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THE PROMISE AND THREAT OF INTERNET TELEPHONY AND REGULATION

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A spectre is haunting telecommunications, at least according to some telephone companies. How real is the threat posed by use of the Internet for telephone calls, and what, if any, should be the proper regulatory response?

I. How Does it Work?

Internet telephone communications can be accomplished by using at least a 486 personal computer or its equivalent, with 8 MB RAM, a sound card, a modem, enabling software, speakers, a microphone, and Internet access. Software in effect can allow sound to be converted to digits, briefly captured on the hard drive of a computer, and sent via the Internet to a destination, where the process can be reversed. It has been estimated that half a million callers have at least tried Internet telephony.¹ However, the current technological level of Internet telephony is, to paraphrase Samuel Johnson, like a dog's walking on its hind legs. It is not done well; but you are surprised to find it done at all. Internet telephony is still a novelty, and in practice is closer to ham radio or live online forums with sound, than telephone service. The quality of the sound is often poor, with significant delays between responses. Sometimes it is necessary for the calling parties to take turns talking, rather like two-way radio. Indeed, Internet telephony has been compared to citizen's band radio.² Placing a call is not as easy as dialling. Both users must be

¹ Louise Kehoe, "Tricky, cheaper way to chat", *Financial Times*, 10 June 1996, at VI.

² John H. Cushman Jr, "Calling Long Distance, on a PC and the Internet", *The New York Times*, 19 May 1996, at K-8.

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connected via a full service Internet access service provider rather than an online service provider such as CompuServe, America Online, or Prodigy. Unless the users have compatible Internet telephony software, a conversation is impossible. Many of the existing Internet telephony software programs use different signalling and compression protocols, making them incompatible.³ Both parties must be on the Internet at the same time. This might require either a scheduled appointment or an earlier email or phone call to set up the Internet call. Then the calling party must locate the called party. This may not be easy as Internet addresses, known as Internet Protocol addresses, unlike E-mail addresses may change every time one logs on.⁴ But, like most information technology, breakthroughs boosting quality, reliability, and ease of use may be expected.⁵

Already, performance of Internet telephony can be improved by using a more sophisticated personal computer, with more RAM, a faster modem, and a headset instead of separate speakers and microphone. With the proper software and hardware, two parties to a conversation can talk simultaneously. There are indications that Internet telephony developers may reach common standards, allowing more calls to go through.⁶ Part of the service provided by some Internet software developers is in effect a locating service to find the called party.⁷ This locating difficulty may someday be overcome through a system that would allow Internet calls to arrive at any telephone destination.⁸ It might be possible to arrange calls through a third-party, much like callback

³ Op. cit., note 1

⁴ Ibid.

⁵ Dr. Pekka Tarjanne, Secretary-General, International Telecommunication Union, "The Internet and the Information Infrastructure: What's the difference?", speech at Pacific Telecommunications Council 18th Annual Conference, "The Information Infrastructure: Users, Resources and Strategies", Honolulu, 14 January 1996.

⁶ Op. cit note 2

⁷ VocalTec Press Release, 8 March 1996.

⁸ *Internet Law and Regulation*, Edited by Graham J.H. Smith, FT Law and Tax (1996), at 77.

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service is accomplished today.⁹ Indeed, International Discount Telecommunications (IDT), a current provider of callback service, has announced that it will offer a service whereby callers can place a call from their personal computer through the Internet to an IDT switch, and a call may then be completed to anywhere in the UK or the US for ten cents per minute.¹⁰

The potential of the Internet to deliver real-time telephone service throughout the world is perceived as a threat by telephone companies.¹¹ This is particularly so since for the cost of Internet access alone, a user can theoretically connect to anywhere in the world. As Internet access is often provided on a flat rate basis, at least in the US, the price for Internet telephony is quite attractive compared with existing prices for domestic long distance or international calls. It has been estimated that the average cost for computer-to-computer domestic long distance Internet telephony in the US is one to three cents a minute, while traditional long distance providers charge an average price of twenty two cents per minute.¹² Some businesses with large volume of international calls are already trying Internet telephony as a means of holding down telephone costs.¹³ If the technical difficulties with Internet telephony are resolved, making it an efficient alternative to traditional telephone calling, telephone companies might lose a great deal of revenue.

II. The ACTA FCC Petition

Given the potential of Internet telephony, it is perhaps not surprising that a regulatory challenge has been mounted. However, the source was not the larger US long distance carriers such as AT&T or MCI. Instead it was a

⁹ Op. cit note 5.

¹⁰ IDT Press Releases of 23 October 1995 and 6 November 1995.

¹¹ Op. cit note 5.

¹² ACTA Petition, *infra* note 14, Comments of Students of the MIT Telecommunications Modeling and Policy Analysis Group, at 15.

¹³ Op cit., note 5.

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group of smaller long distance resellers, under the rubric of America's Carriers Telecommunication Association (ACTA), that filed a petition with the Federal Communications Commission (FCC) requesting that Internet telephony be regulated as a common carrier telecommunications service.¹⁴ There are around 130 members of ACTA; average member revenue is approximately \$10 million.¹⁵

It is possible that the larger carriers feel they more to gain than lose from Internet provision.¹⁶ AT&T and MCI are offering free Internet access for a limited time to existing long distance customers. One possible advantage the Internet provides that the large carriers might wish to explore is that it would avoid the necessity of paying access charges to local exchange carriers. Access charges currently account for 45% of the charges for long distance service.¹⁷

The FCC is statutorily required to promulgate rules for certain areas of telecommunications. It may also be petitioned to investigate and then promulgate rules in other areas. The ACTA Petition requested that the FCC take action to regulate companies "selling software for the specific purpose of allowing users of the Internet to make free or next to free local, interexchange .

¹⁴ Pleading before the Federal Communications Commission dated 4 March 1996. In the Matter of the Provision of Interstate and International Interexchange Telecommunications Service Via the "Internet" by Non-tariffed, Uncertified Entities. America's Carriers Telecommunication Association (ACTA), Petitioner. Petition for Declaratory Ruling, Special Relief, and Institution of Rulemaking Against: VocalTec, Inc.; Internet Telephone Company; Third Planet Publishing Inc.; Camelot Corporation; and Other Providers of Non-tariffed, and Uncertified Interexchange Telecommunications Services, Respondents (RM-8775), (hereinafter referred to as "ACTA Petition").

¹⁵ Craig A. Johnson, "Silencing Internet Voice", *Wired*, June 1996, at 123.

¹⁶ AT&T and Sprint did file comments to the ACTA Petition seeking the possible elimination of the distinction between enhanced and basic telecommunications services thereby creating a "level playing field". ACTA Petition, *infra* note 14, Comments of AT&T, at 4; and Comments of Sprint Corporation, at 4.

¹⁷ "The War of the Wires", *The Economist*, 11 May 1996, at 67.

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. . . and international telephone calls using the user's computer".¹⁸ Named as Respondents were VocalTec, Internet Telephone Company, Third Planet Publishing, Camelot, Quarterdeck, and other non-specified entities. It is interesting that the initial ACTA Petition did not name or discuss any possible involvement of Internet access service providers [*373]in carrying telephony traffic. Perhaps ACTA did not wish to anger potential or actual customers who as part of their service purchase access to telephone infrastructure: access that could be provided by ACTA's members.

The software is only one link in the chain of Internet telephony, but ACTA ignored the other necessary elements of proper hardware and connecting service providers, except to note that the Internet telephony user can make calls anywhere only for the cost of Internet access. It is important to bear in mind that all the software does is enable end users to access properly established and paid for links to speak with another user. The Internet service provider presumably leases telephone lines or provides some other legal means to link the end user's computer to the Internet. In that respect, the telephone companies are already properly compensated for use of their network, and there is no long distance for free through the Internet.

Of greater consequence than the narrow issue of regulation of Internet telephony software vendors is ACTA's assertion that the FCC has authority to regulate the Internet. ACTA quoted 47 U.S.C. § 153 for the definition of telecommunications and telecommunications carriers that could be regulated by the FCC.¹⁹

(48) 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.

¹⁸ ACTA Petition, supra note 14, at 3.

¹⁹ ACTA Petition, supra note 14, at 6.

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(49) 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.

(51) 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.

The ACTA Petition cited *United States v Southwestern Cable Co.*, 392 U.S. 157 (1968) as authority for the proposition that the FCC can regulate Internet telephony. That case held that the FCC had authority to regulate the then new technology of cable TV and issue a restraining order to preserve the *status quo* in TV broadcasting.

While it may be arguably correct that the FCC has the authority to regulate at least certain types of Internet communications, it is not necessarily true that it would be the proper thing to do. Extensive regulation might stifle the potential of the Internet at the time it is experiencing rapid growth. A U.S. Federal District Court has held that the unique characteristics of the Internet entitle it to the highest degree of protection from intrusive government regulation.²⁰

²⁰ *American Civil Liberties Union, et al. v Janet Reno*, Case No. 96-963, (E.D. Pa.), Adjudication on Motions for Preliminary Injunction, 11 June 1996, Concurring Opinion of District Judge Dalzell, at Paragraph D.4.

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ACTA asserted that the software providers were acting as long distance carriers, and that it was not in the public interest to allow these 'select' carriers to be unregulated and to in effect give long distance service away for free, implying that telecommunications infrastructure might suffer if traditional telephone companies are deprived of revenue.²¹ While the lost revenue represented by Internet telephony is not likely to interfere with the provision of telecommunications infrastructure, at least for the foreseeable future, ACTA claimed that the use of Internet facilities for telephone calls might also interfere with the Internet's ability to carry data traffic by overloading its capacity. Significant delays are already encountered on the Internet. Any additional traffic might jeopardise the Internet's reliability. However, telephony is still a minor part of Internet traffic. Predictions of the Internet's collapse have not come true yet. Indeed, the involvement of backbone facilities provided by AT&T and MCI should strengthen the carrying capacity. Nevertheless, the US Regional Bell Operating Companies are concerned enough about possible excess Internet use clogging the local networks (and consequently denying local access fees), that they have lobbied the FCC to allow per-minute tariffs instead of the flat rate charges common in the US as a means of being compensated for excessive Internet access.²² ACTA concluded with dire predictions that Internet communications could be used to facilitate a host of illegal activities such as illegal drugs, gambling, and pornography, in the absence of FCC regulation.²³ ACTA overstates the potential for criminal use; a telephone service alone cannot be responsible for criminal activities. However, criminals might want to make use of the anonymity and lack of records offered by Internet telephony to discuss criminal acts. Long distance records are a common law enforcement tool. Encryption might make it even more difficult to trace and intercept communications subject to authorised wiretaps. Certainly US government law enforcement and security agencies are

²¹ ACTA Petition, supra note 14, at i.

²² Op cit.note 17.

²³ ACTA Petition, supra note 14, at 9, 10.

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concerned about communications via the Internet. Potential criminal acts in general and child pornography in specific are often invoked as the reason the Internet needs regulation, as witnessed by the US Communications Decency Act.

ACTA subsequently filed comments comparing Internet telephony software providers to manufacturers of telecommunications network switches.²⁴ ACTA's comments also impliedly broadened its Petition to include online service providers and others it considered involved in Internet telephony²⁵, raised issues of whether Internet telephony should be considered as basic or enhanced service under US telecommunications rules²⁶, and argued that Internet telephony providers should be required to pay local access fees and support universal service.

III. RESPONSES

As might be expected, the ACTA Petition attracted a great deal of attention, not only from the targeted Internet telephony software providers. Several hundred businesses and individuals filed comments with the FCC, including computer hardware and software providers, online information service providers, and Internet access service providers. These were universally opposed to the ACTA Petition. However, the Petition also attracted comments from other long distance providers and resellers and local telephone companies. Some of these commentators viewed the Petition as a opportunity to raise issues beyond regulation of Internet telephony software.**[*374]**

²⁴ ACTA Petition, *supra* note 14, Comments of ACTA, at 12-13.

²⁵ *Id.* at 8-11.

²⁶ *Id.* at 18.

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**A. INTERNET TELEPHONY SOFTWARE AS A
TELECOMMUNICATIONS SERVICE**

A Reply was jointly filed by one of the Internet software providers named in the Petition, Third Planet, and another interested software developer, FreeTel. They made the point that they are not in the business of selling telecommunications services and do not maintain any telecommunications facilities: they merely provide software to end users.²⁷ Third Planet and FreeTel distinguished *Southwestern Cable* by noting that it concerned attempts by emergent cable TV companies to in effect poach the television programming of television broadcasting companies²⁸. Although ACTA argued that a similar poaching was taking place here by a new technology (long distance service by the Internet), Third Planet and FreeTel asserted that the unique position of television broadcasting with its community responsibilities entitled it to special protection from cable TV. The same sort of responsibilities could be found on telephone common carriers, particularly with the passage of the US Telecommunications Act of 1996, containing requirements to contribute to the universal service fund. Internet telephony software providers will presumably not be contributing to this fund. Perhaps a better argument would have been that the cable companies in *Southwestern Cable* were engaged in unauthorised relay of the broadcast, while Internet telephony end users presumably access the telephone network properly; it is the use the end users then make of the network that is at issue.

Two other software providers named in the ACTA Petition, VocalTec and Quarterdeck, filed a Joint Reply²⁹ noting that of the hundreds of comments filed, including those of local telephone companies, long distance companies such as AT&T and Sprint, software developers, and online service providers,

²⁷ ACTA Petition, supra note 14, Joint Comments of Third Planet Publishing, Inc. and FreeTel Communications, Inc., at 2.

²⁸ Id. at 3-4.

²⁹ ACTA Petition, supra note 14, Joint Reply Comments of VocalTec Ltd., and Quarterdeck Corporation.

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only one commentator, LDDS, a long distance provider, supported the idea of regulating Internet telephony software providers as telecoms carriers.

Netscape Communications Corporation (this company has announced that a telephony program, Cool Talk, will be included with its Web browser) and Voxware, Inc. also filed Joint Reply Comments to the ACTA Petition, echoing other comments that the FCC does not have authority to regulate Internet telephony software as a telecommunications service.³⁰

MFS, a local competitive access provider, filed comments arguing that sales of software cannot constitute the provision of telecommunications services as alleged by ACTA; the software providers are not transmitting anything.³¹

Microsoft's comments argued that ACTA's comparison between Internet telephony software and telecommunications switches was inappropriate in that switch providers are not considered telecommunications carriers.³² However, Microsoft ignored the fact that telecommunications switches constitute network elements, and as such may be subject to regulation or other special requirements, including rights of access or collocation by competitors. Incidentally, it has been reported that Microsoft will include Internet telephony software in its Web browser software.³³

B. SOFTWARE AS TELECOMMUNICATIONS EQUIPMENT

Third Planet and FreeTel asserted that the FCC has no authority to regulate software³⁴, but software has been treated as telecommunications equipment in

³⁰ ACTA Petition, supra note 14, Reply Comments of Netscape Corporation and Voxware, Inc. at 2.

³¹ ACTA Petition, supra note 14, Reply Comments of MFS Communications Company, Inc., at 4.

³² ACTA Petition, supra note 14, Reply Comments of Microsoft Corporation, at 2.

³³ Id. at 9.

³⁴ ACTA Petition, supra note 14, Joint Comments of Third Planet Publishing, Inc. and FreeTel Communications, Inc., at 3.

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other proceedings. As a part of the AT&T divestiture decree, the Regional Bell Operating Companies were forbidden to develop certain types of software working in conjunction with network equipment as Judge Greene considered that would constitute manufacturing of telecommunications equipment.³⁵ Presumably, the FCC would still possess authority to approve or otherwise regulate telecoms equipment, even though it has now taken the position that telephone equipment operated by end users, known as customer premises equipment (CPE), is deregulated. The FCC might be willing to exercise this latent authority in the case of Internet telephony software as it could be alleged that the software is in effect like devices, sometimes referred to as blue boxes or black boxes, that replicated telecoms network tones and thereby enabled the user to obtain free long distance calls. However, blue boxes were outright fraud, while Internet telephony is accomplished via legitimately obtained services.

The Interactive Television Association's New Media Coalition for Marketplace Solutions filed reply comments as the New Media Coalition,³⁶ and admitted that some commentators have suggested that Internet telephony software could be treated like CPE. Under Part 68 of the FCC rules, the FCC can evaluate CPE for purposes of assessing its potential to harm the network. Nevertheless, New Media concluded that the FCC should not use Part 68 to evaluate the Internet telephony software as that might result in regulation of Internet telephony, a result New Media found undesirable.³⁷

VocalTec, Quarterdeck,³⁸ and MFS³⁹ conceded that Internet telephony software could rightly be considered as CPE comparable to telephone sets.

³⁵ *United States v Western Electric*, 675 F.Supp. 655, 667 (D.D.C. 1987).

³⁶ ACTA Petition, *supra*, Reply Comments of the New Media Coalition for Marketplace Solutions.

³⁷ *Id.* at 8.

³⁸ ACTA Petition, *supra* note 14, Joint Reply Comments of VocalTec Ltd. and Quarterdeck Corporation, at 4.

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Therefore, it is possible that the FCC could regulate Internet telephony software as a version of CPE, but the FCC has relinquished its regulatory powers over CPE and directed State regulatory agencies not to regulate CPE either.⁴⁰ Even two local telephone companies considered that re-regulation of CPE might constitute a “step backward given the current trend towards deregulation of telecommunications”.⁴¹

C. US GOVERNMENT POLICY AND THE INTERNET

Third Planet and FreeTel noted US government policy, as expressed in Section 509 of the US Telecommunications Act of 1996, that the Internet has flourished with a minimum of government regulation and in favour of preserving a competitive environment where the Internet can continue to grow unfettered by Federal or State regulation.⁴² Several other commentators noted this expression of government policy.⁴³ What they omitted was that this policy is contained in the section of the Act providing immunity for actions taken to restrict access to allegedly objectionable material on the Internet. This section of the Act also follows the notorious Section 502, et seq., constituting the Communications Decency Act, that used the heavy hand of government regulation to criminalise certain indecent computer communications.

³⁹ ACTA Petition, supra note 14, Reply Comments of MFS Communications Company, Inc., at 6.

⁴⁰ ACTA Petition, supra note 14, Joint Opposition of VocalTec, Ltd. And Quarterdeck Corporation, at 17-19.

⁴¹ ACTA Petition, supra note 14, Comments of Pacific Bell and Nevada Bell, at 4-6.

⁴² ACTA Petition, supra note 14, Joint Comments of Third Planet Publishing, Inc. and FreeTel Communications, Inc., at 6-7.

⁴³ ACTA Petition, supra note 14, Comments of Microsoft Corporation, at 6-8; Comments of The Business Software Alliance, at 6-10, Comments of CompuServe, at 7-8; and Comments of New Media Coalition for Marketplace Solutions, at 7-9.

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D. DISTINGUISHING INTERNET TELEPHONY FROM OTHER INTERNET COMMUNICATIONS

There is another problem with attempting to regulate Internet telephony pointed out by commentators: it is impossible to determine if an end user is in fact engaged in carrying Internet [*375] telephone calls.⁴⁴ The only thing the Internet service provider knows is that bits are being transported; the content of those bits is unknown and unknowable in the absence of intrusive monitoring. Indeed the US Telecommunications Act of 1996 recognised this impossibility by stating that providers of interactive computer services shall not be treated as publishers of information provided by another content provider.⁴⁵

However, if Internet telephony continues to grow, it might be safe to assume that all Internet service providers carry long distance traffic and require them to obtain appropriate licences and contribute to universal service.

LDDS, a long distance carrier, filed comments asserting that the inability to distinguish between Internet telephony and other forms of Internet communications was a red herring. First, LDDS claimed that it was possible to determine which traffic consisted of telephone calls, but LDDS did not explain how it would be possible to distinguish a packet of telephone conversation digits from say E-mail digits. Second, LDDS stated that the FCC could simply eliminate the distinction between voice and data traffic, by revoking the enhanced service provision exemption, and apply appropriate charges to all digital traffic.⁴⁶

⁴⁴ ACTA Petition, *supra* note 14, Joint Comments of Third Planet Publishing, Inc. and FreeTel Communications, Inc., at 9; see also Reply Comments of Intel Corporation, at 10; Comments of Sprint, at 3; Comments of Microsoft Corporation at 9; Comments of BBN Corporation, at 3; Comments of Technology and Computer Professionals for Social Responsibility and the Benton Foundation, at 12-15; Joint Opposition of Netscape Communications Corporation, Voxware, Inc. and InSoft, Inc, at 16-19.

⁴⁵ U.S. Telecommunications Act of 1996, at Section 509, codified at 47 U.S.C. § 230(c)(1).

⁴⁶ ACTA Petition, *supra* note 14, Reply Comments of LDDS WorldCom, at 17.

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E. REGULATORY FORBEARANCE

Section 401 of the US Telecommunications Act of 1996 states that the FCC shall forbear from applying the rules of the Act to any telecommunications service or carrier if enforcement is not necessary to ensure just and reasonable service, consumers are protected, and forbearance is consistent with the public interest.⁴⁷ The FCC is to consider the effect of possible forbearance on market conditions, and the enhancement of competition is to be the determinative factor. MFS⁴⁸ and other commentators' argument that the FCC should forbear from regulating Internet telephony was not really consistent with their position that the software at issue was not a telecommunication service. Section 401 only concerns forbearance from regulating telecommunications services or carriers, however, this may be a legitimate argument regarding possible regulation of Internet service providers. The ACTA Petition had in fact widened into an attempt to regulate Internet service providers, so perhaps regulatory forbearance should be considered.

Netscape and Voxware recognised that the real issue raised by the ACTA Petition was whether Internet traffic, including telephony, should be regulated, and if so, how. The Joint Opposition of these parties argued that the FCC should exercise its right of regulatory forbearance regarding Internet communications, and at the same time act to preempt possible state regulatory action in the field.⁴⁹ If these actions are not taken at this time, Netscape and Voxware warned that the FCC would be faced with repetitive petitions seeking to overturn the enhanced service classification of Internet communications, subsequently burdening developing Internet software and service providers

⁴⁷ U.S. Telecommunications Act of 1996, Section 401, codified at 47 U.S.C. § 160(a).

⁴⁸ ACTA Petition, supra note 14, Reply Comments of MFS Communications Company, Inc., at 7-11.

⁴⁹ ACTA Petition, supra note 14, Joint Reply Comments of Netscape Communications Corporation and Voxware, Inc., at 2-3.

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with regulatory proceedings.⁵⁰ They asserted that traditional telecommunications regulation was inappropriate for the Internet. Both the services offered over the Internet and the service architecture of the Internet are too different from public switched telephone networks.⁵¹ Netscape and Voxware argued that not only should the FCC forbear from regulating the Internet, under the text of the US Telecommunications Act of 1996, it was obligated to forbear.⁵²

F. INTERNET ACCESS SERVICE PROVIDERS AS TELECOMMUNICATIONS CARRIERS

ACTA broadened its Petition, directed solely against Internet telephony software providers, in its Initial Comments to include Internet access service providers.⁵³ New Media asserted that Internet access service providers cannot be considered telecommunications carriers. Rather, they are information service providers. The US Telecommunications Act of 1996 defined information services as:

. . . the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.⁵⁴

⁵⁰ ACTA Petition, *supra* note 14, Joint Reply Comments of Netscape Communications Corporation and Voxware, Inc., at 4.

⁵¹ *Id.* at 7-8.

⁵² *Id.* at 11.

⁵³ ACTA Petition, *supra* note 14, Reply Comments of the New Media Coalition for Marketplace Solutions, at 2.

⁵⁴ Telecommunications Act of 1996, Section 3(a)(41), codified at U.S.C. § 153 (41).

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New Media quoted the legislative history from the US Telecommunications Act of 1996 to the effect that telecommunications services are not information services.⁵⁵ That may be, but the converse is not necessarily true: that the services provided by Internet service providers cannot constitute telecommunications. The telephone service provided by Internet telephony software working in conjunction with access provided by Internet service providers may not look like 'plain old telephone service' today, but as the service becomes more technically advanced, it starts to look more basic. Characteristics of Internet telephony described by New Media as enhanced, under the *Computer II*⁵⁶ rationale, such as shared data bases and time lag,⁵⁷ are being eliminated.

New Media noted that contrary to ACTA's assertion, Internet telephony is not free. The costs of long distance are a part of the access fee paid by Internet service providers. As technically there is no difference between the transmission of an e-mail message and an Internet telephone message, it is debatable whether the charges for the two should be different.⁵⁸ Again the argument might cut both ways: perhaps all communications over the Internet should be regulated since they use telephone lines and serve the same purpose as basic telephone service.

⁵⁵ ACTA Petition, supra, Reply Comments of the New Media Coalition for Marketplace Solutions, at 3.

⁵⁶ *Computer Inquiry II*, 77 F.C.C.2d 384 (1980), recon. 84 F.C.C.2d 50 (1980), further recon. 88 F.C.C.2d 512 (1981), aff'd sub nom., *Computer and Communications Industry Association v FCC*, 693 F.2d 198 (D.C. Cir. 1982, cert. denied, 461 U.S. 938 (1983)).

⁵⁷ ACTA Petition, supra note 14, Reply Comments of the New Media Coalition for Marketplace Solutions, at 5.

⁵⁸ *Id.* at 6.

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G. ENHANCED OR BASIC TELECOMMUNICATIONS SERVICE?

Enhanced services are considered as communications changing format or enabling the user to access stored information.⁵⁹ It is questionable whether Internet telephony qualifies. It is true that the voice of an Internet conversation enters a computer and is converted into digits before reaching the other user and converting back to voice, but the result is still voice-to-voice. A similar conversion to digits occurs in every digital telecommunications network. Should it make a difference if the conversion is done by the end user or a network operator?

The Consumer Project on Technology, founded by Ralph Nader, filed Reply Comments expressing concern that the ACTA Petition could become a vehicle through which enhanced services, argued by the Consumer Project to include those furnished by Internet service providers, would be regulated and therefore face payment of local access fees [*376] similar to those currently paid by long distance carriers.⁶⁰

Enhanced service providers are currently exempt from paying access charges: they may provide their services by only paying for local calls or leased lines. The Interactive Services Association (ISA), a trade association of approximately 350 online service providers, closely examined the calls of some commentators that the disparity in calling prices between Internet telephony and regular long distance calling be addressed by requiring enhanced service providers to pay per-minute access charges.⁶¹ As online providers are considered enhanced service providers, ISA naturally desired to preserve their access-charge-free status. ISA made the point that not all voice services are even considered as 'telecommunications'. For example, interstate voice mail delivery is considered an enhanced service, even though it may be delivered

⁵⁹ *Computer Inquiry II*, supra note 49.

⁶⁰ *Id.* at 2.

⁶¹ ACTA Petition, supra note 14, Reply Comments of the Interactive Services Association, at 2-3.

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over regular telephone lines.⁶² However, voice mail and voice storage and retrieval services are regulated under the US Telecommunications Act of 1996, at least when provided by a local exchange carrier.⁶³ CompuServe declared that Internet telephony should be considered enhanced because the technology involves storage and forward capabilities, even though advances in technology are expected to reduce storage in the computer to where for practical purposes real-time conversations can occur.⁶⁴

LDDS claimed that Internet telephony, at least that involving one telephone connected via the public network should not be considered as an enhanced service.⁶⁵ LDDS pointed out that some Internet telephony software providers are advertising their products as offering real-time phone conversations. Southwestern Bell Telephone Company in its comments, urged the FCC to impose local access fees on a per-minute basis whether the traffic came from an Internet service provider or a long distance carrier.⁶⁶ The Reply Comments of the Telecommunications Resellers Association (TRA) focused on the perceived need to eliminate the enhanced service provider exemption and reform the payment of access charges by all providers of telecommunications services, including Internet access and other information service providers.⁶⁷ According to the TRA the enhanced services exemption was intended by the FCC as a temporary measure, to be eliminated once the information service industry attained a degree of maturity.⁶⁸ The United States Telephone Association, a

⁶² Id. at 4, quoting *Computer Inquiry II*, 77 F.C.C.2d 384, 421 (1980).

⁶³ U.S. Telecommunications Act of 1996, Section 260, codified at 47 U.S.C. § 260.

⁶⁴ ACTA Petition, supra note 14, Comments of CompuServe, at 11-12.

⁶⁵ ACTA Petition, supra note 14, Reply Comments of LDDS WorldCom, at 14.

⁶⁶ ACTA Petition, supra note 14, Comments of Southwestern Bell Telephone Company, at 5-7.

⁶⁷ ACTA Petition, supra note 14, Reply Comments of The Telecommunications Resellers Association, at 2.

⁶⁸ Id. at 5.

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trade association of smaller local telephone companies also took this position.⁶⁹ The TRA asserted that the cost advantage of Internet telephony was not due to greater efficiencies, but instead is a 'regulatory aberration' resulting from the fact that Internet communications, including telephony, is not subject to access charges or other regulatory fees.⁷⁰ The result, according to the TRA, is that the enhanced services exemption provides an unfair advantage to Internet access service providers.

H. ACCESS CHARGES AND UNIVERSAL SERVICE SUPPORT

Pacific Bell and Nevada Bell, soon to merge with Southwestern Bell into a new company (SBC), filed comments suggesting that this rulemaking proceeding be used by the FCC as an opportunity to address the problem of reforming access charges.⁷¹ Local telephone companies complain that their traditional flat rate charges mean that they are not recovering a proper price for Internet access. Local telephone companies also complain that Internet traffic threatens to overload their existing networks.⁷² Per-minute access charges might reduce the tendency of some Internet users to stay online for hours at a time, potentially overloading the network capacity. Current flat rate local charges, the norm in the US, encourage long use. However, PacTel, the parent company of Pacific Bell and Nevada, has announced that it will offer unlimited Internet access to California customers at a flat rate fee of \$19.95 per

⁶⁹ ACTA Petition, supra note 14, Comments of the United States Telephone Association, at 2.

⁷⁰ ACTA Petition, supra note 14, Reply Comments of The Telecommunications Resellers Association, at 4.

⁷¹ ACTA Petition, supra note 14, Comments of Pacific Bell and Nevada Bell, at 8.

⁷² ACTA Petition, supra, Comments of Pacific Bell and Nevada Bell, at 12; "The War of the Wires", *The Economist*, 11 May 1996, at 67-68.

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month,⁷³ undercutting the argument that flat rate Internet access harms local telephone companies.

LDDS contended that all users of the public telecommunications network including Internet telephony providers should support the public network by paying a fair share of local access charges, universal service support, and international settlement charges.⁷⁴ LDDS asserted that such charges were imperative because Internet telephony has already outgrown the novelty stage, and computer-to-telephone and telephone-to-telephone conversations are currently taking place. Although the services LDDS cited are not yet widely used, it may no longer be necessary to go through the cumbersome process of linking personal computers together to use the Internet to complete telephone calls.⁷⁵

Long distance carriers complained that the ability of Internet telephony to complete calls without the payment of access charges placed them at a competitive disadvantage.⁷⁶ In effect, this means that users of traditional long distance services will pay more, as they subsidise users of Internet telephony who do not pay access charges or the cost of universal service.⁷⁷ If Internet telephony reaches its potential and more users migrate from the traditional carriers to Internet providers, there will be less revenue available to support service to low income and rural customers. LDDS raised the spectre of society developing into telecommunications haves and have-nots.⁷⁸

⁷³ Leslie Cauley, "PacTel to Become First Regional Bell to Offer Unlimited Access to Internet", *The Wall Street Journal*, 28 May 1996, at A3.

⁷⁴ ACTA Petition, supra note 14, Reply Comments of LDDS WorldCom, at 9.

⁷⁵ Id. at 7.

⁷⁶ ACTA Petition, supra note 14, Comments of AT&T, at 4; Comments of Sprint Corporation, at 2-5.

⁷⁷ ACTA Petition, supra note 14, Reply Comments of LDDS WorldCom, at 11.

⁷⁸ ACTA Petition, supra note 14, Reply Comments of LDDS WorldCom, at 12.

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The focus of Intel's Reply Comments was to counter the comments of Southwestern Bell and Pacific and Nevada Bell that the ACTA Petition be broadened to consider placing per-minute access charges on Internet service providers. In Intel's opinion, allowing the local telephone companies to recover per-minute access charges would over compensate the local telephone companies, stifle use of the Internet and personal computers as a communications tool, and would not be fair as the telephone network is poorly suited to carry computer traffic.⁷⁹ The question then arises that if the telephone network is so poorly suited, why is it being used? Intel did not have much sympathy for the potential problem faced by the local telephone companies regarding overuse of their network for Internet traffic. Rather than discourage use of the Internet by charging per-minute access fees, Intel suggested that the local telephone companies address the problem by upgrading their networks to be better able to carry large amounts of digital traffic.⁸⁰ Intel does not answer the question of whom is to pay for this upgrade: presumably it would be the basic local voice customers as in Intel's opinion all digital traffic is enhanced and therefore not subject to access fees.

Intel suggested there is great demand for broadband and high speed services such as ISDN, but the local telephone companies have not responded to this demand.⁸¹ Contrary to Intel's simplistic scenario, there are many reasons ISDN has not taken off. Lack of available hardware is one. Despite attractive pricing and costly marketing efforts, ISDN has yet to achieve significant [*377] market penetration anywhere in the world. ISDN can still be considered a service in search of a market. Certainly it is wrong to blame the failure of ISDN on a plot to keep users wedded to plain old telephone service, as Intel suggests. However, as the local telephone companies saw the ACTA Petition as an opportunity to seek per-minute access charges, Intel viewed the Petition as an opportunity to attack the local phone companies and press for

⁷⁹ ACTA Petition, supra note 14, Reply Comments of Intel Corporation, at 3.

⁸⁰ Id. at 4.

⁸¹ Id. at 8.

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technological upgrades in the network: upgrades that would enable Intel PCs to communicate more effectively. Intel's accusation is ironic in that the US telecommunications system is considered the most advanced, competitive and cheapest in the world. It has been estimated that leased lines of the type used to provide Internet connections cost ten times as much in Europe as in North America.⁸² However, Intel accused the local telephone companies of using their monopoly powers to stunt technological developments in communications.⁸³ Intel ignores the economics facing the local telephone companies. If they can only charge Internet service providers as if it were a plain local call, there is no incentive to upgrade the network to handle advanced digital traffic. In fact, in the absence of a pricing mechanism for digital traffic, the local telephone companies will try to discourage such use of their networks.

Interestingly, it has been estimated that if access charges were applied to Internet telephony, the calls would still be significantly cheaper than traditional long distance calls.⁸⁴ Proponents of Internet telephony maintain that superior efficiency of the Internet versus the public telecoms network is the cause of lower prices for Internet telephony.⁸⁵ Netscape and Voxware claimed that a large part of the Internet's efficiency comes from its connectionless service architecture. Internet communications are not routed through switches, as required for traditional telephone traffic, and many users can share facilities and bandwidth.⁸⁶ However, these efficiencies are produced by

⁸² Green Paper on the liberalisation of telecommunications infrastructure and cable TV networks: Part I, Principle and Timetable, (COM(94)440 final, 25.10.94).

⁸³ ACTA Petition, supra note 14, Reply Comments of Intel Corporation, at 13.

⁸⁴ ACTA Petition, supra note 14, Comments of Students of the MIT Telecommunications Modeling and Policy Analysis Group, at 8, 13, 14.

⁸⁵ ACTA Petition, supra note 14, Reply Comments of the Interactive Services Association, at 4; and Joint Reply Comments of Netscape Communications Corporation and Voxware, Inc., at 9.

⁸⁶ ACTA Petition, supra note 14, Joint Reply Comments of Netscape Communications and Voxware, Inc., at 17.

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using the public telecommunications network. The existing telephone companies, struggling with emerging competition and the burden of universal service, might argue that the Internet should pay more to support the total cost of the public network. If Internet telephony would be cheaper even if access charges were applied, then why not apply the charges and allow competition to proceed with more support for universal service?

Netscape and Voxware also asserted that many large users employ dedicated lines to access the Internet rather than the public telecommunications network, and therefore should not be required to support the public network.⁸⁷ However, many other Internet users are connected via the public network, and it is the entire web of the Internet, through connections including the public network that gives it its value. ACTA asserted that the majority of Internet access is accomplished via the public telecommunications network on a dial up basis.⁸⁸ It seems right that users of the Internet should help support the public network that gives the Internet its value. Also, the fact that some users might connect through leased lines or alternative infrastructure does not mean that those Internet service providers using the public network should not pay for their access, particularly when existing tariffs did not anticipate that flat rate local service could be used to provide the international and comprehensive range of service represented by the Internet.

Third Planet and FreeTel did not appear to understand the concept of universal service. They stated that ACTA uses universal service as a red herring⁸⁹, with Internet telephony used by too few to be considered a universal service. First, ACTA correctly perceived that universal service is an obligation place on telecoms carriers to support affordable, quality service. Carriers have

⁸⁷ Id. at 19.

⁸⁸ ACTA Petition, *supra* note 14, Reply Comments of ACTA, at 13.

⁸⁹ ACTA Petition, *supra* note 14, Joint Comments of Third Planet Publishing, Inc. and FreeTel Communications, Inc., at 10, quoting the ACTA Petition, at 9.

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traditionally met this requirement through profits made from business, long distance and international service. The profits made subsidised affordable residential service. The advent of competition will reduce this subsidy, which is why the US Telecommunications Act of 1996 established a universal service fund that all carriers will be required to contribute to. Internet telephony could conceivably reduce the revenues of regulated carriers to the point where they could no longer subsidise the universal customer. That is the point ACTA was making. Third Planet and FreeTel believed that ACTA was asserting that Internet telephony should be included within the definition of universal service. It is possible that the US Telecommunications Act of 1996 included the ability to access the Internet within the minimum quality service required to be provided to the universal customer, as the Act requires access to advanced telecommunications and information services throughout the US.⁹⁰

Netscape and Voxware appeared to recognise that users of the Internet might have an obligation to support public telecommunications networks, but they pleaded that this be done in the context of universal service, and not through access charges.⁹¹ Given the way universal service charges will be imposed in the US, there is every reason for Netscape and Voxware to make this argument. The US Telecommunications Act of 1996 allows carriers required to provide universal service support to discharge their obligations by providing free or discounted services to certain educational providers, libraries, and health care facilities.⁹² For example, an Internet service provider might could provide discounted Internet access to a qualified institution, discharge its universal service obligations, and still probably find ways to sell other services through the connection: all without paying any additional access charges for use of the public telecommunications network. However, the legislative establishment of the universal service fund reinforces the position of Internet

⁹⁰ U.S. Telecommunications Act of 1996, at Section 101, codified at 47 U.S.C. § 254(b)(2).

⁹¹ ACTA Petition, *supra* note 14, Joint Reply Comments of Netscape Communications Corporation and Voxware, Inc., at 23.

⁹² U.S. Telecommunications Act of 1996, Section 254, codified at 47 U.S.C. § 254(h).

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access service providers and users that the issues of access charges and universal service should be considered separately from this Petition. There is no point in requiring Internet access service providers to pay local access fees now to support universal service when the whole system will be changed shortly. It would be more efficient to comprehensively change the system than to alter one piece: that of enhanced services.

The attention paid by commentators to issues of access charges and universal service demonstrates how the ACTA Petition rapidly expanded beyond its initial focus on Internet telephony software. Although the FCC will engage in separate rulemaking proceedings regarding access charges and universal service, interested parties could not leave it to chance that the FCC might decide the issues in the context of this Petition. Who pays for the use of the telecommunications network and how much is critically important to the success of the next generation of telecommunications service providers. **[*378]**

IV. ACTA REPLY COMMENTS

ACTA's Reply Comments attempted to blur the line between Internet telephony software providers, the sole target of its initial filing, and Internet access service providers, a group its Reply Comments asserted now includes such companies as AT&T, the Regional Bell Operating Companies, Microsoft, and America Online. ACTA lumps these companies together with the software providers under the heading of Internet telephony service providers (ITSPs).⁹³ ACTA's Reply stated that it was not asking the FCC to regulate the Internet, however, the first section of ACTA's Argument in the original Petition is titled "Commission's Authority to Regulate the Internet",⁹⁴ and the Petition concluded by urging the FCC to "institute rulemaking proceedings

⁹³ ACTA Petition, supra note 14, Comments of ACTA, at 2; and Reply Comments of ACTA, at 3.

⁹⁴ ACTA Petition, supra note 14, at 5.

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defining permissible communications over the Internet”.⁹⁵ Possibly ACTA did not anticipate the firestorm of controversy its Petition would ignite and was now attempting to back away from its more sweeping claims of the FCC’s regulatory abilities regarding the Internet. ACTA did make some solid points in its Reply concerning the fact that Internet access is usually accomplished via public telecommunications infrastructure. Imposition of access charges and a requirement to support universal service would merely place Internet service providers on the same footing as other enterprises using the public telecommunications network for commercial gain. ACTA also noted that regulation was coming to the Internet anyway in the form of taxes, consumer protection laws, disputes between domain names and trademark, regulation of reproduction of copyrighted works, and so forth.⁹⁶

ACTA responded to the argument of numerous commentators that government policy as codified in the US Telecommunications Act of 1996 was in favour of a deregulated Internet, by noting that the US Congress had the opportunity to specifically exempt the Internet from regulation and declined to do so.⁹⁷ However, the Congressional debate over this policy language occurred in the context of regulation of Internet content, specifically pornography. Given the ultimate passage of the Communications Decency Act, it is not surprising that Congress did not include language exempting the Internet from FCC oversight. That is not to say that Congress intended the Internet to be regulated as just another telecommunications service.

ACTA concluded by returning to its original position that software providers should be regulated as common carriers. Despite the fact that no other commentator supported this part of the original ACTA Petition, ACTA again asserted that the mere act of software provision constitutes telecommunications services. For support, ACTA compared software

⁹⁵ Id. at 11.

⁹⁶ ACTA Petition, *supra* note 14, Reply Comments of ACTA, at 10.

⁹⁷ Id. at 17.

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provision to the service of its members, long distance resellers. Long distance resellers do not own transmission facilities, switches or other telecommunications infrastructure, yet they are considered common carriers. Therefore, ACTA argued that Internet telephony software providers should also be considered common carriers, since their actions facilitate long distance calls.⁹⁸ This argument ignored the fact that resellers are furnishing an end-to-end telecommunications path, albeit perhaps it could be considered rented by the reseller rather than owned. On the other hand, software providers simply sell a product once and have no further dealings with the end user. However, some of the Internet telephony software providers are offering more than a simple one time sale of software. Proposed services of VocalTec and IDT that may employ a combination of callback and Internet telephony in conjunction with a switch, and allow calls to be placed to any telephone user on the public network, certainly look like an end-to-end telecommunications service.

V. OTHER JURISDICTIONS

Although the US appears to be the first jurisdiction to launch a comprehensive investigation into the Internet based on regulatory concerns over telephony provision, inquiries are beginning world-wide. The Internet knows no national boundaries, and what entities, if any, have the right to regulate it is debatable. One of the few effective regulatory checks is the ability to assign domain names held in the US by the Internet Network Information Center (InterNIC) and its subsidiary, Network Solutions Inc.⁹⁹ The European Council has considered whether the nature of the Internet calls for regional, or

⁹⁸ ACTA Petition, supra note 14, Reply Comments of ACTA, at 20.

⁹⁹ Ken Moon, "How Important are Internet Domain Names to Trade Mark Owners?" [1996] 3 CTLR 79.

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even international regulation, perhaps through the World Trade Organisation or the International Telecommunication Union.¹⁰⁰

Though the issue has not yet arisen, under telecommunications directives of the European Union, it is possible that Internet telephony might be considered an enhanced service, and thus open to competition before 1 January 1998, the date full competition in telecommunications is scheduled.¹⁰¹ All telecommunications services other than basic voice and public networks are considered competitive now. "Voice Telephony" is defined as:

. . . the commercial provision for the public of the direct transport and switching of speech in real-time between public switched termination points, enabling any user to use equipment connected to such a network termination point in order to communicate with another termination point. . . .¹⁰²

The European Commission has asserted that all of the elements of basic voice telephony must be present to consider a proposed service as basic and therefore liable to be reserved for the dominant telecommunications provider by a Member State prior to the introduction of full telecommunications competition in January 1998.¹⁰³ True Internet telephony, that is computer-to-computer, might not be considered switched, and therefore not meet this definition of basic voice. Such computer-to-computer telephony would also not meet the test of allowing the user to communicate with another

¹⁰⁰ Europe - No 6717, 27 April 1996, "Commission Studies Mechanism for Preliminary Notification of National Draft Legislation on Internet - ICRT's Position", at 10-11.

¹⁰¹ Lesser developed Member States (Greece, Ireland, Portugal, and Spain) are given the right to delay the implementation of full telecommunications competition until 1 January 2003, but the European Commission is pressing these Member States to open their markets earlier.

¹⁰² Commission Directive of 28 June 1990 on competition in the markets for telecommunications services 90/388/EEC, OJ 1991 L192/10, Article 1(1).

¹⁰³ Communication by the Commission to the European Parliament and the Council on the Status and Implementation of Directive 90/388/EEC on Competition in the Markets for Telecommunications Services, COM (95) 113 final, 4 April 1995, at 14.

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termination point: the connection would take place in the Internet rather than at a switched network termination point. Furthermore, it might be questionable whether the 'real-time' requirement is met. The current state of Internet telephony involves significant time delays. Even with expected improvements in quality, there will always be a slight, but perhaps imperceptible delay in speech. This is because of the way Internet telephony works. The bits of the telephone conversation enter a computer's RAM where a temporary recording is made before the bits are transferred out of RAM and converted to analog speech. This is the same temporary recording that takes place whenever one views anything that is online, and it is this temporary recording that has caused the US government to take the position that the mere act of viewing online materials might constitute copying.¹⁰⁴ Of course, even if an Internet telephony or access provider was challenged by regulatory authorities of a Member State and successfully pled that the service was not basic, all that [*379] would be won would be the right to provide the service. The services directive merely states that non-basic voice services can be provided; it gives no protection against regulation.

In the UK, the most liberal telecommunications market in Europe, it has been considered that the mere act of sale of software enabling Internet telephony to occur, would not constitute the running of a telecommunications system so as to require a telecommunications licence.¹⁰⁵ However, the same is not the case for Internet access service providers. Given the growing popularity of Internet telephony, it can be assumed without examining individual data packets that any Internet access provider is carrying voice telephone conversations. As such, these providers should obtain an International Voice Resale Licence from the UK Department of Trade and Industry. Failure to obtain this licence could violate the general provisions of

¹⁰⁴ William A. Tannenbaum, "Lost in Cyberia: Electronic Transmissions Under the Law of Copyright", at 7, speech given at conference on "Multimedia and the Internet, Global Challenges for Law", Brussels, Belgium, 27 June 1996.

¹⁰⁵ Internet Law and Regulation, Edited by Graham J.H. Smith, *FT Law and Tax* (1996), at 77.

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the Telecommunications Services Licence. If the Internet service provider carries international two-way live speech without a proper licence, Section 5(2)(b) of the UK Telecommunications Act of 1984 might be violated, subjecting the provider to a possible fine of up to £2000.¹⁰⁶ Licences are routinely granted by the Department of Trade and Industry upon application and payment of a £75 fee, usually within three months of application.¹⁰⁷ There might remain problems regarding routing of Internet telephony traffic to countries not designated for International Simple Voice Resale by the Secretary of State.

Canadian regulatory authorities have taken steps to regulate the provision of Internet telephony. The Canadian Radio-Television and Telecommunications Commission held that TheLinc, a company routing telephone calls via the Internet, was required to pay contribution fees, equivalent to access fees and universal service support in the US. The service provided by TheLinc was not restricted to computer-to-computer Internet telephony. The company offered to route telephone calls from a computer or a telephone to any destination world-wide via the Internet, for a flat rate monthly fee.¹⁰⁸ Given the way the service was offered, it is not surprising that regulators moved against it as a telephone service.

VI. CONCLUSION

It is impossible to roll back advances in telecommunications technology. From telex forwarding services through callback service, traditional telephone companies have fought to preserve their territory against innovative and cheaper services that exploit regulatory lacunas. Internet telephony is merely

¹⁰⁶ Id.

¹⁰⁷ Id.

¹⁰⁸ C. Ian Kyer, "In a Regulated Environment Who Should Control Cyberspace? A View From North America", at 3, speech given at conference on "Multimedia and the Internet, Global Challenges for Law", Brussels, Belgium, 27 June 1996.

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the latest way to undercut the traditional providers. Regulators can shore up the existing system and try to place a tax on new telecommunications services to do such things as support universal service, but the change represented by the Internet is such that eventually not only will the current regulatory model be outdated, but existing telecommunications networks also. An entirely new way of communicating may be on the horizon.

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