶ 42.

service, rather than a telecommunications service. Second, in the Telecommunications Act of 1996, Congress clearly sought to bring competition to all communications markets; encouraging the development of VoIP by classifying it as an information service comports with congressional intent. Third, economic analysis demonstrates that subjecting VoIP to the full panoply of Title II regulation would significantly reduce consumer welfare. Fourth, the FCC's own experience shows that, if the FCC believes that some selective regulation is necessary, it has ample authority to impose targeted regulation without making VoIP subject to all Title II regulations.

Section I of this Article explains the difference between VoIP and regular telephone service, and between telecommunications and information services. Section II outlines relevant FCC precedents, which strongly suggest that VoIP should be considered an information service. Section III shows why the FCC's decision will almost certainly be the definitive statement on the subject, regardless of whether the FCC follows its own precedents. Section IV shows how classifying VoIP as an information service is consistent with congressional intent and consumer welfare. Section V summarizes and concludes.

I. When is a Phone Call Not Telecommunications?

Traditional plain old telephone service (POTS) involves using circuit switching to the public switched telephone network (PSTN) operated by local telephone companies. As the name suggests, the call is made by a direct, continuous connection or circuit. VoIP uses “packet” rather than circuit switching. The call is broken down into little packets of digital bits and transported over the Internet.⁶ The individual packets need not follow each other like a parade of earth-bound circus elephants but can fly, like Dumbo, over an incalculable number of Internet paths of least resistance. If compared to the transportation of oil, PSTN resembles placing crude in a pipeline, while VoIP would be akin to separating it into several batches and sending it out on railcars or tanker trucks. Broadband Internet telephone companies, such as Vonage, typically offer software that enables the conversion of circuit switching into packet switching and vice versa. Using this technology, calls could go from computer to computer or from phone to computer or computer to phone over the Internet.⁷ VoIP looks and sounds like a conventional phone call but functions completely differently. While VoIP and POTS accomplish the same ends, their similarities parallel those of a bicycle to an airplane—both will take you places, but a bicycle is not an airplane and an airplane is not a bicycle.

The Telecommunications Act of 1996 rarely mentions telephones, but it extensively reforms regulation of telecommunications. Traditional POTS is considered telecommunications. Congress defined “telecommunications” as “the transmission, between or among points specified by the user, of information of the user’s choosing, *without change in form or content* of the information as sent or received.”⁸ A “telecommunications service” is “the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.”⁹ If a system falls within the definition of telecommunications, then it is classified as a common carrier and regulated under Title II of the Telecommunications Act. Title II consists of an exhaustive list of costly and intrusive regulations, but they can be avoided if a service manages to have itself classified as an information,¹⁰ rather than telecommunications service.

Congress defined “information service” as “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any such capability

⁶ Vonage Holdings Corp. v. Minnesota Pub. Utils. Comm’n, 290 F. Supp. 2d 993, 995 (D. Minn. 2003).

⁷ *Id.* at 994.

⁸ Communications Act of 1996, 47 U.S.C. § 153(43) (1996) (emphasis added).

⁹ 47 U.S.C. § 153(46) (1996).

¹⁰ Although information services are commonly considered free from the threat of regulations, this is not completely accurate. Classification as an information service merely shields a carrier from the Congressionally mandated common carrier regulations in Title II of the Telecommunications Act. The FCC does have the power to impose additional regulations on information services under its Title I ancillary jurisdiction. However, the traditionally competitive nature of information services has long persuaded the Commission to traditionally leave them alone. *See National Cable & Telecommunications Ass’n v. Brand X Internet Services*, 125 S. Ct. 2688, 2696 (2005) [hereinafter *Brand X*] (citing 47 U.S.C. 151-161).

for the management, control, or operation of a telecommunications system or the management of a telecommunications service.”¹¹

Although Congress formalized the definition of information systems in the 1996 Act, the FCC had long been trying to delineate the rapidly growing world of information systems from traditional telecommunications. In its 1980 *Computer II*¹² decision, the FCC began addressing the regulatory challenges posed by the growing interaction between telecommunications and computers.¹³ The Commission first distinguished between “basic services” and “enhanced services.” Basic services would continue to be regulated as common carriers under Title II of the Communications Act, but enhanced services would not.¹⁴ The concept of basic service was limited to a common carrier offering transmission capacity for the movement of information without net change in form or content.¹⁵ Enhanced services combined basic services with computer processing applications that act on the “format, content, code, protocol or similar aspects of the subscriber’s transmitted information, or provide the subscriber additional, different, or restructured information, or involved subscriber interaction with stored information.”¹⁶

Enhanced service not only included basic service, but the presence of the former “contaminated” the definition of the latter. In 1988, the FCC ruled that the presence of an enhanced component “contaminates” the basic component and “the entire offering is therefore considered to be enhanced.”¹⁷

In a 1998 report to Congress, the FCC found that “Congress intended the categories of “telecommunications service” and “information service” to parallel the definitions of “basic service” and “enhanced service.”¹⁸ So the legal definition of VoIP depends upon whether or not it more closely resembles the basic/telecommunications services or enhanced/information services definitions as laid down by Congress and the FCC.

The language in these definitions is both technical and complicated but extremely important. Their semantic baggage carries far-reaching ramifications for numerous corporations, investors, and consumers. In short, splitting hairs over words and definitions is worth billions of dollars. If VoIP is classified as a “telecommunications service,” then those providing it become common

¹¹ 47 U.S.C. § 153(20) (1996).

¹² Amendment of Section 64.702 of the Comm’n’s Rules & Regulations (Second Computer Inquiry), Tentative Decision & Further Notice Inquiry & Rulemaking, 72 F.C.C.2d 358 (1979), rule modification granted by 77 F.C.C.2d 384 (1980) [hereinafter *Computer II*], aff’d sub nom. *Computer & Communications Indus. Ass’n v. F.C.C.*, 693 F.2d 198 (D.C. Cir. 1982).

¹³ *Computer II*, 77 F.C.C.2d at 389-90.

¹⁴ *Computer II*, 77 F.C.C.2d at 387.

¹⁵ AT&T, *supra* note ___, at 3, ¶ 4 (citing *Computer II*, 77 F.C.C.2d at 419-22, paras. 93-99.)

¹⁶ *Vonage*, 290 F. Supp. 2d 993 at 998 n.2 (citing *Computer II*, at 384).

¹⁷ *Vonage*, 290 F. Supp. 2d 993 at 998 n.3 (citing *In re* Amendment to Sections 64.702 of the Commissions Rules and Regulations (3rd Computer Inquiry) 3 F.C.C.R. 1150, 1170 n. 23 (1988)).

¹⁸ *In re* Federal-State Joint Board on Universal Service, 13 FCC Rcd. P21, at 11511 (April 10, 1998) (Report to Congress) (“Universal Service Report”).

carriers and fall under Title II of the Telecommunications Act. As the FCC noted in its *AT&T* decision, common carrier status imposes significant regulatory burdens:

Title II of the Communications Act imposes certain requirements on common carriers, including requiring carriers to provide service on just, reasonable, and nondiscriminatory rates and terms; to comply with tariffing requirements for dominant carriers; to meet certain certification and discontinuance requirements; to comply with interconnection obligations; to contribute the universal service fund; to provide access to law enforcement for authorized wiretapping pursuant to CALEA, the Communications Assistance for Law Enforcement Act; to comply with disability accessibility requirements; and to comply with privacy requirements.¹⁹

The regulatory burdens of Title II are heavy. Definition as a telecommunications service means comprehensive government oversight, mandates, and compliance. A common carrier subject to Title II regulation must obtain FCC approval before starting or discontinuing service, may be subject to price regulation (unless the FCC decides it is a nondominant carrier), must interconnect with other carriers at FCC-determined rates, must contribute to the federal universal service fund, and must configure its network to comply with various public safety obligations. While traditional telephone service is clearly a telecommunications service, the competitive nature of computer-driven information services has led to them being classified separately and left relatively unregulated.

II. Precedents for Declaring VoIP an Information Service

Congress defined telecommunications and information services before VoIP became viable, which meant that legislators wrote the 1996 Act without contemplating an information service that might serve as a close substitute for a traditional telecommunications service.

The difference is easily illustrated by a comparison to shipping oil. If a Texas oilman wants to send one hundred barrels of oil from his well in Texas to a refinery in New Jersey, he can choose a pipeline, barge, tanker trucks, or railroad. If he chooses a pipeline, then the movement will be regulated by the Federal Energy Regulatory Commission (FERC). The railroads fall under the Surface Transportation Board (STB), while the Coast Guard looks after oil barges, and trucking has been largely deregulated. The end result is that oil will go from point A to point B, but the method of delivery may vary. Who regulates and what rules apply do not depend upon what is being done but how it is being done. If he sends his oil in a continuous stream over pipelines, then FERC regulates the rate paid. However, if he decides to bundle his oil into batches and send it in tanker trucks, then he will pay the going market rate—sans regulation.

The same has become true for phone calls. If our oilman wants to call New Jersey and check if his oil has arrived, his words can either go out over phone lines in a continuous stream, or they can be bundled up into little packets of data and transferred over the Internet. If his call goes out via the traditional method, then it is a “telecommunications service” and subject to regulation.

¹⁹ *AT&T*, *supra* note ____, at 4, ¶ 4 n.16 (citing 47 U.S.C. §§ 201-267 (1996)).

Use of the latter method should be classified as an “information service” and left relatively unregulated. Why would Congress choose to regulate one method and not the other? The answer is that Congress really didn’t.²⁰ VoIP largely evolved after passage of the Telecommunications Act of 1996. However, the fashion in which the Act separates telecommunications and information services most likely places VoIP in the latter category. VoIP looks like a duck and quacks like a duck but legally isn’t a duck.

A. State Litigation

Several states have already attempted to regulate VoIP and been taken to court, but the designation of a VoIP service has only been completely litigated once. In 2003, the Minnesota Public Utilities Commission (MPUC) attempted to impose state telephone regulations on Vonage Holdings Corp., which sued for an injunction.²¹ Federal District Judge Michael Davis ruled VoIP an information service.²² Furthermore, he held that Congress has expressed a clear intent to leave the Internet unregulated, and, since the Internet forms the backbone of VoIP service, the federal regulatory vacuum preempted any state attempt at regulation.²³ One might think that this ruling should have effectively immunized VoIP from both federal and state regulation. Following the case, the FCC issued a declaratory ruling preempting the MPUC from imposing any restriction on Vonage.²⁴ The district court and the FCC effectively precluded the State of Minnesota from imposing regulations, but the Vonage decision is unlikely to place any restraints on the FCC.

While the FCC’s declaratory ruling agreed with the district court on the issue of preemption, it declined to determine whether VoIP was a telecommunications or information service.²⁵ The district court has been affirmed, so VoIP is an information service in the Eighth Circuit, but the final legal status of VoIP remains far from settled. The recent *Brand X* decision implies that, even if the legal designation of VoIP pops up in courtrooms all over the country, the final decision will lie with the FCC. Every single federal district and circuit court in the nation could rule that VoIP is an information service, only to be simultaneously overruled by the FCC.

²⁰ See *In re Vonage Holdings Corporations Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Util. Comm.’n.*, F.C.C. 04-267, WC Docket No. 03-211, at 8-9, ¶ 14 (rel. Nov. 12, 2004) (citing Telecommunications Act of 1996, Pub. Law No. 104-104, 110 Stat. 56 (1996)(1996 Act)).

²¹ *Vonage Holdings Corp. v. The Minnesota Pub. Util. Comm’n.*, 290 F. Supp. 2d 993, (2003).

²² *Vonage*, 290 F. Supp. 2d at 1002.

²³ *Vonage*, 290 F. Supp. 2d at 997, 1002-1003.

²⁴ *In re Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Util. Comm.’n.*, F.C.C. 04-267, WC Docket No. 03-211, at 1, ¶ 1 (rel. Nov. 12, 2004). The MPUC appealed the case but was forbidden from bringing a collateral attack on the FCC’s ruling. In order to challenge the FCC, the MPUC would have to file a separate petition for review under the Hobbs Act and name the United States as a party. This made the declaratory ruling binding on the Eighth Circuit Court of Appeals. Since the declaratory ruling and the district court both held that state law had been preempted and the court of appeals could not review the declaratory ruling (because of the prohibition on collateral attacks), it had no choice but to affirm the district court. The MPUC could still challenge the FCC’s declaratory ruling, but it would have to start over again and sue the United States under Hobbs Act jurisdiction. See *Vonage Holdings Corp. v. The Minnesota Pub. Util. Comm’n* 394 F.3d. 568, 569.

²⁵ *In re Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Util. Comm.’n.*, F.C.C. 04-267, WC Docket No. 03-211, at 8, ¶ 14 (rel. Nov. 12, 2004).

The Telecommunications Act's drafters defined telecommunications and information services without contemplating VoIP, which in 1996 appeared decades, and many solved problems, away from viability. The term itself did not even exist until 1995.²⁶ Rapid advances in technology made VoIP marketable, creating telephone service that resembled telecommunications in form but functioned like an information service. In *Vonage Holdings Corp. v. The Minnesota Public Utilities Commission*, a federal district court wrestled with this problem and was left trying to decide which hole was the least misshaped to handle the VoIP peg.

While VoIP may clearly look like telecommunications or basic service, the definitions given by Congress and the FCC ensure that it is not. As defined by Congress, telecommunications involves the transmission of information "without change in form or content."²⁷ VoIP cannot be telecommunications, because, unlike circuit switching, VoIP involves transforming information into small packets of bytes. The change in "form" prevents VoIP from being defined as telecommunications, but, more importantly, the workings of VoIP more closely resemble the definition of an information service. VoIP makes the transmission of information over the Internet possible. In other words, it allows "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications."²⁸

The legal definition of VoIP becomes even clearer, when the FCC's definition of "enhanced service" is paralleled with the congressional definition of "information service." Enhanced service includes a basic service; just as an information service includes "making information available via telecommunications."²⁹ Therefore, the presence of a basic service or the use of telecommunications in an enhanced or information service does not a telecommunications service make. Furthermore, the definition of enhanced service includes certain magic words associated with VoIP. Even if a VoIP call goes out over a telephone line onto the Internet, it still combines the use of a basic service with the computer processing needed to make the call happen. VoIP may not change the "content" of the information, but it arguably changes the "format," "code," "protocol," "or similar aspects of the subscriber's information."³⁰ Agreeing with the parallels between the two sets of definitions, the Court in *Vonage* closely followed their language:

[T]he process of transmitting customer calls over the internet requires Vonage to "act on" the format and protocol of the information. For calls originating with one of Vonage's customers, calls in the VoIP format must be transformed into the format of the PSTN before a POTS (plain old telephone service) user can receive the call. For calls

²⁶ Paula K. Royalty, *When is a Phone Call Not A Phone Call? Legal Issues Arising from Business Use of VoIP*, 1 SHIDLER J. L. COM. & TECH. 1, at ¶ 1 (May 26, 2004).

²⁷ 47 U.S.C. 153(43).

²⁸ 47 U.S.C. 153(20).

²⁹ 47 U.S.C. 153(20).

³⁰ Enhanced services are defined as "services, offered over common carrier transmission facilities used in interstate communications, which employ computer processing applications that act on the format, content, code protocol, or similar aspects of the subscriber's transmitted information." 47 C.F.R. § 64.702(a); Universal Service Report, 13 FCC Rcd. P21, at 11511 (stating that the definition for enhanced services parallels the definition of information services).

originating from a POTS user, the process of acting on the format and protocol is reversed. The Court concludes that Vonage's activities fit within the definition of information services. Vonage's services are closely tied to the provision of telecommunications services as defined by Congress, the courts, and the FCC, but this Court finds that Vonage *uses* telecommunications services, rather than provides them.³¹

The Court noted that there are three forms of Internet Protocol (IP) telephony: (1) computer-to-computer, (2) telephone-to-computer, and (3) telephone-to-telephone. In its Universal Service Report, the FCC only examined phone-to-phone and computer-to-computer. While the FCC declined to explicitly classify either type, it did tentatively conclude that phone-to-phone IP telephony "lacks the characteristics that would render them "information services" within the meaning of the statute, and instead bear the characteristics of "telecommunications services.""³² The FCC declined to make a firm determination but did provide a set of conditions to determine whether a provider's offering constituted phone-to-phone telephony.

In using the term "phone-to-phone" IP telephony, we tentatively intend to refer to services in which the provider meets the following conditions: (1) it holds itself out as providing voice telephony or facsimile transmission service; (2) it does not require the customer to use CPE different from the CPE necessary to place an ordinary touch-tone call (or facsimile transmission) over the public switched telephone network; (3) it allows the customer to call telephone numbers assigned in accordance with the North American Numbering Plan, and associated international agreements; and (4) it transmits customer information without net change in form or content.³³

The Court concluded that Vonage did not meet the second or third conditions.³⁴ CPE stands for "customer premises equipment," and the CPE needed to place a call over the Internet differs from that used to place a normal POTS call.³⁵ The definition suggests that even what looks like a traditional phone-to-phone call may not be classified as telecommunications, provided the customer uses different CPE, such as a computer or broadband modem, or the change in format occurs on the customer's premises.

³¹ *Vonage*, 290 F. Supp. 2d 993, 999 (2003) (citations omitted) (emphasis in original). Of course, traditional telephone companies use computers too, but their use is limited to the capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service, which is specifically placed outside of the definition of an information system. This language had been added to the definition in order to allow the carriers to modernize the provision and use of basic services. *See In re* Petition for Declaratory Ruling that pulver.com's Free World Dialup is Neither Telecommunications Nor a Telecommunications Service, F.C.C. 04-27, WC Docket No. 03-45, at 9, ¶ 13 (rel. Feb. 19, 2004) [hereinafter Pulver].

³² Universal Service Report, 13 FCC Rcd. P89, at 11544.

³³ Universal Service Report, 13 FCC Rcd. P89, at 11543-44.

³⁴ *Vonage*, 290 F. Supp. 2d 993, 1000 (2003).

³⁵ *Vonage*, 290 F. Supp. 2d 993, 995 (2003).

B. Direct FCC Decisions on VoIP

1. Phone-to-Phone: AT&T

Classifying a telephone call as an information service depends on equipment used by the customer and/or whether or not a net change in form or content occurs. A telephone company cannot avoid regulation simply by routing part of a call over the Internet. The key element is the “net” change in form or content. *In re Petition for Declaratory Ruling that AT&T’s Phone-to-Phone IP Telephony Services are Exempt from Access Charges*,³⁶ the FCC addressed the issue of telephone companies attempting to skirt regulation by channeling part of their calls through the Internet. AT&T took calls over ordinary phone lines and transformed them into IP format once they reached their network. The carrier then shunted long distance calls over the Internet before converting them back into POTS format and channeling them through a local exchange carrier.³⁷ The only difference in AT&T’s method from a normal circuit-switched telephone call was its long distance routing over the Internet, rather than its traditional long distance circuit-switched network.³⁸ Under this system, AT&T would pay local exchange carrier (LEC) access charges on the caller’s end, but terminate the call to the receiving LEC’s switch through local business lines, which allowed them to avoid termination charges.³⁹

AT&T’s antics forced the Commission to classify these calls as telecommunications, but the FCC was very careful to narrowly apply the definition to an interexchange service that: (1) Uses ordinary customer premises equipment (CPE) with no enhanced functionality; (2) originates and terminates on the public switched telephone network (PSTN); and (3) undergoes no net protocol conversion and provides no enhanced functionality to end users due to the provider’s use of IP technology.⁴⁰

The Commission went on to classify its ruling as a “stop gap” measure that was “in no way intended to preclude the Commission from adopting a different approach when it resolves the *IP-Enabled Services* rulemaking proceeding in the *Intercarrier Compensation* rulemaking proceeding.”⁴¹ In other words, when forced to make a ruling, the Commission chose the narrowest one possible, and even shied away from making a firm pronouncement. It only stated that this sort of phone-to-phone IP telephony lacked the characteristics of an information service and bore the characteristics of a telecommunications service.⁴² Despite the narrow and soft language the Commission deemed this a telecommunications service because:

End-user customers do not order a different service, pay different rates, or place and receive calls any differently than they do through AT&T’s traditional circuit-switched long distance service; the decision to use its Internet backbone to route certain calls is

³⁶ AT&T, F.C.C. 04-97, WC Docket No. 02-361, (rel. April 21, 2004).

³⁷ AT&T, *supra* note, ____, at 1, ¶ 1.

³⁸ *Id.* at 8, ¶ 11.

³⁹ *Id.* at 8, ¶ 11.

⁴⁰ AT&T, *supra* note ____, at 1-2, ¶ 1.

⁴¹ AT&T, *supra* note ____, at 2, ¶ 2 and 7-8, ¶ 10.

⁴² AT&T, *supra* note ____, at 6, ¶ 8.

made internally by AT&T. To the extent that protocol conversions associated with AT&T specific service take place within its network, they appear to be “internetworking” conversions, which the Commission has found to be telecommunications service.⁴³

Consequently, when a provider of IP-enabled voice services contracts with an interexchange carrier to deliver interexchange calls that begin on the PSTN, undergo no net protocol conversion, and terminate on the PSTN, the interexchange carrier is obligated to pay terminating access charges.⁴⁴

However, while the Commission noted that this was a telecommunications service and did not meet the definition of an information service, it would be willing to revisit its decision if the service evolved to meet the definition of an information service.⁴⁵ For example, if AT&T had cut out the local exchange carriers and offered long distance VoIP services between customers’ computers in a fashion similar to Vonage, the Commission would probably not have taken such a dim view of AT&T activities.

2. Computer-to-Computer: Pulver.com

While a federal court thought Vonage an information service, and the FCC deemed that AT&T’s phone-to-phone Internet telephony was a telecommunications service, the Commission ruled that Pulver.com, a provider of computer-to-computer IP telephony, was an information service.⁴⁶

Pulver provided a service known as Free World Dialup (FWD). Once members had acquired a broadband connection and a session Internet protocol (SIP) phone or software that allowed their computers to function as “soft phones,” they could obtain a five or six digit FWD number, which allowed them to make free VoIP calls to other Pulver members over the internet.⁴⁷ Through its server, Pulver let members know which members were available to talk, how to contact members, and membership could include a voicemail feature if requested.⁴⁸ Pulver possessed no transmission facilities of its own but essentially made it possible for people to talk to each other over the Internet.⁴⁹

The Commission pointed out Pulver may “use” some telecommunications to provide its FWD directory service but that did not make FWD itself telecommunications.⁵⁰ Furthermore, as its name suggests, FWD is free of charge to users, and in order to be a telecommunications service, the service provider must assess a fee for its service. However, while this was certainly a factor

⁴³ AT&T, *supra* note ____, at 9, ¶ 12 (Citing *Non-Accounting Safeguards Order*, 11 FCC Rcd at 21957-58, para. 106).

⁴⁴ AT&T, *supra* note ____, at 14, ¶ 19.

⁴⁵ AT&T, *supra* note ____, at 9-10, ¶ 13.

⁴⁶ Pulver, *supra* note ____, at 18, ¶ 26.

⁴⁷ *Id.* at 3-4, ¶ 5.

⁴⁸ *Id.* at 7, ¶ 11.

⁴⁹ *Id.* at 5, ¶ 7.

⁵⁰ *Id.* at 6, ¶ 9.

in the FCC’s decision, it was by no means dispositive.⁵¹ The Commission could have halted its analysis with this point, but, instead, chose to continue.

Although Pulver provided its members with voice communications over long distances, the FCC rejected “looks and quacks like a duck” arguments comparing computer to computer IP telephony to traditional telephone service and stuck to the statutory definitions:

The fact that the information service Pulver is offering happens to facilitate a direct disintermediated voice communication, among other types of communications, in a peer-to-peer exchange cannot and does not remove it from the statutory definition of information service and place it within, for example the definition of telecommunications service. To find otherwise would not only ignore the fact that Pulver does not provide telecommunications, as explained above, but also ignore the capabilities described above that FWD makes available to its members.⁵²

For reasons provided herein, that FWD happens to, among other things enable members to talk over the Internet, as opposed to play video games, for example, does not affect out conclusion that FWD is most appropriately characterized as an unregulated information service.⁵³

The *Pulver* decision suggests that any future definition of VoIP services will depend upon how a system operates and not what it accomplishes. The fact that a service provides voice communications over long distances is largely irrelevant. This should leave most VoIP services unregulated. With this in mind, the FCC would be more likely to regulate a couple of children communicating through two tin cans joined with string than millions of consumers calling each other over the Internet.⁵⁴

C. The FCC’s Traditional Definitions

A federal district court has defined VoIP as an information service in *Vonage*. The FCC classified a very narrow form of VoIP as telecommunications in *AT&T*, but if *Pulver* is followed, then most VoIP services should be classified as information services. However, the FCC is not as rigidly tied to its precedents as the courts. The Commission may change its mind as long as it does not act arbitrarily or capriciously and is not hemmed in by unambiguous statutory language. This is not to suggest that the FCC does not adhere to its previous decisions, but that inconsistencies need only be explained, and even a lack of explanation may fail to invalidate some changes.⁵⁵

⁵¹ *Id.* at 7, ¶ 10 (citing 47 U.S.C. § 153(46) (definition of “telecommunications service”)).

⁵² *Id.* at 8, ¶ 12.

⁵³ *Id.* at 14, ¶ 19.

⁵⁴ The hypothetical of the two children and the tin can phone would, of course, also require that the string stretch over a state line (U.S.C. 152(a)) and one child charge the other for its use (47 U.S.C. 153(46)).

⁵⁵ “Agency inconsistency is not a basis for declining to analyze the agency’s interpretation under the *Chevron* framework. Unexplained inconsistency is, at most, a reason for holding an interpretation to be an arbitrary and capricious change from agency practice under the Administrative Procedures Act. For if the agency adequately explains the reasons for the reversal policy, “change is not invalidating, since the whole point of *Chevron* is to leave

As we observed in section I, the FCC considers its definitions of basic and enhanced services as synonyms for the statutory terms of telecommunications and information systems.⁵⁶ A basic service is transmission capacity for the movement of information without net change in form or content.⁵⁷ An enhanced service contains a basic service component but also involves some degree of data processing that changes the form or content of the transmitted information.⁵⁸ Generally, services that result in a protocol conversion are enhanced services, while services that result in no net protocol conversion to the end user are basic services.⁵⁹ Since the Commission found that the enhanced service market was highly competitive and subject to low barriers to entry, it decided not to treat providers of enhanced services as common carriers subject to regulation under Title II of the Communications Act.⁶⁰ Apparently approving of the Commission's action, Congress later spelled out this policy explicitly, lest the FCC ever change its mind.⁶¹

Like basic services and enhanced services, telecommunications services and information services are separate and distinct categories, with Title II regulation applying to telecommunications services but not to information services.⁶² The Commission also found that services that involve no net protocol conversion are telecommunications services, rather than information services, under the 1996 Act definitions.⁶³

With respect to protocol conversion and phone-to-phone services, the Commission noted in the *Stevens Report* and its *Non-Accounting Safeguards Order* that “certain protocol processing services that result in no net protocol conversion to the end user are classified as basic services; those services are deemed telecommunications services.”⁶⁴ The Commission further stated, “The protocol processing that takes place incident to phone-to-phone IP telephony does not affect the service's classification, under the Commission's current approach, because it results in no net protocol conversion to the end user.”⁶⁵

the discretion provided by the ambiguities of a statute with the implementing agency.” “An initial agency interpretation is not instantly carved in stone.” Brand X, 125 S. Ct. at 2699-2700 (emphasis in original) (citations omitted).

⁵⁶ AT&T, *supra* note ____, at 4-5, ¶ 6 (citing *Non-Accounting Safeguards Order*, 11 FCC Rcd at 21955-58, paras. 102-107; *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report to Congress, 13 FCC Rcd 11501, 11507-08, 11516-17, paras. 13, 33 (1998)(*Stevens Report*)).

⁵⁷ AT&T, *supra* note ____, at 3, ¶ 4 (citing *Computer II Final Decision*, 77 FCC 2d at 419-22, paras. 93-99.)

⁵⁸ AT&T, *supra* note ____, at 3, ¶ 4 (citing *Computer II Final Decision*, 77 FCC 2d at 420-21, paras. 97.)

⁵⁹ AT&T, *supra* note ____, at 3, ¶ 4.

⁶⁰ AT&T, *supra* note ____, at 4, ¶ 4 (citing *Computer II Final Decision*, 77 FCC 2d at 432-35, paras. 126-132).

⁶¹ See *Vonage*, 290 F. Supp. 2d at 998-999 (citing 47 C.F.R. § 64.702(a)).

⁶² AT&T, *supra* note ____, at 5, ¶ 6 (Citing *Stevens Report*, 13 FCC Rcd at 11507-08, para. 13).

⁶³ AT&T, *supra* note ____, at 5, ¶ 6 (Citing *Non-Accounting Safeguards Order*, 11 FCC Rcd at 21957-58, para. 106). Similarly, the Commission found that certain classes of “expected” protocol processing services are telecommunications services as well. *Non-Accounting Safeguards Order*, 11 FCC Rcd at 21958, para. 106.

⁶⁴ AT&T, *supra* note ____, at 5, ¶ 7 (citing *Stevens Report*, 13 FCC Rcd at 11526, para 50 (citing *Non-Accounting Safeguards Order*, 11 FCC at 21958 para. 107)).

⁶⁵ AT&T, *supra* note ____, at 5, ¶ 7 (citing *Stevens Report*, 13 FCC Rcd at 11527, para. 52).

In the case of computer-to-computer telephony, users placed calls over the Internet using software and hardware at their premises. These calls went out over an unregulated Internet Service Provider (ISP), and the ISP may not even have been aware that a voice call was taking place. Thus, the Commission concluded that the ISP was not providing communications service to its subscribers.⁶⁶

If the FCC's prior rulings and traditional definitions are any indication, forms of VoIP that involve the conversion of calls into IP-enabled format at the consumer's premises should be classified as enhanced/information services. In order to avoid the costs of regulation, a consumer need only convert his call into IP format through his computer or possess some sort of device that accomplishes the same ends and is not ordinary telephone CPE.

Pulver.com and AT&T both sent telephone calls over the Internet, but the FCC deemed one a telecommunications service and the other an information service. These two declaratory rulings have established the telecommunications and information services extremes of VoIP. The space in between remains to be filled.

If the FCC was a court and forced to follow its own legal precedents, then most VoIP would likely be defined as information services and left unregulated. However, *Brand X* illuminates a double proposition: (1) the FCC's determination of ambiguous statutory language may conflict with that of the courts provided it is reasonable; and (2) the Commission remains free to change its mind.

Is it reasonable to think of VoIP as an information service? The answer is yes. Is it reasonable to think of VoIP as a telecommunications service? The answer is also yes. Like the federal district court in the Vonage case, a judicial determination, closely following the statutory and FCC definitions of telecommunications/basic and information/enhanced services would probably rule most VoIP as information services. But the FCC is not a court, so any decision lies purely within its *Chevron* discretion. Therefore, the FCC remains free to make its decision in a legal vacuum.

III. The Meaning of *Brand X*: Why the FCC Will Have the Final Say

Whatever the correct legal definition of VoIP, a recent decision by the Supreme Court all but ensures that the FCC will have the final say on the matter. Press coverage surrounding the consolidated cases of *National Cable and Telecommunications Association v. Brand X* and *FCC v. Brand X*, 125 S. Ct. 2688 (2005) framed the decision as if the Supreme Court had decided that cable companies were not common carriers and therefore did not have to share their lines with others.⁶⁷ While this was the de facto outcome of the decision, the Court did not specifically rule on this issue. *Brand X* revolved around the classification of high-speed broadband Internet connections over cable lines.⁶⁸ If the FCC classified broadband cable modem service as a

⁶⁶ AT&T, *supra* note ____, at 5, ¶ 7.

⁶⁷ See Yuki Noguchi, *Cable Firms Don't Have to Share Networks, Court Rules*, WASHINGTON POST, June 28, 2005, at D01.

⁶⁸ *National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 125 S. Ct. 2688 (2005) [hereinafter *Brand X*].

telecommunications service, then the cable companies' broadband lines would become common carriers and fall under the extensive regulations in Title II of the Communications Act. However, the FCC decided that cable modem broadband resembled an information service, which shielded it from common carrier status and regulation.⁶⁹

The FCC's determination was challenged in court, and a judicial lottery assigned it to the Ninth Circuit.⁷⁰ Unfortunately for the FCC, a previous Ninth Circuit case, *AT&T Corp. v. Portland*, 216 F.3d 871 (CA9 2000), had already classified cable modem broadband as a telecommunications service.⁷¹ So the issue litigated was not the legal disposition of broadband cable modem service, but, rather, whether the final say belonged to the FCC or legal precedent. Under *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984), clear statutory language gives agencies little deference, but ambiguous language brings great latitude, and an agency's interpretation need only be reasonable.⁷²

However, the Ninth Circuit ignored *Chevron* and applied the judicial definition of broadband cable modem service supplied by *AT&T Corp. v. Portland*.⁷³ It reasoned that, since case law had already ruled cable modem broadband a telecommunications service, the FCC could not say otherwise. The Supreme Court disagreed. According to *Brand X*, while a court had ruled on the issue, this did not eliminate the agency's *Chevron* deference. A court and an agency could reach opposite conclusions over ambiguous language, but, provided its conclusion was reasonable, the final, legal say fell to the agency.⁷⁴

In order for a court or precedent to trump an agency's discretionary construction, "the court must hold that the statute unambiguously requires the court's construction."⁷⁵ If a court considered the statutory language unambiguous, then its interpretation would be binding on the Commission. Ambiguous language would remain the ward of the FCC, and a court might only impose on the Commission if its construction of the language defied reasonableness, which, although an ambiguous term in itself, is decidedly broad.⁷⁶ Even if the FCC's determination defied

⁶⁹ See *Brand X*, 125 S. Ct. at 2698.

⁷⁰ *Id.* at 2698.

⁷¹ *Id.* at 2702.

⁷² "In *Chevron*, this Court held that ambiguous language in statutes within an agency's jurisdiction to administer are delegations of authority to the agency to fill the statutory gap in reasonable fashion. Filling these gaps, the Court explained, involves difficult policy choices that agencies are better equipped to make than courts. If a statute is ambiguous, and if the implementing agency's construction is reasonable, *Chevron* requires a federal court to accept the agency's construction of the statute, even if the agency's reading differs from what the court believes is best statutory interpretation." *Brand X*, 125 S. Ct. at 2699 (emphasis in original) (citations omitted).

⁷³ Although the case defined cable modem broadband Internet service as a telecommunications service, it did not concern the issue of agency delegation, and the FCC was not a party. The Ninth Circuit mistakenly believed that the definition in *Portland* overrode the contrary conclusion made by the FCC. *Brand X*, 125 S. Ct. at 2698-2699.

⁷⁴ See *Id.* at 2699.

⁷⁵ *Id.* at 2702.

⁷⁶ *Mobil Oil Exploration v. United Distribution*, 498 U.S. 211 (1991) serves an excellent example of the breadth of reasonableness. In this case, the Federal Energy Regulatory Commission (FERC) set the price ceiling for natural gas above the market price. This move essentially deregulated the market FERC had been charged with regulating. In an 8-0 decision (Justice Kennedy took no part), the Supreme Court held FERC's conduct reasonable.

reasonableness, the courts would be more likely to remand the matter back to the Commission for another try, rather than imposing their own reasonable interpretation.

In *Brand X*, the Supreme Court did not rule whether or not cable modem broadband was a telecommunications or information service, but only examined whether it was reasonable for the FCC to classify it as an information service.⁷⁷ Broadband cable modem service has not been ordained an information service for all time by the power of the United States Supreme Court, but, rather, its legal definition lies at the pleasure of the FCC. Changing cable modem broadband's designation to a telecommunications service would not hinge on overturning *Brand X*, but would merely require a reasonable change of heart at the FCC.⁷⁸

The lesson learned from *Brand X* is that any legal determination of VoIP will be made by the FCC rather than the courts. The majority in *Brand X* found it reasonable to classify cable modem broadband as an information service,⁷⁹ while the dissent thought it clearly a telecommunications service.⁸⁰ True, VoIP has made it into the courts and been ruled an information service, but this is precisely the same thing that happened in the *Portland* case, whose misapplication led to the Ninth Circuit's reversal in *Brand X*. It is reasonable to define VoIP as an information service, but it is also reasonable to define it as a telecommunications service.

While both definitions fall within the cloud of reasonableness, an examination of the potential legal definition of VoIP reveals that one is definitely more reasonable than the other. Furthermore, the precedential pressure towards definition as an information service is reinforced by an even more compelling consumer welfare argument, grounded both in economic analysis and the congressional intent underlying the Telecommunications Act.

IV. VoIP Should Be Classified as an Information Service

Legal precedent and prior FCC decisions push VoIP into the information service category, but *Chevron* deference prevents the deal from sealing. In this section, we shall explore the case for classifying VoIP as an information service by examining the intent of the Telecommunications Act of 1996 and the effects of various aspects of Title II regulation on consumer welfare.

⁷⁷ See *Brand X*, 125 S. Ct. at 2705-2706.

⁷⁸ “Agency inconsistency is not a basis for declining to analyze the agency’s interpretation under the *Chevron* framework. Unexplained inconsistency is, at most, a reason for holding an interpretation to be an arbitrary and capricious change from agency practice under the Administrative Procedures Act. For if the agency adequately explains the reasons for the reversal policy, “change is not invalidating, since the whole point of *Chevron* is to leave the discretion provided by the ambiguities of a statute with the implementing agency.” “An initial agency interpretation is not instantly carved in stone. On the contrary, the agency ... must consider varying interpretations and the wisdom of its policy on a continuing basis,” for example, in response to changed factual circumstances, or a change in administrations. That is no doubt why in *Chevron* itself, this Court deferred to an agency interpretation that was a recent reversal of agency policy.” *Brand X*, 125 S. Ct. at 2699-2700 (emphasis in original) (citations omitted).

⁷⁹ *Id.* at 2708.

⁸⁰ *Id.* at 2718 (2005) (Scalia J., dissenting).

A. Intent of the Telecommunications Act of 1996

The clearest statement of the Telecommunications Act's intent can be found in the preamble: "To promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies."⁸¹ The courts may find the language of the Telecommunications Act of 1996 ambiguous,⁸² but the intent is clear. The purpose of the Act was to deregulate, promote competition, and advance new technologies.

The law's sponsor, Senator Larry Pressler, echoed the preamble's call for a deregulatory, pro-competition, pro-consumer interpretation of the Act on the Senate floor and in an article published in *Roll Call*. However, the senator added a cautionary note to the FCC. While the FCC had been given broad discretion, it must not lose sight of congressional intent that it constrain itself and not act to the detriment of consumers:

Thanks to my bill, the communications industry will see an explosion in new investment and development. Who are the winners? The consumers. There will be more services and new products at lower costs. All of this economic activity will mean new jobs. Competition is the key for this development. My bill unlocked the regulatory handcuffs restricting the communications industry—now, competition will bring everything from lower costs and new products to better education opportunities to the public.

First and foremost, Congress needs to make sure that what the American consumer won on the legislative battlefield isn't lost on the regulatory drawing board. In other words, we need to make sure that the FCC carries out the intent of Congress as it implements the tenets of the Telecommunications Act.⁸³

Senator Pressler's article gives us an important insight into the intent of the Telecommunications Act of 1996. The driving force behind the Act was the desire to foster innovation and technology development, which should bring new services to consumers at lower costs. Furthermore, Pressler stresses the need to remove the "regulatory handcuffs" restricting the industry from bringing competition, new products, and lower prices to consumers. Pressler's second comment implies that the Act was intended to benefit consumers. Therefore, the FCC should pay very close attention to consumer welfare when implementing its provisions. Perhaps fearing that he had not been clear, the senator continued to refine and simplify his remarks:

It [the Telecommunications Act of 1996] is procompetitive and deregulatory. The Telecommunications Act of 1996 will get everybody into everybody else's business ... It will do a great deal for consumers. For example, and specifically, it will lower prices on local telephone calls through competition. It will lower prices on long-distance calls

⁸¹ Preamble, Telecommunications Act of 1996, Pub. Law No. 104-104 (1996).

⁸² "It would be gross understatement to say that the 1996 Act is not a model of clarity. It is in many important respects a [model of ambiguity] or indeed even [self contradiction]. *AT&T v. Iowa Utilities*, 525 U.S. 366, 397 (1999) (Opinion of Scalia J.) (parenthesis in original).

⁸³ Senator Larry Pressler, *Telecom Reform: It Ain't Over 'Til It's Over*, 104 Cong. Rec. at S2207-2208 (March 15, 1996), reprinted from *Roll Call*, Mar. 11, 1996.

through competition. It will lower cable TV rates through competition. It will provide an explosion of new devices, services and inventions.⁸⁴

VoIP is one of those new devices, services, and inventions. Based on that fact alone, one might even make the argument that the statutory language is unambiguous and denies the FCC the discretion to impose Title II on VoIP by declaring it a telecommunications service.

The case against Title II regulation becomes even stronger when one realizes that original justifications for all Title II telecommunications regulation are eroding. In *AT&T v. Iowa Utilities*, Justice Scalia commented that he believed the Telecommunications Act of 1996 reflected Congress's belief that advances in technology had made competition among local providers of telephone services possible, and thus, they were no longer natural monopolies.⁸⁵ In his concurring opinion (circa 1999), Justice Breyer wondered aloud, "Will wireless technology or cable television lines, for example, permit the efficient provision of local telephone service without the use of existing telephone lines that now run house to house?"⁸⁶ In response, Hausman and Sidak mused that such a substitution would have the effect of rendering the unbundling of local phone service in some geographic markets—a regulation dating from only 1996—"unnecessary and inappropriate."⁸⁷

Not only did Congress write the Telecommunications Act recognizing that one of the primary reasons for regulating telephone service (natural monopoly) no longer existed, but Justice Breyer correctly divined that the march of progress might soon invalidate the reasons for forced unbundling or open access. Widespread wireless and cable telephony may have seemed a long way off in 1999, but they are a reality today.⁸⁸ VoIP enables any cable modem user to make phone calls, without the cable company having to make much in the way of new investment in special equipment for cable telephony. If technology has eroded much of the need for Title II regulation of incumbents, then why should any attempt be made at imposing it on new entrants like VoIP? At a minimum, the legislative history suggests that Title II regulation is unnecessary for the new technologies that the Act seeks to promote, because these new competitors are not monopolists.

B. Economic analysis supports classifying VoIP as an information service

Even if the FCC has "reasonable" discretion to decide whether VOIP is an information or telecommunications service, we are left with the question of what should guide regulators when they choose among alternative interpretations that might all be considered reasonable. The

⁸⁴ Senator Larry Pressler, Comments introducing the Conference Report on the Senate Floor (Feb. 1, 1996).

⁸⁵ Jerry A. Hausman & J. Gregory Sidak, *A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks*, 109 YALE L.J. 417, 436 (1999) [hereinafter Hausman & Sidak].

⁸⁶ Hausman & Sidak, at 445 (citing Breyer J. concurring at 753).

⁸⁷ Hausman & Sidak, at 445.

⁸⁸ Jerry Ellig, *Intercarrier Compensation and Consumer Welfare*, 2005 U. OF ILL. J. OF LAW, TECH, & POL'Y 97, 117 (2006) (citing evidence that wireless has become a substitute for wireline telephones, that the actual cost of wireless and cable telephony in urban areas is equivalent to the actual cost of wireline phone service, and that telephone service packages are available from competitors in a number of cities at prices comparable to those charged by incumbent telephone companies).

Telecommunications Act’s emphasis on competition and consumer welfare presents a significant opportunity for the FCC to incorporate economic analysis into its decision making. In a 1999 article concerning unbundling of local telephone service, Jerry Hausman and J. Gregory Sidak proposed that the maximization of consumer welfare guide the FCC’s decisions:

It does not follow, of course, that the Commission should pick any point that lies in the zone of reasonableness along the continuum of possible statutory interpretations. Rather, the Commission should adopt an interpretation that represents its best efforts to identify the *optimal* point along the continuum, where “optimality” is realized through consumer-welfare maximization.⁸⁹

Hausman and Sidak argued that implementing the sections of the Telecommunications Act dealing with the open access and unbundling of local phone service should be guided by antitrust law and, specifically, the essential facilities doctrine. Although the essential facilities doctrine has never been formally endorsed by the Supreme Court, it hasn’t been rejected either.⁹⁰ In *AT&T v. Iowa Utilities*, justices Breyer and Scalia both appeared to invite the FCC to employ the essential facilities doctrine when formulating regulation dealing with open access to local telephone networks. Hausman and Sidak believe that using antitrust tools implies the primary end of antitrust law—the maximization of consumer welfare.⁹¹ Regardless of one’s view of the essential facilities doctrine, their broader point that consumer welfare should guide regulators to the most reasonable decision merits wider discussion. Consequently, the following sections examine the effect on consumer welfare of applying various aspects of Title II regulation to VoIP.

1. Price and entry regulation

It is doubtful that price and entry regulation of VoIP under Title II would promote consumer welfare. Price regulation can improve consumer welfare if the regulated industry is a “natural monopoly”—that is, if the relationship between costs and demand makes it possible for a single firm to serve the entire market at lower cost than multiple firms—and if sunk costs eliminate the potential for entry. In that case, price regulation may mitigate the single firm’s market power. Common carrier regulation helps assure that the firm cannot limit output by refusing to serve some customers at the regulated price. Entry regulation can improve consumer welfare if a natural monopoly is “unsustainable”—that is, if a peculiar set of cost conditions would lead to the presence of more than one firm in the market even though a single firm can serve the entire

⁸⁹ Hausman & Sidak, *supra* note ____, at 422 (emphasis in original).

⁹⁰ *Id.* at 446 (citing Breyer J. Concurring). The essential facilities doctrine holds that the owner of an essential facility should be forced to share it with his competitors if certain conditions are met. Although a popular topic of conversation among antitrust jurists, the Supreme Court seems content to never settle the issue and has thus maintained the cottage industry of legal scholarship that has sprung up around it.

⁹¹ *Id.* at 422.

market at lowest total cost.⁹² In the absence of monopoly, economic regulation is at best superfluous and at worst a source of market power and increased consumer costs.⁹³

In its IP-Enabled Services NPRM, the FCC notes that monopoly ownership of the public switched telephone network is the principal reason for much of the economic regulation that it implements. Conversely, the FCC notes, “To the extent that the market for IP-enabled services is not characterized by such monopoly conditions, we seek comment on whether there is a compelling rationale for applying traditional economic regulation to providers of IP-enabled services.”⁹⁴ In a subsequent section, the Commission inquires “whether any of these economic regulations are appropriate in the context of IP-enabled services, given that customers often can obtain these services from multiple, intermodal, facilities- and non-facilities-based service providers.”⁹⁵

Given the Commission’s assumptions, the answer suggested by economic research is a resounding “No.” The history of telecommunications, as well as a wide variety of other regulated industries, suggests that consumers bear significant costs when economic regulation becomes a substitute for competition.⁹⁶ Deregulation and competition in the long-distance

⁹² See generally WILLIAM J. BAUMOL, JOHN C. PANZAR, AND ROBERT D. WILLIG, *CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE* (1982).

⁹³ For a sample of the economics literature outlining the perverse incentives created when economic regulation substitutes for competition, see Thomas W. Hazlett, *Competition vs. Franchise Monopoly in Cable Television*, 4 CONTEMPORARY POLICY ISSUES 80, 80-97 (April 1986); Hazlett, *Prices and Outputs Under Cable TV Reregulation*, 12 JOURNAL OF REGULATORY ECONOMICS 173, 173-97 (Sept. 1997); Hazlett, *Spectrum Flash Dance: Eli Noam’s Proposal for ‘Open Access’ to Radio Waves*, 41 J.L. & ECON. 805, 805-20 (Oct. 1998); Hazlett et. al., *Was the Fairness Doctrine a ‘Chilling Effect’?: Evidence from the Postderegulation Radio Market*, 26 JOURNAL OF LEGAL STUDIES 279, 279-301 (Jan. 1997); WALTER M. PRIMEAUX, JR., *DIRECT ELECTRIC UTILITY COMPETITION* (1986); JOHN E. KWOKA, JR., *POWER STRUCTURE: OWNERSHIP, INTEGRATION, AND COMPETITION IN THE U.S. ELECTRICITY INDUSTRY* (1996); George J. Stigler and Claire Friedland, *What Can Regulators Regulate? The Case of Electricity*, 5 J.L. & ECON. 1, 1-16 (1962); Thomas G. Moore, *The Effectiveness of Regulation of Electric Utility Prices*, 36 SOUTHERN ECONOMIC JOURNAL 365, 365-75 (April 1970); UNNATURAL MONOPOLIES: THE CASE FOR DEREGULATING PUBLIC UTILITIES (Robert Poole ed., D.C. Heath 1985); Jerry Ellig and Michael Giberson, *Scale, Scope, and Regulation in the Texas Gas Transmission Industry*, 5 JOURNAL OF REGULATORY ECONOMICS 79, 79-80 (March 1993).

For discussions of the political influence costs associated with regulation, see Michael Crew and Charles Rowley, *Toward a Public Choice Theory of Monopoly Regulation*, 57 PUBLIC CHOICE 57 49, 49-67 (1988): 49-67; JAMES BUCHANAN, ROBERT TOLLISON, AND GORDON TULLOCK, *TOWARD A THEORY OF THE RENT-SEEKING SOCIETY* (Texas A&M University Press 1980); H.G. Broadman and J.P. Kalt, *How Natural is Monopoly? The Case of Bypass in Natural Gas Distribution Markets*, 6 YALE J. ON REG. 181, 181-280 (1989); Jerry Ellig, *Why Do Regulators Regulate? The Case of the Southern California Gas Market*, 7 J. OF REG. ECON. 293, 293-308 (1995); Thomas W. Hazlett, *Assigning Property Rights to Radio Spectrum Users: Why Did FCC License Auctions Take 67 Years?*, 41 J.L. & ECONOMICS 277, 277-285 (Oct. 1998); Hazlett, *Oak Leaves and the Origins of the 1927 Radio Act: Comment*, 95 PUBLIC CHOICE 277, 277-285 (June 1998); Hazlett, *The Cost of Rent-Seeking: Evidence from Cellular Telephone License Lotteries*, 59 SOUTHERN ECONOMIC JOURNAL 425, 425-435 (Jan. 1993); Hazlett, *The Demand for Regulate Franchise Monopoly: Evidence from CATV Rate Deregulation in California*, 29 ECONOMIC INQUIRY 275, 275-96 (April 1991).

⁹⁴ IP-Enabled Services, *supra* note ____, at 5, ¶ 5.

⁹⁵ IP-Enabled Services, *supra* note ____, at 50, ¶ 74.

⁹⁶ For a summary of relevant research, see Clifford Winston, *Economic Deregulation: Day of Reckoning for Microeconomists*, 31 JOURNAL OF ECONOMIC LITERATURE 1263, 1263-89 (Sept. 1993); Robert Crandall and Jerry Ellig, *Economic Deregulation and Customer Choice*, (Center for Market Processes, Fairfax, VA, 1997); Kenneth W.

telecommunications, airline, railroad, natural gas, and trucking industries have led to price reductions and other consumer benefits worth more than \$50 billion annually; regulation deprived consumers of these benefits.⁹⁷

The tone of the NPRM suggests that the FCC is suspicious of proposals to impose economic regulation on IP-enabled services; economic research shows that this suspicion is well-grounded. The Commission should be concerned about monopoly in an IP-enabled service only if such monopoly can be shown to flow from a firm's pre-existing monopoly over some other part of the telecommunications network. And in that case, the preferred remedy should be one that prevents the spread of monopoly to IP-enabled services, rather than one that substitutes economic regulation for competition.

VoIP has evolved into a viable alternative to old-fashioned telephone service. The history of economic regulation suggests that application of price and entry regulation will hinder this development and retard the growth of competition in local telecommunications markets.

2. Interconnection and access charges⁹⁸

Title II regulation requires telecommunications carriers to interconnect on rates, terms, and conditions that are "just and reasonable."⁹⁹ While many VoIP providers would like to interconnect with the public switched telephone network, the terms under which they do so are a contentious issue.

A key political problem is that VoIP substitutes for long-distance service. Long-distance telephone companies pay per-minute access charges when they interconnect with local telephone companies at both ends of the call. There is virtually unanimous agreement among regulatory economists that historically, these charges have been used to subsidize local telephone service.¹⁰⁰ Since the 1980s, the FCC has gradually reduced access charges and made up the revenues with the fixed Federal Subscriber Line charge.

Information service providers are exempt from access charges. Instead, they pay for phone service as business customers. In so doing, they help subsidize local residential service, because

Costello and Robert J. Granieri, *The Deregulation Experience: Lessons for the Electric Power Industry*, (National Regulatory Research Institute, Columbus, OH, 1996).

⁹⁷ Crandall and Ellig, *supra* note 96 (1997).

⁹⁸ The discussion in this section draws heavily on Ellig, *supra* note 88.

⁹⁹ 47 U.S.C. 251.

¹⁰⁰ Wayne Leighton, *Consumers and Cross-subsidies: An Interest Group Theory of Telecommunications Regulation* (1996) (unpublished Ph.D. dissertation, George Mason University) (on file with author). The argument that long-distance service does not cross-subsidize local service is based on the assumption that local loop costs are "common costs" of producing long-distance and local service. However, the fact that customers might use local phone lines for both local and long-distance calls does not mean that local loops are common costs for the phone companies. A loop provides a customer with access to the telecommunications network. The cost of any loop is incremental to the rest of the system, and a loop receives a subsidy if it does not cover its incremental costs. For a thorough discussion of theory and evidence, see Steve G. Parsons, *Cross-Subsidization in Telecommunications*, 13 JOURNAL OF REGULATORY ECONOMICS 157, 157-82 (1998).

business rates (at least for small and medium-size businesses) tend to be much higher than residential rates even though the cost of providing the service is similar.¹⁰¹

The Commission's "pulver.com" decision holds that a service that helps its customers make voice calls to each other over the Internet is an unregulated information service,¹⁰² and hence exempt from access charges. Other VoIP providers, however, connect their users with other callers on the public switched telephone network.¹⁰³

The current system of access charges is intended to promote universal service. The assumed public benefit is that more people subscribe to local phone service because access charge revenues are used to subsidize monthly local rates. This benefit may address a market failure, reflecting the internalization of a genuine externality, under three conditions:

1. The value of telephone service to each subscriber rises when other subscribers join the network,
2. This increase in value is large enough that current subscribers would be willing to subsidize these new subscribers, and
3. Individuals fail to take this increased value into account when they decide whether to subscribe.¹⁰⁴

Even if these conditions hold, a regulatory response may not be necessary, because the owner of the network has strong financial incentives to maximize the value of the network by crafting subsidies to new subscribers if subsidies are needed to internalize the externality.¹⁰⁵ Alternatively, policymakers may believe that an increase in telephone connectivity is a good thing even if there is no externality.¹⁰⁶ Regardless of whether an externality exists, most research suggests that access charges impose significant costs on consumers, but the cross-subsidies generate little increase in telephone subscriptions. It should also be noted that most of the infrastructure for universal service is already in place, and that universal service is a reality. Furthermore, the recent explosion of wireless coverage was achieved as a result of reduced prices, not cross-subsidies.

¹⁰¹ ROBERT W. CRANDALL AND LEONARD WAVERMAN, WHO PAYS FOR UNIVERSAL SERVICE? 47 (Washington, DC, Brookings, 2000) [hereinafter Crandall & Waverman].

¹⁰² *In re* Petition for Declaratory Ruling that pulver.com's Free World Dialup is Neither Telecommunications nor a Telecommunications Service, WC Docket No. 03-45 (rel. Feb. 19, 2004).

¹⁰³ IP-Enabled Services, *supra* note ____, at 42-43, ¶ 61-62.

¹⁰⁴ The first condition defines the existence of an externality. The second condition determines whether it is a "Pareto-relevant marginal externality," an often-overlooked precondition for a subsidy or regulatory action to improve consumer welfare. A.H. Barnett and David L. Kaserman, *The Simple Welfare Economics of Network Externalities and the Uneasy Case for Subscriber Subsidies*, 13 JOURNAL OF REGULATORY ECONOMICS 245, 245-254 (1998) [hereinafter Barnett and Kaserman].

¹⁰⁵ Stanley J. Leibowitz and Steve Margolis, *Network Effects*, in HANDBOOK OF TELECOMMUNICATIONS ECONOMICS 76-94 (M. Caves, S. Majumdar, and I. Vogelsang eds. 2002).

¹⁰⁶ John C. Panzar, *A Methodology for Measuring the Costs of Universal Service Obligations*, 12 INFORMATION ECONOMICS AND POLICY 211, 211-220 (2000).

a. Access charges generate significant consumer costs

Because consumer demand for long-distance service is very responsive to price, access charge policies that inflate the price of long-distance service generate significant reductions in consumer welfare. When an artificial price increase leads consumers to cut back on consumption by a large amount, it makes consumers substantially worse off. Most studies find that the price elasticity of demand for long-distance service is relatively large, in a range between -0.5 and -0.72; a one percent increase in long-distance prices reduces use by about one-half to three-quarters of one percent.¹⁰⁷ Hence, long-distance access charges generate relatively large reductions in long-distance usage and consumer welfare.

This reduction in consumption might be offset, to some extent, by the value of increased consumption of local service made possible by the cross-subsidies. Consumer decisions to subscribe to telephone service, however, are not very sensitive to the fixed monthly charge.¹⁰⁸ In other words, local service has a relatively low price elasticity of demand, and this elasticity appears to have fallen over time—perhaps as low as -0.005.¹⁰⁹ Surveying the findings of multiple studies, Jerry Hausman and Howard Shelanski note,

A comparison of price elasticities of demand for local and long-distance telephone services thus reveals that an increase in long-distance prices is probably more harmful to society's economic welfare than is an increase in local service prices. Long-distance demand, with a price elasticity of -0.7, will contract substantially more in the face of a price increase than will local-service demand, with a price elasticity of -0.005.¹¹⁰

b. Effectiveness of subsidizing local phone service is questionable

Studies of phoneless households cast further doubt on the idea that the fixed monthly cost of local service is a key barrier to telephone subscription. The most common reasons that phoneless households give for not subscribing to telephone service is concern about uncontrollable usage-based charges, not the cost of basic local service. A 1994 study of low-income households in New Jersey found that the cost of usage-related charges and optional services—such as long-distance, collect calls, calling-card calls, and voice mail—were the most common reasons that households lacked phone service. Heads of households noted that other family members or friends living with them had run up large usage-related bills in the past, often without their knowledge or approval. The authors concluded, “Income, employment, and other measures of wealth or poverty are strongly related to low penetration not because the price of basic local

¹⁰⁷ Jerry Hausman and Howard Shelanski, *Economic Welfare and Telecommunications Regulation: The E-Rate Policy for Universal-Service Subsidies*, 16 YALE J. ON REG. 19, 36-37 (Winter 1999) [hereinafter Hausman and Shelanski].

¹⁰⁸ Barnett and Kaserman, at 104; David L. Kaserman, John W. Mayo, and Joseph E. Flynn, Cross-Subsidization in Telecommunications Beyond the Universal Service Fairy Tale, 2 JOURNAL OF REGULATORY ECONOMICS 231, 231-49 (Sept. 1990).

¹⁰⁹ CRANDALL AND WAVERMAN, *supra* note 101, at 91.

¹¹⁰ Hausman and Shelanski, at 39.

phone service is too high, but because low-income users who run up large usage-related bills are unable to cover them.”¹¹¹

A 1995 survey of Texas households without telephones found that about half of them said the cost of local service makes it difficult to afford a telephone, but about 80 percent said they could afford to pay \$16 per month, the actual average cost of local service in Texas at the time of the survey. The primary barriers to phone service were the fact that long-distance charges are variable and hence perceived as harder to control, the cost of reinstallation for people who previously had service disconnected due to nonpayment of bills, and difficulty in controlling who uses the phone.¹¹²

These differing elasticities suggest that cross-subsidies from long-distance to local service may generate small increases in telephone subscription at the cost of a large reduction in consumer welfare due to inflated long-distance prices. Estimates of the impact of cost-based rate rebalancing suggest that complete elimination of cross-subsidies would, at worst, reduce the number of primary residential telephone lines in the United States by 1.5 percent. Rural areas would see subscription fall by less than 5 percent, and often by much less. Lower long-distance rates, however, would increase consumer welfare by between \$2.5 billion and \$7 billion.¹¹³

Even this tradeoff may be an illusion. Higher long-distance rates tend to reduce telephone subscription, since consumers subscribe to local phone service in part so that they can make long-distance calls. Some studies find that subscription is more sensitive to changes in long-distance rates than to changes in local rates. Therefore, a reduction in the cross-subsidy from long-distance to local rates may actually increase telephone penetration. The principal study examining these offsetting effects estimated that the reduction in cross-subsidies that occurred between 1984 and 1990 actually increased telephone penetration rates by 0.45 percent, bringing 450,000 additional households onto the telephone network.¹¹⁴ Another, more recent study using a variety of statistical techniques found very little evidence that the cost of monthly service affects telephone penetration rates; in that case, access charges generate consumer costs but simply fail to promote universal service.¹¹⁵

In short, the policy of cross-subsidizing local rates with revenues from long-distance access charges generates little increase in telephone subscription rates, and may even reduce them.

The cross-subsidy is difficult to justify on equity grounds as well. Even in households with incomes less than \$10,000, long-distance accounts for more than 40 percent of average monthly telephone expenditures. In all income classes, long-distance usage is quite variable, with some households using a lot and some very little. It is thus safe to say that many low-income

¹¹¹ Milton L. Mueller and Jorge Reina Schement, *Universal Service from the Bottom Up: A Study of Telephone Penetration in Camden, New Jersey*, 12 THE INFORMATION SOCIETY 273, 287 (1996).

¹¹² John B. Horrigan and Lodis Rhodes, *The Evolution of Universal Service in Texas* (Sept. 1995), available at www.apr.org/policy/lbjbrief.html.

¹¹³ CRANDALL AND WAVERMAN, *supra* note 101, at 112-21.

¹¹⁴ Jerry Hausman, Timothy Tardiff, and Alexander Belinfante, *The Effects of the Breakup of AT&T on Telephone Penetration Rates in the United States*, 83 AMERICAN ECONOMIC REVIEW 173, 182-83 (May 1993).

¹¹⁵ CRANDALL AND WAVERMAN, at 94-104.

households use a great deal of long-distance service, and so the cross-subsidy may actually diminish the welfare of these households.¹¹⁶ In addition, the local service subsidy is not targeted based on income, in marked contrast to the practice in other regulated utilities, such as electricity and natural gas. Rich and poor households alike are entitled to one cheap residential phone line—an odd way of redistributing income to the poor.¹¹⁷

The FCC’s own long-lived initiative to replace access charges with the fixed monthly Subscriber Line Charge reflects these realities. Given the ineffectiveness and inequity of cross-subsidies funded by access charges, a decision to subject VoIP to access charges would surely harm consumers.

c. A prudent approach

The current access charge system significantly distorts prices and impairs consumer welfare. The FCC itself appears to have recognized this in its proceeding on unified intercarrier compensation, which seeks to replace access charges with less distortionary arrangements.¹¹⁸ Bringing VoIP under the current access charge regime might promote competitive neutrality, but it would also perpetuate the price distortions of the current regime and reduce the incentives for meaningful reform of intercarrier compensation. If VoIP remains free from access charges, it provides at least some consumers with an “escape valve” that reduces the inefficiencies associated with access charges. Leaving VoIP free from access charges might also make intercarrier compensation reform easier to achieve, since parties subject to access charges would have strong incentives to press for a less distortionary system in order to “level the playing field.” These broader, pro-consumer policy goals may well be worth sacrificing a little short-term competitive neutrality.

In the short term, the most workable way to address the issue may be to treat VoIP providers as Internet Service Providers for the purpose of connecting to the public switched telephone network. In this way, they would help cover the cost of the public switched telephone network by paying business telephone rates and the Federal Subscriber Line Charge. Since tariffed business rates tend to be much higher than residential rates, these service providers would still make a contribution toward subsidizing residential rates.

In the meantime, the FCC should focus on achieving intercarrier compensation reforms that would remove hidden cross-subsidies and reduce the inefficiencies currently associated with universal service programs. A detailed reform plan is outside the scope of this Article, but our discussion of the inefficiencies of the current system suggests several general principles that would enhance consumer welfare:

- (1) Avoid taxing price-sensitive services to subsidize services that are not sensitive to price.

¹¹⁶ *Id.* at 57-68.

¹¹⁷ *Id.* at 26, 69-88.

¹¹⁸ *In re* Developing a Unified Intercarrier Compensation Regime, F.C.C. 01-132, CC Docket No. 01-92 (rel. April 27, 2001).

- (2) Recover fixed costs through charges that do not vary with usage.
- (3) Eliminate or reduce cross-subsidies.
- (4) Structure any subsidies that remain should be structured to discourage waste and inefficiency.¹¹⁹

3. Explicit Universal Service Subsidies

In addition to authorizing access charges on some carriers, the FCC requires universal service “contributions” from providers of interstate telecommunications services to subsidize basic phone service for low-income customers, subsidize high-cost phone companies, provide reduced-price Internet service to schools and libraries, and offer reduced-price telecommunications services to rural health care facilities. Providers typically pass these charges through to consumers on their bills. VoIP does not currently make contributions to the universal service fund. Due to its low cost, switching to VoIP is fast becoming an easy decision for millions of Americans.

A major concern in the United States about the growth of VoIP is that the gradual drain of customers away from traditional telephone providers will undermine the funding base for universal service programs.¹²⁰ VoIP uses capacity more efficiently than traditional telephone service and hence requires less infrastructure.¹²¹ Today, VoIP is an emerging competitor to telephone service, but in the not too distant future it may completely supplant traditional telecommunications. VoIP appears poised to explode into people’s everyday lives. While VoIP had only reached 400,000 U.S. homes by 2004, it is projected to reach 12.1 million households by 2009.¹²² VoIP is materializing at the same time as traditional telephone companies face stiffening competition from broadband and wireless. The Baby Bells have lost over 28 million phone lines since the end of 2000, and the number of residential lines continues to decline at an annual rate of about 4 percent. This represents the first decline in the number of phone lines since the Great Depression.¹²³

To understand the effects on consumer welfare of requiring VoIP to make universal service contributions, one must understand the effects of universal service programs on consumer welfare.

¹¹⁹ For a detailed discussion and evaluation of reform plans, see Ellig, *supra* note ____.

¹²⁰ IP-Enabled Services, *supra* note ____, at 43-45, ¶ 63-65.

¹²¹ R. Alex DuFour, *Voice Over Internet Protocol: Ending Uncertainty and Promoting Innovation through a Regulatory Framework*, 13 COMM. LAW CONSPECTUS 471, 477 (2005) [hereinafter DuFour].

¹²² *Id.* at 476.

¹²³ Ken Brown & Almar Latour, *Heavy Toll: Phone Industry Faces Upheaval as Ways of Calling Change Fast*, WALL ST. J., Aug. 25, 2004, at A1.

a. Universal service programs are costly to consumers

The federal government spent approximately \$5.4 billion on universal service programs in 2004. More than half of this money—\$3.5 billion—went to subsidize high-cost carriers, and \$759 million (14 percent) was spent on programs for low-income customers that help pay initial connection charges (Linkup) and subsidize monthly phone bills (Lifeline). Most of the rest (\$1.2 billion, or 22 percent) subsidized Internet service to schools and libraries.¹²⁴ Thus, about 80 percent of the funds were devoted to subsidizing basic telephone service, with the remainder spent on the newer “universal service” programs created by the 1996 Telecom Act, which reduce the cost of Internet service to specified types of institutions.

The contributions take the form of a percentage assessment against sales of interstate services—primarily long-distance and wireless phone services. Readjusted quarterly, the universal service “contribution factor” exceeded 10 percent in 2005.¹²⁵ Though not formally called a tax, the assessment has all the economic effects of a tax. This funding mechanism for universal service programs generates substantial consumer costs in addition to the revenue it raises to fund universal service. This occurs because the contribution mechanism acts as a tax on services with relatively high price elasticities of demand, such as long-distance and wireless. Consequently, the Commission should exercise caution when considering whether to require IP-enabled services to make universal service contributions, because these new services are also likely to have high price elasticities of demand.

Several studies document the detrimental effects of the current universal service contribution regime on consumer welfare. MIT economist Jerry Hausman estimated that the contributions required from long-distance service to fund discount Internet service for schools and libraries reduce consumer welfare by approximately 65-79 cents for every dollar of revenue raised.¹²⁶ The marginal effect—that is, the effect of additional contributions—is even higher: \$1.25 for each additional dollar raised.¹²⁷

It is possible to construct a similar estimate for interstate long-distance using FCC data from the most recent year available, 2002. For domestic interstate long-distance, federal universal service contributions averaged 0.8 cents per conversation minute.¹²⁸ This price increase raised

¹²⁴ FEDERAL COMMUNICATIONS COMMISSION, WIRELINE COMPETITION BUREAU, INDUSTRY ANALYSIS AND TECHNOLOGY DIVISION, *Trends in Telephone Service*, Table 19.1 (2005) [hereinafter TRENDS IN TELEPHONE SERVICE].

¹²⁵ Public Notice, FCC, Proposed First Quarter 2005 Universal Contribution Factor, 19 F.C.C.R. 24045 (2004); Public Notice, FCC, Proposed Second Quarter 2005 Universal Contribution Factor, 20 F.C.C.R. 5239 (2005); Public Notice, FCC, Proposed Third Quarter 2005 Universal Contribution Factor, 20 F.C.C.R. (forthcoming 2006) (2005), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-1664A1.pdf.

¹²⁶ Hausman and Shelanski, *supra* note 101, at 42-43.

¹²⁷ Jerry Hausman, *Taxation Through Telecommunications Regulation*, 12 TAX POLICY AND THE ECONOMY 22, 31 (1998).

¹²⁸ See JIM LANDE & KENNETH LYNCH, FCC INDUS. ANALYSIS & TECH. DIV., TELECOMMUNICATIONS INDUSTRY REVENUES 2002 30-31 tbl.10 (2004), available at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/telrev02.pdf. (Universal service contribution per interstate domestic conversation minute calculated by subtracting 1 cent access cost per interstate conversation minute in 2002 from 1.8 cent total access and universal service contribution per interstate domestic conversation minute in 2002).

approximately \$2.7 billion in revenues, but it also reduced consumption of long-distance service.¹²⁹ As a result, the price increase reduced consumer welfare by about \$240 million and reduced producer welfare by about \$920 million, for a total reduction in economic welfare of \$1.16 billion.¹³⁰

Like long-distance service, demand for wireless service is relatively responsive to price.¹³¹ In a separate study, Hausman estimated the impact on the economy of all taxes applied to wireless, including the universal service contributions imposed by the Commission. He calculated that every dollar raised generated an excess burden of approximately 53 cents, which implies that wireless taxes cost the economy \$2.56 billion annually in addition to the \$4.79 billion raised annually in the late 1990s. Additional taxes or contributions would, on average, entail a cost of 72 cents for each dollar of revenue raised.

An adaptation of Hausman's method permits an estimate of the effects of wireless universal service contributions in more recent years. Universal service assessments on interstate wireless service raised approximately \$1.76 billion in 2004.¹³² These assessments created a consumer welfare loss of \$48 million and a producer welfare loss of \$930 million, for a total reduction in economic welfare of \$978 million.¹³³

These efficiency costs are far below those estimated for other, more general forms of taxation, which usually involve a reduction in output (or "excess burden") of 25-40 cents per dollar raised.¹³⁴ And they are positively huge compared with the impact on consumer welfare of an alternative regulatory policy—paying for the subsidy through a flat rate charge like the Subscriber Line Charge. Since the price elasticity of demand for local telephone service is very low, the excess burden associated with an increased flat rate charge is approximately 6/100ths of a cent per dollar raised.¹³⁵

Like long-distance access charges, contributions from long-distance and wireless appear to be a very expensive means of funding traditional universal service subsidies for telephone service. Whether contributions from VoIP would generate similar reductions in consumer welfare

¹²⁹ \$2.7 billion figure is the product of 0.8 cent per minute universal service contribution times 333.8 billion interstate domestic conversation minutes, as reported *Id.*

¹³⁰ Jerry Ellig, *Costs and Consequences of Federal Telecommunications Regulation*, 58 FED. COMM. L.J. 37, 59 (2006). Although the revenue figure is larger than Hausman's estimate in 1998, the effects on economic welfare are smaller than he calculated because this study uses average figures derived from an estimate of the joint effects of interstate long-distance access charges and universal service contributions. Hausman's figures are estimates of the marginal effect of adding the universal service contributions on top of existing access charges. Since the efficiency loss associated with raising additional dollars exceeds the average efficiency loss, Hausman's marginal figures are higher.

¹³¹ Jerry Hausman, *Cellular Telephone, New Products, and the CPI*, 17 JOURNAL OF BUSINESS & ECONOMIC STATISTICS 188, 191 (April 1999).

¹³² See generally TRENDS IN TELEPHONE SERVICE, *supra* note 124 (multiplying total universal service outlays in tbl.19.1 by the percentage of contributions from wireless service providers in tbl.19.15).

¹³³ See Ellig, *supra* note 130 at 60.

¹³⁴ Jerry Hausman, *Efficiency Effects on the U.S. Economy from Wireless Taxation*, 53 NATIONAL TAX JOURNAL 733, 733-42 (Sept. 2000).

¹³⁵ *Id.* at 740.

depends on VoIP subscribership and the elasticity of demand. To the best of our knowledge, no studies have yet estimated the elasticity of demand for VoIP. If consumers mostly view VoIP as a substitute for long-distance service, then it may have a similar elasticity of demand (-0.7), and universal service contributions from VoIP would generate welfare losses similar to those generated by contributions from long-distance service. If VoIP largely substitutes for second phone lines, then the elasticity of demand may be closer to that for second phone lines, which ranges between -0.35 and -0.59.¹³⁶ This elasticity is somewhat lower than for long-distance service but still large enough to generate some substantial welfare losses.

Finally, if VoIP's elasticity of demand is similar to the elasticity of demand for wireless minutes, then it would be substantially higher and lead to even bigger welfare losses. Studies that estimate wireless demand employing minutes of use as the dependent variable yield much higher elasticities, between -1.12 and -1.29 using domestic U.S. data and between -1.71 and -3.62 using international data.¹³⁷ If applied to VoIP, the current universal service contribution factor—calculated as a percentage of revenues—virtually guarantees significant welfare losses, because it would effectively tax consumers per minute of use for a service whose incremental cost per minute is practically zero.

b. Effectiveness of universal service programs is questionable

The universal service programs might enhance overall consumer welfare if they effectively remedy a market failure. As discussed above, it is questionable whether any significant market failure still exists that these programs are capable of addressing. Even if there is a market failure, independent research often shows that the universal service programs, in practice, do not provide a cost-effective remedy. While the universal service programs clearly transfer large amounts of money between different groups of users, the extent to which they promote universal service by actually increasing subscribership is much less clear.

A 1997 study using data from the 1990 Decennial Census found that expenditures on Lifeline and Linkup programs increase telephone penetration, but by very small amounts. A 10 percent increase in expenditures would lead to less than a one tenth of one percent increase in the telephone penetration rate.¹³⁸ Similarly, a more recent study estimated that the Lifeline and Linkup programs increase total subscribership by about 0.155 percent.¹³⁹ One of the most extensive recent studies found that monthly charges have no influence on telephone penetration

¹³⁶ James Eisner & Tracy Waldon, *The Demand for Bandwidth: Second Telephone Lines and On-line Services*, 13 INFO. ECON. & POL'Y 301, 308 (2001); Kevin T. Duffy-Deno, *Demand for Additional Telephone Lines: An Empirical Note*, 13 INFO. ECON. & POL'Y 283, 285 (2001).

¹³⁷ See J. Gregory Sidak, *Is State Taxation of the Wireless Industry Counterproductive?*, CRITERION ECONOMICS (April 2, 2003) (using 1999-2001 U.S. data), available at http://www.criterioneconomics.com/docs/sidak_pacific_research.pdf; Thomas W. Hazlett & Roberto E. Muñoz, *A Welfare Analysis of Spectrum Allocation Policies*, AEI-Brookings Joint Center for Regulatory Studies Related Publication 04-18, 15 (Aug. 2004), available at <http://www.aei-brookings.org/admin/authorpdfs/page.php?id=1024>.

¹³⁸ Christopher Garbacz and Herbert G. Thompson, Jr., *Assessing the Impact of FCC Lifeline and Link-Up Programs on Telephone Penetration*, 11 JOURNAL OF REGULATORY ECONOMICS 67, 67-78 (1997).

¹³⁹ Daniel J. Ryan, *Universal Telephone Service and Rural America* 18 (April 30, 2004) (unpublished manuscript, on file with author) [hereinafter Ryan].

rates, and Linkup programs sometimes increase and sometimes decrease penetration, depending on the data set used to estimate the relationship.¹⁴⁰

The high-cost support programs, which account for more than half of the universal service fund's expenditures, appear to be a much more costly way of increasing subscribership. The most recent study on this topic estimates that the cost of adding one subscriber through loop support was at least \$11,000 in 2000, up from \$3350 in 1990. The cost of adding one subscriber through local switching support was \$5155, up from approximately \$2000 in 1990. These figures are substantially higher than the \$1899 cost of adding a subscriber via Lifeline and Linkup.¹⁴¹ Other studies employing 2000 data find that high-cost support programs add subscribers at even higher cost, in the neighborhood of \$20,000 per subscriber.¹⁴² This cost is substantially higher than the \$666 estimated by another study for 1985-93.¹⁴³

These research results suggest that the current universal service contribution regime generates substantial consumer costs while doing little to expand access or subscribership. The most cost-effective program that some studies indicate may increase subscribership—Linkup—is targeted at low-income households and accounts for a small percentage of the funds. The schools and libraries program is targeted in the sense that it gives lower discounts to wealthier institutions, but it is not clear whether this program has actually induced more schools and libraries to obtain Internet access. Consequently, a Commission decision to impose universal service contributions on IP-enabled services likely would cost consumers a great deal while doing little to actually increase subscribership either to basic telephone service or to Internet service.

c. The special case of VoIP that connects with the rest of the telephone network

One might agree with this assessment yet nevertheless suggest that competitive neutrality justifies collecting universal service contributions from providers of VoIP that connect with the public switched telephone network. This kind of service has the potential to compete most directly with conventional telephone service.

The competitive neutrality issue raises precisely the same types of concerns discussed above in regard to access charges. The current funding regime for universal service significantly distorts prices and impairs consumer welfare. Extending this regime to some providers of VoIP might appear to create a “level playing field” between some of the competitors, but it would do so at significant cost to consumers.

Indeed, it is not even clear what the quest to make universal service policy reflect “competitive neutrality” means in a context where competitors employ widely differing technologies with different implications for the universal service programs. The competitive neutrality argument

¹⁴⁰ Crandall and Waverman, *supra* note 101, at 94-104.

¹⁴¹ Ryan, *supra* note 139, at 18-19.

¹⁴² Christopher Garbacz and Herbert G. Thompson, *Estimating Telephone Demand with State Decennial Census Data from 1970-1990: Update with 2000 Data*, 24 JOURNAL OF REGULATORY ECONOMICS 373, 373-378 (2003).

¹⁴³ R.C. Eriksson, D.L. Kaserman, and J.W. Mayo, *Targeted and Untargeted Subsidy Schemes: Evidence from Post-Divestiture Efforts to Promote Universal Service*, 41 J.L. & ECON. 477, 477-502 (1998). This study uses data only for the Bell telephone companies, which receive a small portion of total high-cost support and may not be typical.

seems to assume that providers of VoIP would compete only for customers on low-cost telephone loops who are currently net contributors to universal service funding. Unlike conventional wireline telephony, however, VoIP has the potential to serve customers in a wide variety of locations at approximately the same cost, provided that they already have the requisite Internet connection. That connection could be cable, wireless, broadband over power lines, or satellite.

VoIP may drain the universal service coffers, but its emergence could simultaneously reduce the need for universal service subsidies. In the absence of subsidies, traditional service cannot always economically service rural communities. The long distances, few subscribers, and extensive infrastructure demanded considerable investment, with few subscribers to pay for it.¹⁴⁴ However, the nature of VoIP raises the prospect that rural customers can be served profitably without cross-subsidies. VoIP is available at uniform prices nationwide. As long as the user has a broadband connection, he or she can get unlimited VoIP service for about \$25 a month. One of the best-known providers offers unlimited local and long-distance calling within the United States, Canada, and Puerto Rico for \$24.99 per month, or 500 any-distance minutes for \$14.99.¹⁴⁵ Wireless ISPs are already providing Internet access in rural areas without subsidies and making money doing it. Therefore, VoIP penetration could simultaneously erode funding for the universal service program and provide universal service itself.¹⁴⁶

Consequently, widespread adoption of VoIP could help reduce the subsidies needed by the high-cost program by reducing the number of high-cost loops. Providers of this technology could make a substantial contribution to universal service even if they and their customers were not compelled to contribute money to the universal service fund.

At the very least, it is premature for the FCC to subject VoIP to the universal service contribution regime. The consequences of such a decision can be better understood after the FCC revises its universal service contribution methodology, and after the market potential of VoIP becomes clearer. Any such decision should include a careful consideration of the contribution VoIP can make simply by successfully competing for telephone subscribers who currently use subsidized high-cost loops.

4. Law Enforcement and Public Safety

Other “public interest” arguments raised in favor of regulating VoIP center on law enforcement and public safety issues. These types of regulations generate significant costs for consumers when applied to traditional and wireless telephony, and decisionmakers would do well to ensure that consumers receive benefits commensurate with the costs.¹⁴⁷

¹⁴⁴ DuFour, *supra* note 121, at 494.

¹⁴⁵ See www.vonage.com.

¹⁴⁶ See DuFour at 496-497.

¹⁴⁷ See Ellig, *supra* note 130, at 76 (calculates that wiretapping regulations increase the cost to consumers of wireless service by \$491 million annually, reduce consumer welfare by an additional \$13 million annually, and reduce producer welfare by \$260 million annually, with no hard evidence of consumer or social benefits), and at 73 (calculates that enhanced 911 requirements increase the cost to consumers of wireless service by \$1.25 billion annually, reduce consumer welfare by an additional \$34 million annually, and reduce producer welfare by \$659

The principal law enforcement concern is that VoIP may not be susceptible to wiretaps. However, this fear is unjustified. The emergence of broadband telephony has not altered the FBI's ability to seek court-sanctioned surveillance. Vonage has already been served with subpoenas for call records and call data. Since all of the calls go through a central server, Vonage need only copy the stream of data as it passes through and feed the copies to law enforcement.¹⁴⁸ In fact, while some have worried that law enforcement may not be able to tap VoIP phones, others have expressed concern that VoIP phones may be too easy to tap.¹⁴⁹

In addition to wiretaps, concerns have also been raised about the ability of VoIP callers to reach 911 services. Depending on the way that the VoIP provider connects with the public switched telephone network, a VoIP subscriber who dials 911 might be connected with a police or fire department's office instead of the 911 operator. The mobility of VoIP creates an additional quandary for enhanced 911 service, which is supposed to tell the emergency operator the caller's location. Since VoIP equipment will usually work with any broadband connection, VoIP subscribers can move their telephones from one location to another.¹⁵⁰

The Federal Communications Commission recently required VoIP providers to supply 911 services.¹⁵¹ VoIP providers have initially managed this by simply having subscribers register where they would be making their calls from. Registration can be changed easily and updated within hours of moving.¹⁵² Additional software may soon be available to make this unnecessary, and Vonage has negotiated E911 deals with three out of the four Baby Bells.¹⁵³ While the regulatory hand has been light, VoIP providers have still managed to resolve regulatory issues without the imposition of Title II.

million annually, with some evidence of significant benefits in the form of reduced mortality for cardiac patients and reduced hospital costs).

¹⁴⁸ Paula K. Royalty, *When is a Phone Call not a Phone Call? Legal Issues Arising from Business Use of VoIP*, 1 SHIDLER J.L. COM. & TECH. 1, ¶ 23 (May 26, 2004), available at <http://www.lctjournal.washington.edu/vol1/a001Royalty.html>.

¹⁴⁹ See Daniel B. Garrie, *Matthew J. Armstrong, and Donald P. Harris, Voice over Internet Protocol and the Wiretap Act: Is Your Conversation Protected?*, 29 SEATTLE U. L. REV. 97, 106-107 (2005).

¹⁵⁰ *In re IP-Enabled Services E911 Requirements for IP-Enabled Service Providers*, First Report and Order and Notice of Proposed Rulemaking, WC Docket No. 04-36 and 05-196, at 15, ¶ 25 (rel. June 5, 2005).

¹⁵¹ See *Id.* at 2, ¶ 1.

¹⁵² Vonage.com provides a good description of the complete process at <http://www.vonage.com/help.php?article=394>.

¹⁵³ As of May 2005, Vonage had purchased E911 access from Verizon, SBC, and BellSouth. Vonage predicts that it will be able to provide 911 service on par with that traditional telephone service by the end of 2005. Once E911 is completely rolled out, even nomadic broadband telephones will return the caller's location and call back number. Press Release, Vonage, *Vonage Agrees with SBC and BellSouth to Purchase Nomadic VoIP E9-1-1 Service* (May 19, 2005), available at http://www.vonage.com/media/pdf/pr_05_19_05.pdf.

V. Conclusion

The FCC should classify VoIP as an information service, for several reasons. First, it works like an information service. Second, the congressional intent underlying the 1996 Telecommunications Act clearly contemplates replacing regulation with competition. Viewed in that light, imposing old-fashioned common carrier regulation on VoIP would stand congressional intent on its head, for VoIP is precisely the type of new competitive option that the Telecom Act sought to encourage. Third, imposition of Title II common carrier regulation would have a substantial negative effect on consumer welfare.

There seems to be little justification for imposing price or entry regulation on VoIP, or for using access charges to create hidden subsidies. A stronger case might be made for including VoIP under a reformed universal service system or imposing certain public safety obligations.

Even if some aspects of regulation might be socially or politically desirable, that does not mean that VoIP should be subject to Title II regulation. The FCC has demonstrated that it can impose universal service and public safety obligations on a piecemeal basis under other provisions of the Communications Act. In a recent decision, the FCC simply ordered DSL providers to contribute to the Universal Service Fund.¹⁵⁴ This came despite the fact that the FCC maintained that wireline broadband Internet access service was an information service.¹⁵⁵ In its 911 order, the FCC cited its Title I general provision purpose “of promoting safety of life and property through the use of wire and radio communication.”¹⁵⁶ Since the Commission has declined to classify VoIP as either a telecommunications or information system, it declined to impose 911 or E911 through its Title II powers, but instead relied upon its ancillary authority granted by Title I.¹⁵⁷ Public interest arguments and cost-benefit analysis may demonstrate that these mandates are worthwhile, but they provide no reason that VoIP should be classified as telecommunications. Using them as reasons for blanket Title II regulation ignores the fact that their ends may be achieved without the remainder of Title II. By declaring VoIP an information service, the FCC could free it from some of the most costly and least relevant aspects of common carrier regulation while reserving the right to regulate selectively when it believes circumstances warrant.

If VoIP is regulated like a telecommunications service from its infancy, innovation will be stifled and the cost to consumers high. Conversely, if VoIP is regulated like an information service, the service will grow rapidly, and consumers will benefit from this competitive option.¹⁵⁸ Denying

¹⁵⁴ *In re* Appropriate Framework for Broadband Access to Internet over Wireline Facilities and Universal Service Obligations of Broadband Providers, CC Docket No. 02-33, at 63-64, ¶ 113 (rel. Sept. 23, 2005).

¹⁵⁵ *Id.* at 10, ¶ 12.

¹⁵⁶ *In re* IP-Enabled Services E911 Requirements for IP-Enabled Service Providers, First Report and Order and Notice of Proposed Rulemaking, WC Docket No. 04-36 and 05-196, at 3-4, 4 (rel. June 5, 2005) (citing 47 U.S.C. 151). They also cited the Wireless Communications and Public Safety Act of 1999, Pub. L. No. 106-81, 113 Stat. 1286, § 2(b) (1999)(911 Act) (to “encourage and facilitate the prompt deployment throughout the United States of a seamless, ubiquitous, and reliable end-to-end infrastructure.”).

¹⁵⁷ *In re* IP-Enabled Services E911 Requirements for IP-Enabled Service Providers, First Report and Order and Notice of Proposed Rulemaking, WC Docket No. 04-36 and 05-196, at 12, ¶ 22 (rel. June 5, 2005).

¹⁵⁸ DuFour, *supra* note 121, at 473.

consumers cheaper services and more choices in telecommunications was definitely not the congressional intent behind the Telecommunications Act of 1996. Classifying VoIP as an information service is not just the legal thing to do, but also the right thing to do.