INTERNET CALLING: FCC JURISDICTION OVER INTERNET TELEPHONY

Henry E. Crawford, Esq.*

Cyberspace. The word, originally coined by science fiction writer William Gibson,1 conjures up the image of an alternate reality. Cyberspace is a digital landscape that mimics many aspects of modern life, but, at the same time, is separate and unique. Unlike the non-digital world, cyberspace has been remarkably resistant to rules and regulations of any kind, and has frequently been referred to metaphorically as the "Wild West."2

One of the first attempts to bring electronic frontier justice to the Internet occurred on March 4, 1996, when America's Carriers Telecommunication Association (ACTA) filed a petition with the Federal Communications Commission (FCC) requesting the initiation of rulemaking proceedings "defining permissible communications over the Internet."3 The ACTA Petition asserted that cyberspace systems for voice communications on the Internet should be regulated by the FCC as a function of its regulatory power over standard long-distance carriers. With the growth of the Internet, this argument may become very important as traditional industries increasingly compete with cyberspace counterparts.

I. ARCHITECTURE, TECHNOLOGY AND QUALITY: INTERNET TELEPHONY v. STANDARD LONG-DISTANCE SERVICE

The ACTA Petition raises significant legal issues concerning jurisdiction over Internet regulation. Since the FCC currently regulates standard long-distance service, a threshold issue in the jurisdictional argument is whether Internet telephony is truly analogous to standard long-distance service. If the two systems are clearly analogous, ACTA's petition in favor of FCC jurisdiction over Internet telephony is strengthened. When comparing Internet telephony to long-distance service, however, it is obvious that the technology, architecture and quality differ significantly, thereby weakening ACTA's argument.

The architecture of Internet technology provides vast opportunities as well as substantial drawbacks in offering long-distance service. Many Internet telephone software programs imitate the non-computer-based activities of long-distance telephone services;4 however, a technical understanding of this software system is essential to understanding interaction occurs as if it happened in the real world and in real time, but constitutes only a 'virtual reality.'

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2 Dawn Smith, No Spurs on the Net, Please, MARKETING COMPUTERS, Mar. 1995, at 6. "It's already a cliché to liken the Internet to the Wild West of the 1800s: anything goes and only the strong survive." Id. See Jeff Pulver, Voice on the Internet (last modified June 2, 1996) <http://www.von.com> (providing an expansive array of resources concerning Internet telephony).


understand that there is a difference between Internet telephony and standard long-distance telephone service. An independent and comprehensive review of Internet telephony found that "[I]nternet phones are far from being a substitute for conventional phones, at least at this stage of development. They're based on a different technology with its own innovative strengths and some glaring weaknesses." Based on technology and equipment, a fundamental difference between long-distance telephone service and Internet telephony is readily apparent. The hardware required for Internet telephony is more extensive and expensive than that found in standard telephones. For example, instead of a telephone handset, Internet callers must have a high-end computer with a high quality sound card, speakers and microphone. This equipment can cost users well over $1,000, even before the users make their first "free call" over the Internet.

Further, the equipment and technology causes placement of an Internet call to be more complicated than a long-distance call on a standard telephone. Since an Internet phone will not ring, both parties must be running the same software and must be online at the same time for the call to connect. A few programs possess the capability to make a connection to another user's Internet Phone (IP) address. To do so, however, the user being contacted must have a static IP address, which is somewhat rare for most Internet accounts. In most cases, users have to log onto a remote server on the Internet and select the person they will speak with from a list of users currently logged onto the system. This form of communication is essentially modeled on IRC (Internet Relay Chat) servers, which allow users to "chat" with one another by typing messages from their keyboards.

Besides the technology and architecture, Internet telephony differs from long-distance telephone service in the manner and quality of transmission. Most sound cards and software programs do not support full-duplex communication, resulting in a situation similar to walkie-talkies whereby only one party can speak at a time. To remedy this problem, some sound cards now entering the market support full-duplex communication and there is software being written for more standard SoundBlaster cards to achieve the same end. At present, the lack of full-duplex communication is a substantial drawback for Internet telephony since few, if any, long-distance users would choose to stay with a long-distance telephone carrier if it offered only half-duplex communication.

Moreover, digitally-converted voice data will

(1996).

5 Gus Venditto, Internet Phones: The Future is Calling, Internet World, June 1996, at 40 (emphasis added).
6 Id. at 42, 48. "The microphone acts as your mouth-piece, and the speakers as your receiver. The sound card translates digital input into analog output and vice versa." Either a Macintosh or Windows system is typically necessary for the Internet phone programs. Id. at 42. Despite this required equipment, the benefit of a computer is that it can manage text, graphics and sound and can be connected to a central server on a network. Id. at 40.
7 Id. at 48.
8 Id. at 42.
9 Id.
10 Id.
11 Most Internet Service Providers (ISPs) offer accounts with dynamic IP addressing that allow the server to select an IP address dynamically at run time. An IP address is the "unique numeric locator that identifies your computer to other Internet users when you're logged on." Many systems use dynamic addressing, where the IP address is assigned each time an user dials into the server. The IP address is different than an user ID or password. In a break-down of over 100 Washington, D.C., area ISPs examined by the Washington Post, less than half even offered static addressing. Most of the ISPs who did offer this service only did so for an additional charge. Washington Post Fast Forward, Directory of Internet Service Providers, Wash. Post, Oct. 1996, at 4-19.
12 Venditto, supra note 5, at 42. The IRC server "creates closed communities of users, and each Net phone has a server culture all its own, forged by the interaction of house 'rules' and the type and number of people attracted to the site." Id.
13 "IRC is the principal interactive Internet service, allowing participants to view and exchange messages in real time. Divided into many multi-user conversations, or channels, IRC broadcasts comments made by any user to all other participants. Typically, users are identified by nicknames rather than true identities, and conversations tend to make heavy use of modifiers and metadescritions to reconstruct the actions, emotions, and other visual and audible clues that would be inherent in the physical context." Byassee, supra note 1, at 201 n.18.
14 Venditto, supra note 5, at 42. Full-duplex conversation runs in both directions so that both parties can communicate at the same time. In comparison, half-duplex conversation is restricted to moving in one direction at a time, meaning the parties must take turns corresponding to one another. Yet, half-duplex is not "that much of a handicap, especially since transmissions typically involve voice delays of a half-second to several seconds." To converse in full-duplex, both users need full-duplex sound boards and corresponding drivers. Id.
15 A driver providing the means for most SoundBlaster cards to support full-duplex conversation will soon be released by Creative Labs. Id.
vary in loudness and clarity depending on sampling rates, data compression routines and microphone levels. The sound quality must usually be worked out between users on an ad hoc basis during the course of each call. Furthermore, since voice communication involves large amounts of data, software compression is needed in order to optimize data transfers. Listeners of an Internet call will hear sound drop-outs, delays and fluctuating volume because of the half-duplex communication, which requires the listener to make on-the-fly adjustments to the software and hardware.

Having addressed the differences between the services, it is evident that the usage of Internet telephony bears little resemblance to picking up the telephone and placing a long-distance call. Further, universally established standards do not exist which would allow Internet users of one software to call a user of different software in a similar manner as MCI subscribers can call Sprint subscribers. Essentially, Internet telephony is simply an advanced form of voice-enabled IRC communication. These differences between Internet telephony and long-distance telephone service must be addressed by the FCC in considering the ACTA Petition.

II. THE CONFUSED LANDSCAPE SURROUNDING THE ACTA PETITION

The March 4, 1996, filing of the ACTA Petition could not have come at a more unsettled time for the FCC and the Internet. The Telecommunications Act of 1996 ("Telecomm Act") became law only a month prior to ACTA filing its petition. While it brought sweeping change to the telecommunication industry, the Telecomm Act was sparse on details and, thus, required extensive work by the FCC to implement Congress' directives. The Internet itself was undergoing a dramatic period of growth with Microsoft having just fully committed itself to developing Internet tools and adopting its line of desktop software for the Internet. Meanwhile, sophisticated hardware was becoming ubiquitous with the declining prices for high speed modems and reductions in the price of Intel's Pentium processor.

Against this background, articles regarding Internet telephony began to surface in the popular press. The Washington Post ran a story on Internet telephony with a headline claiming that "With the Right Software, Computer Becomes a Toll-Free Telephone." Given the hoopla accorded the Internet, the word on the street was that unlimited long-distance calls could be made for free using the Internet. The article, however, remained silent on many of the telephony drawbacks and lacked discussion of specific Internet telephone software applications, also neglecting to mention that only a small part of the Internet community was actually using this software. Nevertheless, the news coverage presented Internet telephony as a real, potential competitor of Internet-based competition to standard long-distance service. Amid this confusion, ACTA filed its petition seeking to bring FCC regulation to this software before Internet telephony could develop much further.

III. THE ACTA PETITION: THE FIRST SHOT IN THE INTERNET WARS

In this petition, ACTA requested relief from the FCC in three areas. First, ACTA requested that

16 Id.
17 Id.
18 Id. Many Internet telephone products provide a choice of optimizations to deal with variances in transmissions. These choices affect the codecs (compression-decompression algorithms), which "prepare a voice transmission by squeezing the recorded sound data and dividing it into packets for transfer over the Internet." These codecs can detract from the voice quality since "different codecs are optimized for different uses and conditions." Id.
19 Id.
20 Id.
22 See generally Michael Neubarth, Microsoft Declares War, Internet World, Mar. 1996, at 36 (discussing Microsoft's strategy to triumph in the Internet commercial arena).
23 Id.
25 Mike Mills, It's the Net's Best Thing to Being There: With Right Software Computer Becomes a Toll-Free Telephone, Wash. Post, Jan. 23, 1996, at C1. Leading off with an interview with a user who used the Internet to "speak with his grandparents" in the Canary Islands, the article often stressed the similarities between Internet telephony and long-distance telephone service. The article lacked discussion on the architecture of Internet telephony enabling the call and the need for sound cards, drives and speakers. While a graphic showed a screen shot with the words "IRC Connected," the Post failed to mention the IRC basis of the Internet voice communications and glossed over other complexities. Id.
the FCC issue a declaratory ruling "establishing its authority over interstate and international telecommunications services using the Internet." Second, ACTA sought "special relief to maintain the status quo by immediately stop[ping] the sale of this software." Finally, the petition asked the FCC to "institute rulemaking proceedings defining permissible communications over the Internet."27

By seeking this relief and in keeping with the viewpoint emerging from the popular press, ACTA asserted that it was against the "public interest to permit long-distance service to be given away, depriving those who must maintain the telecommunications infrastructure of the revenue to do so."28 For many in the Internet community, this argument carries some potentially hazardous consequences since it asserts that activities that take place on the Internet should be regulated if they compete with regulated, non-Internet activities.

Several stand-alone software companies were named as "respondents" in the ACTA Petition. According to ACTA, these software companies "are interstate telecommunications carriers, subject to federal regulation."29 From a software company's perspective, federal regulation of Internet telephony would be analogous to a requirement for Federal Aviation Administration certification in order to develop and market a flight simulation program. The companies charged in the ACTA Petition do not own or lease any part of the telecommunications infrastructure and do not carry calls or have any connection with the long-distance industry. The only accurate allegation is that they developed software for digitizing and decoding audio data on computer networks.

IV. THE INDUSTRY FIRES BACK

Opposition to the ACTA Petition surfaced from

25 ACTA Petition, supra note 3, at 11.
26 Id.
27 Id.
28 Id. at 1.
29 Id. at 10 (naming the following respondents: VocalTec, Ltd., Internet Telephone Company, Third Planet Publishing Inc. and Quarterdeck Corporation).
30 Id. at 6.
31 Joint Comments of Third Planet Publishing Co. and Freetel Communications, Inc. in the Petition for Declaratory Relief, Special Relief, and Institution of Rulemaking in RM 8775, at 2

many corners: software companies, the Internet community, long-distance carriers and public interest groups. The comments by these parties focused on: (1) the lack of jurisdiction by the FCC to regulate the Internet; (2) problems with the quality and technology available for Internet telephony; and (3) the oppressive burden that federal regulation would place on this young, emerging market.

First, the comments filed in opposition to the ACTA Petition identify ACTA's position favoring the Commission's jurisdiction over software developers as the petition's most perceptible flaw. As the joint opposition of Third Planet Publishing and Freetel Communications pointed out, ACTA stretches the language of the Telecommunications Act of 1996 by bringing software developers within the meaning of "communications carriers."31 Similarly, long-distance providers, AT&T and Sprint, disagreed with ACTA that respondents' product should qualify as "transmission" or "communication" as defined by § 153 of the Act.32

Second, the comments recognized that problems with the quality and technology of Internet telephony may have adverse effects on long-distance competition and enforcement of any regulations that the FCC may promulgate. Microsoft argued that the significant quality problems with Internet voice, including missing data packages, delays in routing, slow transmission and technical drawbacks of the local telephone networks, suggest that any competition between the two technologies is only superficial rather than real.33 Additionally, as Sprint pointed out in its Comments, the technology does not presently exist to distinguish Internet telephony from other Internet services, making FCC enforcement of regulations virtually impossible.34

Third, most commenters asserted that Congress refrained from specifically regulating the Internet when drafting the Telecommunications Act of

(May 8, 1996) [hereinafter Third Planet Comments].
32 Comments of AT&T Corp. in the Petition for Declaratory Relief, Special Relief, and Institution of Rulemaking in RM 8775, at 3-4 (May 8, 1996); Comments of Sprint Corp. in the Petition for Declaratory Relief, Special Relief, and Institution of Rulemaking in RM 8775, at 3 (May 8, 1996) [hereinafter Sprint Comments].
33 Reply Comments of Microsoft Corp. to the Petition for Declaratory Relief, Special Relief, and Institution of Rulemaking in RM 8775, at 2 (June 10, 1996).
34 Sprint Comments, supra note 32, at 3.
1996. The commenters also point to public policy and its insistence on a competitive market, free from the type of oppressive governmental regulation advocated by ACTA. Therefore, comments filed in opposition to ACTA's petition generally denied FCC jurisdiction over software developers and stated that it is against public and governmental interest to regulate and possibly strangle this emerging and highly competitive technology.

Several commenters offered their solutions to the problem of Internet telephony. For example, Sprint suggested that access rates be increased to reflect their actual cost. By replacing "uneconomic interstate access charges," Internet telephony users would have no financial incentive to use the Internet as a basic telephone service. However, the main issue raised by the ACTA Petition and currently being considered by the FCC, is the question whether the FCC possesses jurisdiction over the Internet.

V. THE BATTLE BEGINS: FCC JURISDICTION OVER INTERNET TELEPHONY

ACTA supports its argument for FCC jurisdiction over Internet telephony by: (1) citing to 47 U.S.C. § 151; (2) analyzing the Telecommunications Act of 1996; and (3) analogizing to a 1968 cable case, United States v. Southwestern Cable Commission. ACTA concluded in its petition that the FCC is authorized to regulate Internet telephony.

It is likely, however, that the FCC will decline to do so. This section further presents the distinction between basic and enhanced services as well as enforcement problems that the FCC would face in regulating the Internet.

A. 47 U.S.C. § 151

The initial basis for jurisdiction offered by ACTA is pursuant to 47 U.S.C. § 151. After analyzing the scope of FCC authority, ACTA argued that "[t]he Internet is an unique form of wire communication" and, therefore, the FCC has jurisdiction over the Internet. ACTA's argument falls short, however since the Internet is more akin to a computer network than a form of "wire communication." Communication does take place across a computer network and wires may be involved, but a computer network does not presuppose any specific wire-based infrastructure. Moreover, a computer network utilizes its digital input to perform many tasks besides communication (for example, transaction processing, data storage and retrieval). These data processing functions would seem to involve elements well beyond the definition of "wire communication."

Furthermore, the Commission does not appear to possess statutory jurisdiction to regulate the computer software companies. Even if the software developed by these companies could be used in the communication process, that use alone would not place them within FCC jurisdiction. For years, communications-oriented make available, so far as possible, to all the people of the United States a rapid, efficient, nationwide and worldwide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, for the purpose of promoting safety of life and property through the use of wire and radio communication, and for the purpose of securing a more effective execution of this policy by centralizing authority heretofore granted by law to several agencies and by granting additional authority with respect to interstate and foreign commerce in wire and radio communication, there is hereby created a commission to be known as the "Federal Communications Commission," which shall be constituted as hereinafter provided, and which shall execute and enforce the provisions of this Act.


42 Wireless devices for interacting with the Internet are already appearing and are sure to play a more prominent role as the Internet develops. See Internet Telephony: An Infant with an Insatiable Appetite for Bandwidth? New Media Age, Oct. 12, 1995, at 5.

35 Third Planet Comments, supra note 31, at 1; Opposition of Microsoft Corp. to the Petition for Declaratory Relief, Special Relief, and Institution of Rulemaking in RM 8775, at ii-iii (May 8, 1996); Joint Opposition of VocalTec Ltd. and Quarterdeck Corp. to the Petition for Declaratory Relief, Special Relief, and Institution of Rulemaking in RM 8775, at 2 (May 8, 1996); Opposition of the Business Software Alliance to the Petition for Declaratory Relief, Special Relief, and Institution of Rulemaking in RM 8775, at 5 (May 8, 1996).

36 Third Planet Comments, supra note 31, at 1.

37 Sprint Comments, supra note 52, at 4.

38 Id.


42 47 U.S.C. § 151 (1994). The applicable section reads as follows:

Sec. 1. Purposes of Act, Creation of Federal Communications Commission.

For the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to
software companies have developed software for use in communications systems and the FCC has never asserted jurisdiction over these companies. It therefore seems evident that the FCC's assertion of jurisdiction over stand-alone software companies is without statutory foundation based on 47 U.S.C. § 151. Even FCC Chairman Reed Hundt is "strongly inclined to believe that the right answer at this time is not to place restrictions on software providers, or to subject Internet telephony to the same rules that apply to conventional circuit-switched voice carriers."46

B. Telecommunications Act of 1996

In addition to 47 U.S.C. § 151, the ACTA Petition asserted the FCC's jurisdiction over software developers based on the following definitions contained in Section 3 of the Telecomm Act:

(43) Telecommunications — The term "telecommunications" means the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.

(44) Telecommunications carrier — The term "telecommunications carrier" means any provider of telecommunications services, except that such term does not include aggregators of telecommunications services (as defined in section 226). A telecommunications carrier shall be treated as a common carrier under this Act only to the extent that it is engaged in providing telecommunications services, except that the Commission shall determine whether the provision of fixed and mobile satellite service shall be treated as common carriage.

(46) Telecommunications service — The term "telecommunications service" means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.47

In its petition, ACTA contended that this language brings Internet telephony within the FCC's jurisdiction.48 However, a close reading of the language, together with an understanding of the underlying technology reveals little basis for the assertion of jurisdiction.

It may be difficult to categorize Internet telephony as "telecommunications" within the above definitions, particularly considering the phrase "between or among points specified by the user." Internet telephony generally lacks the ability to "call" another user on the Internet since the initiating user is limited to communicating with other users currently logged onto that server.49 Users with different software cannot generally communicate with each other and can only call another user who has a static IP address and has logged onto the server at the same time. Given these software limitations, Internet telephony can hardly be described as possessing the capability to communicate "between or among points specified by the user, of information of the user's choosing."50

This analysis is especially telling in the case of software companies because, as software developers, these companies do not transmit information. According to ACTA's Petition, each company is a developer of a software "product."51 None of these companies is identified as owning, controlling or providing the means of transmission of information between any two points. In sum, these companies are not engaged in 'telecommunications' as defined by the statute and, therefore, cannot be providers of 'telecommunications services'.

Another issue that arises is whether the FCC would regulate the many products that can be used in connection with the Internet. Presently, would be "both counterproductive and futile." Additionally, Hundt pointed out the pressures on the FCC to implement the Telecomm Act within Congress' timeframe and stated that "[e]ven if most of the FCC wasn't working around the clock . . . I can't imagine that we would have the time to keep track of all the bits passing over the Internet to separate the 'acceptable' data packets from the 'unacceptable' voice packets." Id.

45 In its Comments, Netscape pointed out that the range of this software runs from "'800 database' software, to the software routinely used in local central office and access tandem telephone switches, to the software making Signaling System 7 and related 'out-of-band' services like Caller ID possible." Comments of Netscape to In re Provision of Interstate and International Telecommunications Service Via the "Internet" by Non-Tariffed, Uncertified Entities, Petition for Declaratory Relief, Special Relief, and Institution of Rulemaking of America's Carriers Telecommunication Association, RM 8775 (May 8, 1996) (available at <http://www.technology law.com/techlaw/acta_comm.html>).

46 Chairman Reed E. Hundt, Address at the INET '96 Conference (delivered by Blair Levin, FCC Chief of Staff) (June 28, 1996) (on file with COMM-LAW CONSENSUS). Chairman Hundt remarked that voice traffic on the Internet is simply "a particular kind of data," and that regulating that data


48 ACTA Petition, supra note 5, at 6-7.

49 Venditto, supra note 5, at 42.


51 ACTA Petition, supra note 5, at 10.
most stand-alone software products are being enhanced to contain the ability to interface with the Internet. Using ACTA's broad understanding of the Telecomm Act, all of these products would have to be classified as telecommunications carriers since they involve communications on the Internet. However, no one can reasonably consider companies which manufacture such products as Web Browsers, File Transfer Protocol utilities or e-mail packages to be telecommunications carriers, yet these companies bear essentially the same relation to the Internet as do the software respondents.\textsuperscript{52}

Additionally, the Telecomm Act presents a problem of statutory construction. In passing the Act, Congress made a series of findings that appeared to discourage a grant of blanket jurisdiction over Internet activities to the FCC.

1. The rapidly developing array of Internet and other interactive computer services available to individual Americans represent an extraordinary advance in the availability of educational and informational resources to our citizens.
2. These services offer users a great degree of control over the information that they receive, as well as the potential for even greater control in the future as technology develops.
3. The Internet and other interactive computer services offer a forum for a true diversity of political discourse, unique opportunities for cultural development, and myriad avenues for intellectual activity.
4. The Internet and other interactive computer services have flourished, to the benefit of all Americans, with a minimum of government regulation.
5. Increasingly Americans are relying on interactive media for a variety of political, educational, cultural, and entertainment services.\textsuperscript{53}

As a result of these findings, the Telecomm Act states that it shall be the policies of the United States to:

1. Promote the continued development of the Internet and other interactive computer services and other interactive media;
2. Preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation.\textsuperscript{54}

In this policy statement, Congress states that the Internet should remain "unfettered" by regulation.\textsuperscript{55} This policy strongly supports the contention that the federal government, in the form of the FCC, should not be allowed to regulate the Internet. Additionally, Congress' desire "to promote the continued development of the Internet" is also critical to the case of Internet telephony. The regulation of emerging software systems, such as telephony software, may discourage rather than promote the development of the Internet and associated multimedia systems. For example, these regulations would may allow software systems competitors to rush to the doors of the federal government to seek protection once other companies' systems mature and become successful.

The legislature remains indecisive. Congress rejected specific attempts to foreclose the FCC's authority, while at the same time asserting a policy that the Internet should remain "unfettered" of federal regulation. While perhaps not closing the door on FCC jurisdiction, Congress' statement of policy suggests that specific software developments, such as Internet telephony, should not be stymied by FCC regulation.\textsuperscript{56}

C. United States v. Southwestern Cable Commission

ACTA further supports its argument in favor of FCC jurisdiction over the Internet with an analogy based on United States v. Southwestern Cable Commission.\textsuperscript{57} In Southwestern Cable, the Supreme Court held that the FCC did possess jurisdiction over the emerging community antenna television industry (CATV).\textsuperscript{58} In its petition, ACTA argued that CATV, like Internet telephony, was a "new technology" which was not specifically mentioned.

\textsuperscript{52} Interestingly, in its subsequent Comments, ACTA developed the acronym "ITSPs" to cover Internet Telephony Service Providers. It added quite a number of companies to the list including IBM, Microsoft and America Online. All were characterized as telecommunications service providers for jurisdictional purposes. ACTA Petition, supra note 3, at 2, 8-10.


\textsuperscript{54} Telecommunications Act § 230.

\textsuperscript{55} In Congress, there was quite a debate over whether to insulate the Internet from FCC jurisdiction. Section 104(d) that was deleted in conference explicitly denied FCC jurisdiction over the Internet. In the end, specific language to that effect was rejected in favor of the compromise contained in the statement of policy. Id.


\textsuperscript{57} United States v. Southwestern Cable Comm'n, 392 U.S. 157 (1968).

\textsuperscript{58} Id.
in the Communications Act of 1934.\textsuperscript{59} If the FCC does in fact have jurisdiction over new systems that operate in direct competition with broadcast television operators, ACTA contends that the FCC should also have jurisdiction over new Internet technologies that compete directly with long-distance carriers.

At first, this argument seems compelling. It makes little sense after viewing the technologies involved. The CATV systems acquire the signals of standard broadcast stations and then rebroadcast them to subscribers.\textsuperscript{60} While there is no difference in program content between CATV and broadcast television; broadcasts are essentially the same whether received over-the-air or by way of the CATV system.

On the other hand, Internet telephony makes no substantive contact with the long-distance infrastructure. A call over the Internet is not siphoned from long-distance lines, rather it utilizes PC-based software together with a sound card for its digital output. Consequently, a long-distance caller is doing something quite different from an Internet phone user and, if ACTA’s analogy is to make any sense, the FCC must regulate output directed through a sound card and output directed through the screen or printer.

If ACTA is correct in its \textit{Southwestern Cable} analogy, there appears to be no principled reason why the regulated communications should involve only Internet telephony. Electronic mail (e-mail) software should also fall within the FCC’s jurisdiction since it too presents a method of communication that competes with long-distance calling. Given the widespread acceptance of e-mail, it may be said that this form of communication cuts deeper into long-distance revenues than Internet telephony.

In \textit{Southwestern Cable}, Congress and the Commission had been aware of CATV for a considerable period of time and the Commission had already begun a process of asserting jurisdiction over CATV.\textsuperscript{61} In the case of the Internet, there is no such jurisdictional history; instead, there is the stated policy that the Internet remain “unfettered” from federal regulation.\textsuperscript{62}

The danger represented in the \textit{Southwestern Cable} argument is that any regulated entity could argue by analogy that its business faces potential harm from software- or network-based systems that compete against its products or services. After all, computers and software can be designed to accomplish many tasks that are currently being performed by other entities. For example, if word processors are said to model typewriters, the issue raised is whether the laws governing the safe design of typewriters would properly apply to word processing software. If jurisdiction can be asserted by analogy, without a thorough understanding of the underlying software, perhaps overnight couriers might then contend that e-mail attachment software should be regulated as interstate carriers of documents. As this example illustrates, and as Third Planet Publishing indicates in its Comments, the analogy of Internet telephony to a CATV provider in \textit{Southwestern Cable} is an unconvincing stretch.\textsuperscript{63}

\section{Enhanced v. Basic Telecommunications Services}

The regulation of Internet telephony further depends on its classification as an enhanced or basic service. The FCC’s distinction between enhanced and basic services is necessary to understand its policy in the area of computer-based information services. This distinction, which arose in the Commission’s 1971 Computer I and 1981 Computer II proceedings, states that “enhanced” services are those that employ computer processing applications acting on the content, code or protocol of data, or which involve subscriber interaction with computer databases.\textsuperscript{64} Basic telecommunication services are subject to Title II regulation.

\textsuperscript{59} ACTA Petition, supra note 3, at 7.

\textsuperscript{60} See 392 U.S. at 161-62.

\textsuperscript{61} Id. at 165.


\textsuperscript{63} Third Planet Comments, supra note 31, at 3.

\textsuperscript{64} Enhanced services are defined as “services . . . which employ computer processing applications that act on the format, content, code, protocol, or similar aspects of the subscriber’s transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information.” 47 C.F.R. § 64.702(a) (1996). In \textit{Computer I}, the Commission distinguished between communications services using computers to perform message or circuit switching, which were regulated, and data processing services, which were unregulated and subject to marketplace competition. GTE Serv. Corp. v. FCC, 474 F.2d 724 (1972). The Commission rules required “maximum separation” of a common carrier’s communications activities from its unregulated data processing services. Id. This scheme was designed to prevent common carriers from unfairly burdening their regulated communication
ulation whereas enhanced services are classified as unregulated services for purposes of FCC oversight of local exchange carriers and other dominant carriers.\textsuperscript{65} The underlying rationale offered for this distinction is the desire to insure the continued development of hardware and software technology. The Telecommunications Act of 1996 contains the framework for this distinction in its definition of telecommunications as the transmission \textquotedblleft between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.	extquotedblright \textsuperscript{66}

Telecommunication services are distinguished from information services, which are defined in the Act as \textquotedblleft the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications.	extquotedblright Information services encompass electronic publishing, but they do not include \textquotedblleft any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.	extquotedblright\textsuperscript{67} Based on this definition, the Internet and Internet telephony fall under information services rather than telecommunications services. The software used in digitizing voice transmissions and the server technology that allows users to make use of that digitized information appears more like \textquotedblleft the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications,	extquotedblright rather than providing carriage \textquotedblleft between or among points specified by the user.	extquotedblright Moreover, the phrase \textquotedblleft via telecommunications\textquotedblright suggests that an information service, such as Internet telephony, may use the telecommunication frameworks without being telecommunications.

E. Enforcement Issues

Even if the FCC were to assume jurisdiction over Internet telephony, enforcement of the regulations would be problematic in terms of both ensuring compliance and the added regulatory burden placed on the software industry. Many of these enforcement issues arise from the fact that the FCC would be attempting to regulate a vibrant and unpredictable software industry. There are a handful of problems that may develop in an Internet regulatory environment: Intranets, reporting, digital transmissions distinctions and the international community.

INTRANETS. As Internet software has grown, so too have corporate Intranets, which are closed networks using the same network protocols and software as the Internet. The relevant inquiry is whether FCC regulations governing the Internet would similarly apply to Intranets. If the FCC gains jurisdiction over transmissions across closed corporate networks, it proceeds down a slippery slope whereby it may become involved with other Wide Area Networks (WANs), such as office networks. On the other hand, if Intranets are left out of the regulatory equation, large corporate concerns will be allowed to use Internet telephony software on their Intranets in an unregulated fashion while the average personal user is left with only regulated and tariffed systems.

REPORTING. At present, the FCC, like most agencies, bases its regulatory enforcement in large part on requiring regulated entities to file periodic reports. With respect to Internet telephony, software developers, ISPs and dial-in information services would have to be monitored. This requirement would create an onerous reporting burden that is not currently present in these industries and could serve to chill future development.

Additionally, it is not clear whether a software product that makes use of digital audio technology would fall within the regulations and thus require the company to report to the FCC. For example, visitors to the FCC's World Wide Web homepage are greeted with a short audio clip recorded by FCC Chairman Reed Hundt.\textsuperscript{68} That audio communication may fall under the auspices

\textsuperscript{65} Id. Under Computer II, those carriers that owned common carrier transmission facilities and provided enhanced services were required to unbundle basic from enhanced services and offer transmission capacity to other enhanced service providers under the same tariffed terms and conditions under which they provided such services to their own enhanced service providers.


\textsuperscript{67} Id.

\textsuperscript{68} Chairman Reed E. Hundt, Welcoming Speech (last modified Oct. 24, 1996) <http://www.fcc.gov>.
of FCC regulations, along with video conferencing systems or an e-mail to a sound file. Considerable software development is currently underway on all of these fronts. Each company would have to report to the FCC when it developed an audio application and the agency would then have to decide which, if any, regulations to apply. Such an approach could have a profoundly negative effect on the emerging multimedia software industry.

**Distinguishing Between Digital Transmissions.** It would be impossible to identify any given message traveling across the Internet as involving Internet telephony. All digital signals break down to the 1's and 0's of computer code. In fact, the process of packing and unpacking the voice data occurs locally on a user's computer before and after Internet transmission. The FCC would have the nearly impossible enforcement task of trying to distinguish voice from non-voice transmissions.

Because the programs run on local computers, skilled hobbyists will be able to easily circumvent the regulations by writing home-made software programs for use by those with whom the programmer wishes to communicate. Indeed, many Internet telephony software programs are "shareware" or "freeware" created by computer enthusiasts. It would be difficult to assess a tariff against either a "shareware" author or a computer hobbyist.

**Foreign Problem.** The Internet is a global network. Resolution of issues concerning Internet telephony must take into account the global nature of the Internet and recognize that laws passed in one country may be unenforceable in other countries. If the FCC were to take jurisdiction over Internet telephony, it would be difficult to keep the software from being developed by programmers in other nations. To escape the reach of FCC jurisdiction, the servers that must be logged onto in order to establish a call could simply be placed outside the borders of the United States. If that becomes the case, U.S. companies will lose this area of software expertise to foreign firms, even though Internet telephony in the U.S. will remain at the exact same level; the only difference would be that foreign firms would be profiting from this form of communication.

**VI. ACTA AND THE FUTURE OF FCC JURISDICTION ON THE INTERNET**

The most interesting dimension of the ACTA Petition is what it portends for the future. The role that the FCC plays in the development of the Internet will be influenced most likely by many of the same factions represented in the ACTA proceeding, including competing businesses, software companies and political concerns.

**Competing Businesses.** As the Internet grows, computer-modeled business activities on the Internet will gain an increased share of the market. This is the heart of the ACTA Petition. Internet telephony provides a computer-modeled version of long-distance service that could drain revenues from standard carriers. A similar situation could well arise in the broadcasting industry as television and radio stations increasingly "broadcast" their stations on the World Wide Web using real-time audio and video technology. Will Internet broadcasters eventually compete and displace local broadcast stations? If the ACTA Petition succeeds, the FCC could be asked to assume jurisdiction in the area of Internet broadcasting.

**Software Companies.** As software becomes more wedded to the communications infrastructure, we should expect to see more sophisticated petitioning of the FCC by companies trying to protect and expand their interests. Like the telephone companies before them, software developers will need to deploy an increasingly sizable group of lawyers and lobbyists to make the most of opportunities arising on the electronic frontier.

**Political Concerns.** The Internet is clearly the political football of the nineties. The Communications Decency Act (CDA) as well as presidential pledges to wire all schools to the Internet are representations of this idea. However, tougher issues will need to be addressed as technology advances and more people find their way onto the Internet.

Politicians may also have to confront the global and fast-paced nature of the Internet, which allows data to be sent quickly around the world. Using the Internet, data processing tasks, such as transcription typing, order processing and data entry, can easily be transmitted to foreign countries where the cost of labor is lower than the

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United States. With the ACTA Petition acting as a spring board, the result of the Internet wars may find politicians clamoring to establish Internet jurisdiction in order to prevent the exportation of American jobs.

CONCLUSION

The ACTA Petition can be seen as one of the first shots in the coming battle over regulatory control of the Internet. It is important in all such cases to have a firm understanding of the underlying software system. To the extent that a software system models a non-Internet activity, thorough analysis must be conducted in order to weed out the successful analogies from those that fail. The Internet presents a volatile landscape that will have an increasing impact on corporate revenues. Caution and careful scrutiny are required if we are going to have any peace in the Wild, Wild West of cyberspace.