

OPENING UP OF INTERNET TELEPHONY IN INDIA

Emerging Legal Issues

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**Aashit Shah and Vaibhav Parikh
Nishith Desai Associates**

Nishith Desai Associates (“**NDA**”) is a research based international law firm based in Mumbai and Palo Alto, Silicon Valley, specializing in information technology, e-commerce, telecommunications, media and entertainment laws, international financial and tax laws and corporate and securities laws. It has acted as strategic and legal counsel to premier corporates in their Internet forays, including IL&FS, GE Capital, Jasubhai Group, software majors such as i2 Technologies and Mahindra British Telecom and communication companies such as Space Systems/Loral, New Skies Satellite, Flag and WorldTel. Apart from structuring and acting for a large number of private equity funds in India, NDA has been involved in American Depositary Receipt (ADR) offerings of Indian companies, representing Wipro, Rediff.com and Silverline Technologies and acting as underwriter's counsel in Infosys Technologies and Satyam's ADR offerings. NDA was involved in the first cross-border stock swap merger from India - BFL's acquisition of MphasiS besides Silverline's acquisition of Seranova Inc in an ADR stock swap deal. It has also advised the Government of India and Internet Service Providers Association on e-commerce issues in the WTO regime. It represented NASSCOM at a Joint WTO-World Bank Symposium on Movement of Natural Persons held in Geneva in April 2002. NDA also advises various clients on Indian and international telecommunications laws such as Internet services, satellite communications, including complex techno-legal issues in voice over IP, Internet telephony and unified messaging services. It was also engaged by the European Commission for conducting a detailed research project on "Market Access Barriers in India for the Telecom Sector" to aid EC's bilateral and multilateral and multilateral negotiations with India.

NDA was recently as the “**Indian Law Firm of the Year 2000**” and “**Asian Law Firm of the Year 2001 (Pro Bono)**” by the International Financial Law Review, a Euromoney Publication. It has also been ranked as having a **leading practice in Private Equity, Media and Entertainment and IT and telecommunications law** for 2001-02 by the Global Counsel 3000.

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1. INTRODUCTION

Don't be fooled. This is for real. After several months of debate, on April 1, 2002, the Government of India finally permitted Internet Service Providers ("ISPs") to offer Internet telephony services. Earlier, the legal and regulatory framework in India did not permit ISPs to offer Internet telephony. Under terms of the ISP licence, telephony on the Internet was banned and if any ISP offered these services, the ISP licence could have been terminated.¹

After the opening up of this sector, the Department of Telecommunications ("DoT") has granted approvals and licences to several telecommunication companies to commence these services.² Though the quality of Internet telephony services may not be as high as the normal international long distance services, their low cost will definitely attract more consumers. Further, with the rapid advancement in technology, it is only a matter of time that the gap between the two forms of voice communication is bridged.

This article explains the meaning of Internet telephony, analyses the guidelines and licence issued by the DoT for providing Internet telephony services and discusses some of the emerging legal issues that are spawned by this liberalisation.

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¹ In fact, in the past, the Department of Telecommunications ("DoT") had issued notices to ISPs alleging that they had carried out or facilitated Internet Telephony and had thereby violated the ISP licence.

² See <http://www.dotindia.com> (As visited on April 30, 2002).

2. WHAT IS INTERNET TELEPHONY?

(a) Meaning

Internet Telephony is a form of Internet Protocol (“IP”) Telephony. IP Telephony is used as a generic term for the many different ways of transmitting voice, fax and related services over packet-switched IP-based networks.³ The basic steps involved in originating an Internet telephone call are conversion of the analog voice signal to digital format (binary data) and compression/translation of the data into IP packets for transmission over the Internet; the process is reversed at the receiving end. This process is called modulation-demodulation, giving the term “modem.” The communication usually takes place ‘real time’.⁴

Thus, the main difference between Internet Telephony and normal telephony is that whereas in normal telephony, circuit switching technology is used, Internet Telephony is based on packet switching technology.⁵

(b) Difference between Internet Telephony and Voice-over-IP

IP Telephony can be subdivided into two major groups: Internet Telephony and Voice-over-IP (“VoIP”), the difference being the type of the underlying IP network i.e. the medium of transmission. Internet telephony primarily involves the usage of the *Internet* rather than the Public Switched Telephone Network (“PSTN”) to transmit ‘real-time’ audio from one personal computer (“PC”) to another (or in some instances to another telephone itself). However, in the case of VoIP, it is generally an *IP technology suite* (i. e. a private network) that is used rather than the public Internet.⁶

Figure 1: Voice-over-Internet Protocol



Another important distinction between Internet Telephony and VoIP is the quality of the transmission. Since VoIP is usually a closed / private network, the technical hurdles are less daunting, which results in greater reliability in the transmission of voice packets than in Internet Telephony where the voice packets are transmitted on the Internet.⁷ Therefore, the chances of having a live or ‘real-time’ conversation are better in VoIP than in Internet Telephony.

³ Aashit Shah and Annapoorna Ogoti, “To Phone or Net to Phone” Economic Times, Saturday, December 15, 2001.

⁴ Emir Mohammed, “The Growth of Internet Telephony: Legal and Policy Issues” (1999), see http://www.firstmonday.dk/issues/issues4_6/mahommed/

⁵ Craig McTaggart and Tim Kelly “IP Telephony Workshop: Background Issues Paper”, International Telecommunications Union, Document IPTTEL/03, May 29, 2000.

⁶ Craig McTaggart and Tim Kelly, IP Telephony Workshop, Background Issues Paper, May 29, 2000, IPTTEL/03.

⁷ Hank Intven, Mark Zohar and Jay Howard, “Internet Telephony - The Regulatory Issues” (1998) 21 Hastings Comm. & Ent. L.J. 1 at p. 8.

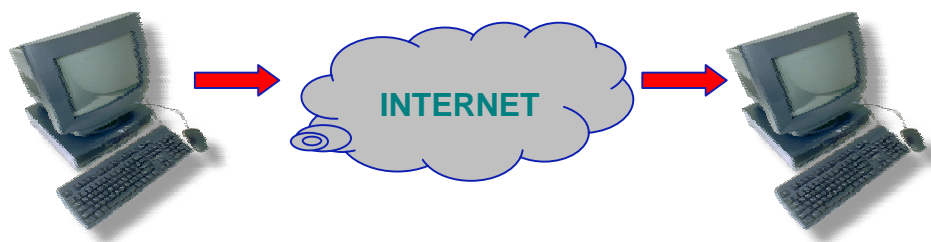
(c) **Methods of Internet Telephony**

Following are the popular methods of Internet Telephony⁸ as recognised by the International Telecommunications Union (“ITU”).⁹

(i) **PC to PC**

Under this method, calls are transferred from one PC to another PC. No gateway with a PSTN is required, because calls are not switched by a PSTN. Rather, the principal medium of transmission is always the Internet.

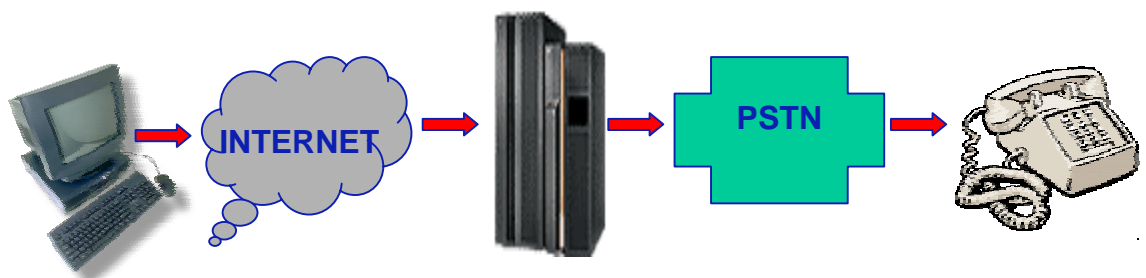
Figure 2: PC to PC



(ii) **PC to Phone / Fax**

Under the “PC to Phone / Fax” method, the conversion of speech into packets takes place on the originating user’s PC. The process is reversed at an Internet Telephone Service Provider’s (“ITSP”) gateway server, which then dials the called party’s telephone number and, when a connection is made, starts sending the caller’s speech and transmitting the called party’s speech in the other direction. The “PC to Phone / Fax” category includes PC to Phone Voice and PC to Call Centre services.

Figure 3: PC to Phone/Fax



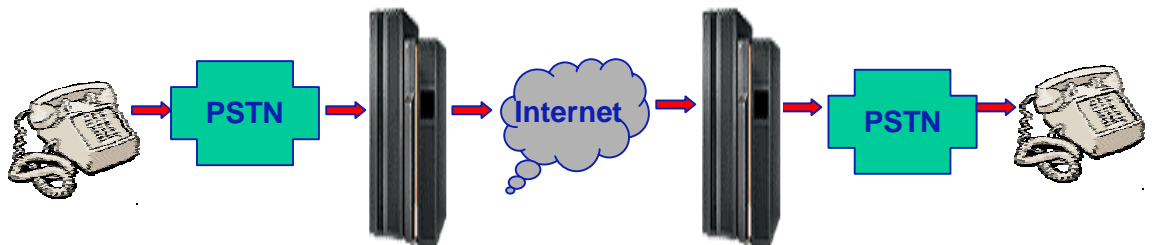
⁸ Craig McTaggart and Tim Kelly, IP Telephony Workshop, Background Issues Paper, May 29, 2000, IPTEL/03.

⁹ The International Telecommunications Union was established in the 19th century as an impartial, international organization within which governments and the private sector could work together to coordinate the operation of telecommunication networks and services and advance the development of communications technology. With a membership encompassing telecommunication policy-makers and regulators, network operators, equipment manufacturers, hardware and software developers, regional standards-making organizations and financing institutions, ITU's activities, policies and strategic direction are determined and shaped by the industry it serves. INDIA is a member of the ITU.

(iii) Phone to Phone

“Phone to Phone” method of Internet Telephony is closely associated with the traditional telephone experience. ITSPs are required to install their own gateways and enter into termination agreements all over the world, both with independent ISPs as well as established PTOs. In “Phone to Phone” Internet Telephony, the customer, using an ordinary telephone, dials an access code and then the telephone number; the access code then routes the call to a special computer gateway (the IP network). Local computer gateways for companies offering this type of service must be optimally placed in strategic geographic areas. For instance, if a customer using phone-to-phone Internet Telephony plans to call London (England) from Mumbai (India), then local gateways must be located in both London and Mumbai. The gateways convert audio into data for transmission across the IP network and then convert incoming data back into analog signals.¹⁰

Figure 4: Phone to Phone



3. LICENCING INTERNET TELEPHONY SERVICES IN INDIA

Pursuant to the New Telecom Policy, 1999, the DoT has announced guidelines permitting ISPs to process and carry voice signals (“**Guidelines**”). ISPs can only offer these services within the service areas for which they have a licence. Pursuant to the Guidelines, the DoT has revised the Licence Agreement for ISPs to include the provision of Internet telephony services (“**Revised Licence**”). The Revised Licence has been issued under the authority granted to the DoT under the Indian Telegraph Act, 1855, the Indian Wireless Telegraphy Act, 1933 and the TRAI Act, 1997.

All ISPs desirous of providing Internet telephony services also have to make an application to the DoT for signing an Amendment to their existing ISP licence. The old ISP licence agreement, which banned Internet telephony services read as follows:

“1.12.3 Telephony on the Internet: Telephony on the Internet is not permitted. The licence will be liable for termination for any violation of this clause of the Licence Agreement. The licensee shall also take measures on his own and as and when directed by the Government at his own cost to bar carriage of Telephone traffic over Internet.”

¹⁰ See Andrew Sears, “The Effect of I-Phone on the Long Distance Voice Market”, revised October 4, 1996, at 2-3; available from The I-Phone Consortium, MIT.

However, the Revised Licence does not contain the above clause, and allows ISPs to provide Internet access / content services including, Internet telephony services.

(a) Provision of Internet Telephony Services

As per the Revised Licence,¹¹ Internet Telephony is an application service, which customers of ISPs can avail of from their PCs or other IP based Customer Premises Equipment (“CPE”). The Revised Licence restricts the manner in which ISPs can provide Internet Telephony services to only three types:

- (i) From a PC in India to a PC inside and outside India
- (ii) From a PC in India to a telephone outside India
- (iii) From an IP-based H.323/SIP Terminal in India to similar terminals in India and abroad provided they employ the IP addressing scheme of the Internet Assigned Numbers Authority

ISPs are not allowed to provide any Internet telephony services which fall outside the purview of the above three modes.¹²

It can be seen that the scope of Internet telephony in the second mode is only telephones outside India. So if an Internet telephony service provider allows a PC user in India to call a telephone in India, the same would violate the Revised Licence and the ISP could be penalized for the same. It seems that the DoT has stipulated this condition so that national long distance operators do not lose out on their customer and revenue bases.

(b) Services that fall outside the purview of Internet Telephony

The Revised Licence¹³ also states that ISPs are prohibited from offering the following types of services as they fall outside the purview of Internet telephony:

- (i) Voice communication from anywhere to anywhere by means of dialing a telephone number (PSTN/ISDN/PLMN) as defined in National Numbering Plan;
- (ii) Originating the voice communication service from a telephone in India;
- (iii) Terminating the voice communication to telephone within India;
- (iv) Establishing connection to any public switched network in India;
- (v) Dial up lines with outward dialing facility from nodes; and
- (vi) Interconnectivity between ISPs who are permitted to offer Internet telephony services and the ISPs who are not permitted to offer Internet telephony services.

¹¹ Clause 1.14 of the Revised Licence

¹² Clause 1.14.3 of the Revised Licence.

¹³ Clause 1.12.3 to 1.12.8 of the Revised Licence

(c) Quality of Service (“QOS”) Terms

The DoT has not provided any parameters for the QOS¹⁴ for Internet telephony in the Revised Licence.¹⁵ The Guidelines¹⁶ and Revised Licence¹⁷ state that the Telecom Regulatory Authority of India (“**TRAI**”)¹⁸ shall prescribe the QOS from time to time.

The role of the TRAI is to create an environment conducive to the growth of telecom sector, and safeguard a customer's interest and ensure that he gets the QoS that he has contracted for. As regards QOS, the TRAI has the substantive role in laying down standards, assessment of QoS, and action for improvements. It has, therefore, the following main functions to perform in this regard:¹⁹

- (i) Setting Quality of Service Standards
- (ii) Monitoring
- (iii) Enforcement

As of now, the TRAI has not framed any QOS for Internet telephony. Once the TRAI imposes certain basic QOS parameters, ISPs will be obligated to meet the minimum QOS criteria while providing Internet telephony services to their customers. In order that the customers can effectively utilize Internet telephony services, the TRAI should formulate the QOS terms as soon as possible.

(d) Tariff / Fees

The Guidelines state that the TRAI has not levied any tariffs on ISPs for the Internet telephony services that will be provided over the public Internet.²⁰ However, there is a saving provision that states that the TRAI may levy a tariff at any time and it shall be binding on the ISP to pay such tariff.²¹ This provision has also been incorporated in the Revised Licence.²²

Moreover, the ISPs do not have to pay any licence fee and USO levies for Internet telephony services. Nevertheless, the DoT reserves the right to impose a licence fee on the ISP at any time during the licence period.²³

¹⁴ The ITU-T defines the Quality of Service as: "the collective effort of service performance which determines the degree of satisfaction of user of all the services": <http://www.trai.gov.in/gos3.htm> (As visited on April 26, 2002).

¹⁵ Clause 7.6 of the Revised Licence.

¹⁶ Clause 4 of the Guidelines.

¹⁷ Clause 7.6 of the Revised Licence.

¹⁸ The TRAI was established in 1997 by the Indian government under the provisions of the Telecom Regulatory Authority of India Act, 1997 as an autonomous body to regulate the telecommunications industry. However, the Indian government passed an ordinance (which was ratified in March 2000, by the Indian Parliament) to recast the TRAI. The TRAI, as amended with effect from January 24, 2000, has recommendatory powers pertaining to the grant of new licenses, their terms and conditions while retaining regulatory powers over tariffs, interconnectivity, and other administrative and financial functions entrusted to it by the Indian government.

¹⁹ <http://www.trai.gov.in/gos2.htm> (As visited on April 26, 2002).

²⁰ Clause 5 of the Guidelines.

²¹ Clause 6 of the Guidelines.

²² Clause 1.1(ii) of the Revised Licence.

²³ Clause 1.1(ii) of the Revised Licence.

Hitherto also, ISPs do not have to pay any licence fee for providing Internet services.²⁴ The DoT has continued to impose this “licence fee-free” regime for ISPs in order to promote the proliferation of Internet usage and now, Internet telephony services. However, since Internet telephony services are in direct competition with basic telephony services, in the event there is unfair competition, the DoT could impose a licence fee to create a level-playing field.

(e) Security Monitoring

As per the Guidelines²⁵ and Revised Licence,²⁶ ISPs who provide Internet telephony services through their own Internet gateways would have to provide suitable monitoring facilities for the security agencies at their own cost. The ISPs also have to provide periodic reports to the DoT regarding the flow of Internet telephony traffic through its network.²⁷

(f) Inter-connection

The Revised Licence permits only ISPs who have obtained the requisite licence to offer Internet telephony services. It prohibits any interconnection between an ISP that is allowed to offer Internet telephony and an ISP that is not allowed to offer Internet telephony.²⁸

4. EMERGING LEGAL ISSUES

(a) Ambiguity in Definition

While the Guidelines and Revised Licence discuss what services would amount to Internet Telephony for the Indian context, they have failed to define the term “Internet telephony” *per se*. The meaning given to the Internet telephony is a restrictive in nature, as it states what services would fall within and outside the purview of Internet telephony for the Indian ISPs. In fact, many of the services, which are prohibited under the Revised licence amount to Internet telephony in the international context. For example, originating or terminating a voice communication service from / to a telephone in India would amount to Internet telephony in the international context, if the public Internet is used as the medium of communication.²⁹

The Guidelines and Licence do not lay down any clear parameters that need to be satisfied by any telecommunication service to be classified as Internet telephony. While this problem exists world over, and even at the ITU level, this ambiguity could lead to problems in the future when new forms of technology and modes of communication emerge.

²⁴ The DoT has waived licence fees for ISPs upto October 31, 2003. For those ISPs also who obtain licences prior to November 1, 2003, a nominal licence fee of One Rupee per annum will become payable from November 1, 2003.

²⁵ Clause 7 of the Guidelines.

²⁶ Clause 1.10.10.1(a)(i) of the Revised Licence.

²⁷ Clause 8.5 of the Revised Licence.

²⁸ Clause 7.1 of the Revised Licence.

²⁹ See “IP Telephony” Report by the Group of Experts on Internet Protocol (IP) Telephony / ITU-D, World Telecommunication Development Conference (WTDC-02), Turkey, March 2002, p. 8.

At the earliest, as TRAI has suggested, there is a need to distinguish between Internet Telephony and VOIP.³⁰ The Governments of different countries need to come together and resolve this issue at the earliest.

(b) Meaning of PC and Telephone

The Revised Licence states that “PC to PC” Internet telephony is permitted in India. However, the Revised Licence does not clearly define a PC. Under the Information Technology Act, 2000 (“ITA”), a computer is defined as follows:³¹

“Computer means any electronic magnetic, optical or other high-speed data processing device or system which performs logical, arithmetic or memory functions by manipulations of electronic, magnetic or optical impulses, and includes all input, output, processing, storage, computer software, or communication facilities which are connected or related to the computer in a computer system or computer network.”

Thus the definition of a computer is extremely wide and is not merely restricted to a normal computer, which is used at home or in offices.

Moreover, while the Revised Licence states that the telephone call cannot be originated from or terminated on a telephone in India, it does not define the word “telephone”. Even the telecommunications laws in India have no clear definition of the term telephone.

With the emergence of new technologies and products, the meaning of PC and telephone could be extended to also include personal digital assistants (“PDA”) (eg. palm pilots) and even mobile phones with computing power (like the Nokia 9110). Moreover, there is also a convergence between PDAs and telephones (like the TREO). If a call is made from such devices, it is uncertain whether the same would be legally permissible.

Another emerging legal issue is concerning IP phones. There exists some ambiguity as to whether IP phones can be freely used to provide Internet telephony services. While it is technically possible to originate calls from IP-based networks, it is uncommon to terminate calls from other networks onto an IP-based network (except in the case of IP PABX system).³² Since a call from / to a number on the national numbering plan is prohibited, a call from an E.164 universal numbering plan may also not be allowed. However, the International Telecommunications Union is studying an option of assigning an E.164 numbering resource to an IP phone using the ENUM protocol. The ENUM protocol converts the E.164 number to an IP address,³³ and a telephone user can call an IP phone by dialing the E.164 number. Would this be permitted under Indian law?

³⁰ TRAI Consultation Paper on Introduction of Internet Telephony, Consultation Paper No. 2001/4 (November 2001).

³¹ Section 2(1)(i) of the ITA.

³² IP TELEPHONY, Report by the Group of Experts on Internet Protocol Telephony / ITU-D, March 2002 at p. 57.

³³ IP TELEPHONY, Report by the Group of Experts on Internet Protocol Telephony / ITU-D, March 2002 at p. 141.

Therefore, it would be necessary to determine and clarify the legitimacy of the type of instruments and the system being used while making an Internet telephone call in order to stay out of any legal problems.

(c) Quality of Services

One of the major difficulties in Internet telephony is in achieving a similar standard of QOS for Internet telephony services as for normal telephony services. The difficulty could arise due nature of the IP network. The IP network uses packet mode of data transmission that can degrade the quality of the voice communication as the packets could get lost in transmission on the public Internet, there could be a delay in transmission, there could be a variation in the packet arrival or there could be an echo effect due to the delay between the transmission of a signal and its receipt.

Therefore, while determining what amounts to “*real time*” in the context of Internet telephony, it is necessary that the TRAI keeps in mind the recommendations of the ITU in the box below.

REAL TIME³⁴

Excerpt from ITU-T Recommendation G.114 (2.96 revision) (One-way Transmission Time)

“The ITU-T recommends the following limits for one-way transmission time for connections with echo adequately controlled (see Note 1) according to Recommendation G.131 (Stability and Echo):

- 0 to 150 ms: Acceptable for most user applications (see Note 2).
- 150 to 400 ms: Acceptable provided that Administrations are aware of the transmission time impact on the transmission quality of user applications (see Note 3).
- above 400 ms: Unacceptable for general network planning purposes; however, it is recognized that in some exceptional cases (see Note 4) this limit will be exceeded.

NOTES

- 1 The use of echo control equipment that introduces other impairments, such as speech clipping and noise contrast, may have to be controlled in order to achieve acceptable transmission quality.
- 2 Some highly interactive voice and data applications may experience degradation for values below 150 ms. Therefore, increases in processing delay on connections with transmission times even well below 150 ms should be discouraged unless there are clear service and application benefits.
- 3 For example, international connections with satellite hops that have transmission times below 400 ms are considered acceptable.
- 4 Examples of such exceptions are unavoidable double satellite hops, satellites used to restore terrestrial routes, fixed satellite and digital cellular interconnections, videotelephony over satellite circuits, and very long international connections with two digital cellular systems connected by long terrestrial facilities.”

Another practical difficulty that ISPs are facing is the lack of adequate co-operation from basic telephone operators. Unless the basic operators give better QOS in their agreements with ISPs, ISPs will not be able to provide better QOS to their subscribers. While last year, the

³⁴ Craig McTaggart and Tim Kelly, IP Telephony Workshop, Background Issues Paper, May 29, 2000, IPTEL/03.

TRAI released its recommendations for QOS for ISPs offering Internet Services, ISPs are unable to meet these QOS terms because of the lack of co-operation from basic operators.³⁵ Therefore, the TRAI must keep in mind the existing competition and economic scenario while framing QOS for Internet telephony services.

(d) Liability of the ISP

The ITA contains provisions dealing with the liability of Network Service Providers (“NSPs”).³⁶ A NSP has been defined under the Act to mean “an intermediary”.³⁷ An “intermediary”, with respect to any particular electronic message, means any person who on behalf of another person, receives, stores or transmits that message or provides any service with respect to that message.³⁸ Thus an ISP would be an NSP as it receives, stores or transmits electronic messages over the Internet on behalf of its subscribers. The ITA stipulates that every NSP is given general immunity as regards any offence under or contravention of the Act or the provisions made thereunder, if such NSP proves that (i) such offence or contravention was committed without its knowledge or (ii) that it had exercised all due diligence to prevent the commission of such offence or contravention.

Under the ITA, publication or transmission or causing publication of any obscene information is an offence.³⁹ Therefore, if while using Internet telephony services, if the subscribers transmit any obscene information, the ISP could be held liable for such transmission. However, if the ISP can prove that it was not aware of such contravention or if it had taken reasonable steps to prevent such contravention, it may be immune from any penalty or liability. Therefore, ISPs must be careful to include appropriate terms in their subscriber agreements to preclude such liability.

(e) Validity of Messenger Services

Off late, there is been some debate regarding voice chat facility which instant messenger services have been offering. There are various issues that arise in this context which need to be addressed in order to determine whether such a voice chat facility is legal.

The first issue that arises is whether such services amount to Internet telephony. Under normal circumstances, they would amount to Internet telephony as the instant messengers use the public Internet as a means of transmitting voice between two or more users.

The second and more important issue is whether these messenger services are permitted to offer these services in India. As discussed above, in order to offer Internet telephony services, the service provider requires a license. Currently only ISPs and basic service operators (i.e. BSOs, NLDOs and ILDOs) are allowed to provide such services as per the provisions of their licence. Moreover, no interconnection is allowed between an ISP who has the Internet telephony licence and an ISP that does not. Therefore, in order to offer the voice chat facility

³⁵ Informal discussions with Amitabh Singhal, Secretary, ISPAL.

³⁶ Section 79 of the ITA.

³⁷ Explanation (a), Section 79 of the ITA.

³⁸ Section 2(1)(w) of the ITA.

³⁹ Section 67 of the ITA.

using the public Internet, the messenger would have to obtain an ISP licence. Otherwise, the messenger may have to enter into an appropriate arrangement with the ISP wherein the voice chat facility is offered to the messenger users. However, the validity of such an arrangement is also unclear under the law (specially as ISPs are not allowed to assign or sublicense their services). The issue is further complicated if the ISP with whom the messenger has an arrangement does not possess the Revised ISP licence. It is essential that ISPs and the messenger services settle this problem at the earliest.

(f) **Blocking of Internet telephony websites**

The ISP licence does not require that an ISP must provide Internet telephony services only to its Internet subscribers, nor does it mandate that Internet telephony and Internet services have to be provided together. However, news reports indicate that after April 1, 2002, some ISPs have started blocking access to websites of other rival ITSPs (including foreign ITSPs). If so, do they have the authority to block the sites? Further, many ITSPs have tied up with international ITSPs to leverage their customer base. The viability of this option remains to be seen, as foreign ITSPs can set up 100% subsidiaries in India without the help of Indian ISPs. Infact, it may be economically advantageous for them to do so as they would already have their servers and networks established in foreign countries.

5. COMMUNICATIONS CONVERGENCE BILL, 2001

The Communications Convergence Bill, 2001 ("**Convergence Bill**") aims at promoting, facilitating and developing the carriage and content of communications including broadcasting, telecommunication and multimedia in an orderly manner. It recognizes the coming together of voice, video and data, aims to set up a single super-regulator for the telecom, Internet and broadcasting sectors, to be called the Communications Commission of India ("**CCI**").⁴⁰ The Convergence Bill will replace the Indian Telegraph Act, 1885, the Indian Wireless Telegraphy Act, 1933, the Telegraph Wires (Unlawful Possession) Act, 1950, the Cable Television Networks (Regulation) Act, 1995 and the TRAI Act, 1997.⁴¹

The Convergence Bill also provides for a new licensing regime, with a limited number of five licenses, which include network infrastructure facilities,⁴² networking services,⁴³ network application services,⁴⁴ content application services⁴⁵ and value-added network application

⁴⁰ Clauses 6 to 22 of the Convergence Bill deal with the establishment, objectives, powers, duties and functions of the CCI.

⁴¹ Clause 93 of the Convergence Bill.

⁴² Clause 26(a) of the Convergence Bill. They include earth station, cable infrastructure, wireless equipments, towers, posts, ducts and pits used in conjunction with other communication infrastructure, and distribution facilities including facilities for broadcasting distribution.

⁴³ Clause 26(b) of the Convergence Bill. They include bandwidth services, fixed links and mobile links.

⁴⁴ Clause 26(c) of the Convergence Bill. They include public switched telephony, public cellular telephony, global mobile personal communication by satellite, internet protocol telephony, radio paging services, public mobile radio trunking services, public switched data services and broadcasting (radio or television service excluding continued).

⁴⁵ Clause 26(d) of the Convergence Bill. They include satellite broadcasting, subscription broadcasting, terrestrial free to air television broadcasting and terrestrial radio broadcasting.

services.⁴⁶ While granting licences, the CCI may grant them either singly or jointly, depending upon the nature of services to be offered.

Therefore, while providing Internet telephony services, the service provider would have to obtain the network application services licence and probably the value-added network application services licence under the Convergence Bill.

Presently, the Convergence Bill is before the Standing Committee on Information Technology. The Committee is likely to finalize its recommendations by May 2002. The Standing Committee is also expected to examine issues such as direct-to-home television broadcasting, quality of electronic media programming, problems and requirements of the information technology industry, human resource development in information technology as well as the expansion of telecom networks with special focus on rural and remote areas.

6. CLASSIFICATION UNDER THE WTO

The General Agreement of Trade in Services (“**GATS**”) under the World Trade Organisation (“**WTO**”) envisages the progressive liberalisation of trade in telecommunications services. Though, India has made no specific commitments for Internet telephony, it has made certain commitments for other telecommunication services. Going forward, it would be important for the Indian Government to understand how Internet telephony services could be classified under the GATS framework while making any commitments.

Under GATS, ‘telephony’ falls within the purview of telecommunications services⁴⁷ as per the Central Product Classification System (“**CPC**”) ⁴⁸. Telecommunications services are further classified as basic telecommunications and value-added telecommunications.⁴⁹ It would be useful to see what commitments India has made in this sector and analyse how Internet telephony can be classified for the purposes of GATS.

(a) Basic Telecommunications Services vis-à-vis Internet Telephony

Basic telecommunications services are further classified as:

- (i) Voice telephone;
- (ii) Packet- switched data transmission;
- (iii) Circuit- switched data transmission;
- (iv) Telex;
- (v) Telegraph;
- (vi) Facsimile;

⁴⁶ Clause 26(e) of the Convergence Bill. Information technology enabled services such as call centers, electronic-commerce, tele-banking, tele-education, tele-trading, tele-medicine, videotex and video conferencing shall not be licensed under this Act.

⁴⁷ See CPC prov 752.

⁴⁸ The CPC of the United Nations forms the basis for the Services Sectoral Classification List developed during the Uruguay Round (MTN.GNS/W/120 of 10 July 1991). This List is the recommended (but not obligatory) basis for scheduling of GATS specific commitments.

⁴⁹ “Electronic Commerce -- Existing Gats Commitments For Online Supply Of Services”, Working Party Of The Trade Committee, TD/TC/WP(99)37/Final, December 7, 2000.

- (vii) Private leased circuit;
- (viii) "Other" - including mobile communications, and various others, (e.g. satellite services, paging, trunked radio) depending upon the country.

For the purpose of Internet telephony services, voice telephone, packet-switched data transmission and other services would be relevant. Of these three, India has made commitments with respect to voice telephone and other services.

(i) [Voice Telephone](#)

Voice Telephony Services have not been defined or explained under the GATS.

➤ [View of the European Union](#): It would be helpful to look at the definition of voice telephony according to Article 1 of the Directive⁵⁰ of European Union, which defines "Voice Telephony" as the commercial provision for the public of the direct transport and switching of speech in real time between Public Switched Network termination points, enabling any user to communicate with another termination point. Further as per the said Directive, "Internet telephony" is defined as Voice Telephony if it meets the following criteria:

- the communications are subject of a commercial offer;
- the service is provided for the public;
- the service is provided to and from public switched network termination points on fixed telephony network; and,
- it involves direct transport of speech in real-time.

As per this definition, it can be understood that the first two forms of Internet Telephony (i.e. PC to PC and PC to Phone) would not be characterised as Voice Telephony under this Directive, simply because the service would not be provided solely "to and from PSTN points".

➤ [View of the United States](#): However, the US meaning of voice telephony is broader. As per Federal Communications Commission ("FCC") of USA, IP telephony services enable real-time voice transmission using Internet Protocols.⁵¹

➤ [Voice Telephony as Public Telephone Services](#): Under the CPC,⁵² voice telephony services are classified as 'Public Telephone Services' Public Telephone Services are further classified as

- Public local telephone services⁵³
- Public long distance telephone services⁵⁴

⁵⁰ Status of Voice on the Internet under Directive 90/388/EEC (95/C 275/02 OJ No. 275 at p.2)

⁵¹ FCC Report, Section 4, Applications of Definitions, 4/10/98

⁵² CPC prov 7521

⁵³ Public local telephone services mean switching and transmission services necessary to establish and maintain communications within a local calling area. This service is primarily designed (used) to establish voice communications, but may serve other applications such as text communication (facsimile or teletex) and is generally provided for a flat monthly fee independently of the number of calls made by the subscriber. However, it excludes private line services and rental services of terminal equipment are classified in class 7522 (Business network services) and 7541 (Equipment rental services), respectively.

⁵⁴ Public Long Distance Telephone Services mean switching and transmission services necessary to establish and maintain communications between local calling areas. This service is primarily designed (used) to establish voice communications, but may serve other applications such as text communication (facsimile or teletex) and may be

- Mobile telephone services⁵⁵

With respect to voice telephone service, India's commitments are limited to local/long distance, for public use over a public telecommunication transport network and wire based (i.e. for fixed network of subscribers) services. The Internet is a public network of computers and can be used for transport of telecommunications, such as voice and data. Thus, it could be interpreted as a public telecommunication transport network in case of Internet telephony.

As mentioned earlier, the main difference between Internet telephony and normal telephony is that whereas in normal telephony, circuit switching is used, Internet Telephony is based on packet switching technology. In packet switching, electronic transmissions are chopped into packets of varying numbers of bytes. Each packet is given a 'header' or address label, and sent from one network node "towards" another. The packets are (theoretically) bounced along from one router to another, armed at each 'hop' with only enough information to get them safely to another router, where the process is repeated. By contrast, on circuit-switched networks operating under a protocol such as Signalling System 7 (SS7) a call is routed through a hierarchy of local, inter-urban and international switches to establish a circuit between caller and called party.

Though Internet Telephony could amount to voice telephony, it is suggested that it should fall under a separate new category as it involves a different form of technology from traditional voice telephone services. This proposition can be supported by the fact that a separate classification was resorted to with respect to mobile telephone services based upon the technological difference between mobile telephony and normal telephony.

Further, India has not made any specific commitments under voice telephone for Mode 1 (cross-border supply) and Mode 2 (consumption abroad) of supply under the GATS. Therefore, even if Internet telephony is treated as voice telephony, by opening up Internet telephony, India is already a step ahead since it has not made any specific commitments in this respect.

(ii) [Other Services](#)

This is a broad group that includes various services such as mobile communications, satellite services and radio paging services. As discussed above, due to the technological differences, India could argue that Internet Telephony should fall under this category. As of now, India has only committed that foreign service providers can set up operations to provide these services provided they obtain the licence from the DoT.⁵⁶ However, there are no commitments with respect to these services under Mode 1 and 2.

provided on a toll or flat rate basis. This service provides the customer with access to the supplier's and connecting carrier's entire telephone network or, in some instances, to a limited number of exchange areas.

⁵⁵ Mobile telephone services include radio telephone services which, by means of transportable equipment, give both-way access to the public telephone network or other mobile telephones. Some versions of this service, with proper terminal equipment, may be used to transmit facsimiles as well as voice communications. However they exclude Air-to-ground and maritime mobile communications services are classified in subclass 75299 (Other telecommunications services n.e.c.).

⁵⁶ India – Schedule of Specific Commitments, GATS/SC/42/Suppl.3.

b. Value-added Telecommunications Services

Value-added Telecommunications Services are classified as:

- (i) Electronic mail,
- (ii) Voice mail,
- (iii) On- line information and data base retrieval,
- (iv) Electronic data interchange,
- (v) Enhanced/ value- added facsimile services, including store and forward, store and retrieve,
- (vi) Code and protocol conversion,
- (vii) On- line information and/ or data processing (inc. transaction processing).

India has made some commitments with respect to services (i), (ii), (iii) and (v). As per the CPC, these services have been qualified as Data and message transmission services.⁵⁷ Data and Message Transmission Services are further sub-divided into:

- **Data Network Services (75231):** Network services necessary to transmit data between equipment using the same or different protocols. This service can be provided via a public or dedicated data network (i.e. via a network dedicated to the customer's use); and
- **Electronic Message and Information Services (75232):** Network and related services (hardware and software) necessary to send and receive electronic messages (telegraph and telex/TWX services) and/or to access and manipulate information in databases (so-called value-added network services).⁵⁸

However, Internet telephony may not fall under these categories, as it is not a network service. Further, India has no commitments with respect to Electronic data interchange, Code and protocol conversion and On- line information and/ or data processing (inc. transaction processing).

From the above analysis, it can be concluded that Internet Telephony services could fall within the meaning of Voice Telephony services. However, due to the technological difference between Internet telephony and traditional voice telephony, it would be suitable to formulate a separate category for classification of Internet telephony. Depending upon the reciprocal commitments India receives from other countries, it could use these as a negotiating tool at the WTO.

7. CONCLUSION

With increased competition in the telecommunications sector, relatively high tariffs and low tele-density, India is an attractive market for Internet telephony and VoIP.⁵⁹ In fact, experts

⁵⁷ CPC prov 7523

⁵⁸ CPC prov 75232: Electronic Message and Information Services

⁵⁹ Padmaja Shastri, "A Cheaper Alternative, VoIP to Stay in India" Financial Express, April 29, 2002.

have indicated that India will be the fourth largest market for Internet telephony in the Asia Pacific region, after China, Japan and South Korea.⁶⁰

After the opening up of this sector, several foreign companies have also joined the race to offer Internet telephony services in India.⁶¹ For example, US-based Net2Phone and India-based CalTiger have joined hands to deliver VoIP services to the United States at as low as Rs 3 per minute.⁶² Further, World Phone Internet Services Pvt. Limited, a joint venture between US-based WPI group and Delhi-based IT-enabled service company Speed India.com Holdings is also planning a foray into Internet telephony in the country.⁶³ Several market players have also begun plans to commence and offer video-conferencing facilities.

While the growth of Internet telephony will certainly increase the competition with basic service operators, on the whole the consumer will stand to gain. However, regulations that artificially restrict the usage and growth of Internet telephony will only make the viability of this service more complex and ambiguous. The DoT needs to try to resolve all forms of ambiguity in the licence terms to avoid future misunderstandings. At the same time, service providers must ensure that their Internet telephony services fall within the parameters of the existing regulatory framework. This will assist in minimizing legal liability.

⁶⁰ India to fourth largest market in Net Telephony by 2004, March 23, 2001 at <http://www.zdnetindia.com/biztech/resources/telecom/stories/17499.html> (As visited on April 30, 2002).

⁶¹ Foreign ISPs join Net Telephony race, Economic Times, April 3, 2002.

⁶² Net2Phone, Caltiger join hands for VoIP, Financial Express, April 12, 2002.

⁶³ Foreign ISPs join net telephony, Economic Times, April 3, 2002.