IP telephony vs. Traditional Telecom Systems
- Different technologies, different services!-

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A large shift is underway in the telecommunications industry; many customers are transitioning from traditional telephone systems or Analog Communications **[1]** to Internet packet-based networks or *VoIP*.

Technologies - such as Voice Over Internet Protocols or cyber telephony - are with no single doubt the next generation of communications providers. End users can easily benefit from end-to-end connectivity to every data-networking device available, benefiting from both good voice quality and reasonable rates.

The lack of a special regulatory framework regarding this new technology is making governments and judicial bodies as well as law enforcing authorities facing the unknown. But, in order to regulate *VoIP*, regulators should at first know how to make the difference between what's analog system and voice-data; they've to understand also what Internet Protocols (IP) consist of.

A voice-over-Internet protocol (*VoIP*) application meets the challenges of combining legacy voice networks and packet networks by allowing both voice and signaling information to be transported over the packet network. It specifies both a technology and a service. The technology is Internet protocols (*IP*) and the service is voice-data transmission. The migration of voice telecommunications services to the Internet has become a primary focus for the telecommunications industry **[2].**

However, this new technology poses challenges for regulators and hence for judicial bodies themselves, because they do not fit neatly within the regulatory model of traditional Telecom regulations due to differences in the technological process.

Pic. 1 **[3]**

In many countries like in China **[4]** , Costa Rica **[5],** Belarus **[6]** South Africa **[7]** and many others, data services are treated as illegal services and yet competitors to traditional Telecommunication services.

Courts in these countries are penalizing both the *VoIP* Company and the end user, and in most cases, when prepaid cards are bought from abroad, these courts like in Belarus **[8]** and China **[9]** are penalizing their own citizens (*end users*) and businessmen.

Moreover, in its search for an appropriate regulatory framework for the *VoIP* services **[10]**, the Canadian Radio-television and Telecommunications Commission (*CRTC*) went too far by considering that the provision of local *VoIP* service is most like traditional local phone service and that similar rules should therefore apply. Unfortunately, this analogy even if it's considered as a giant leap by not illegalizing data servicing, yet it is not a perfect fit.

The legal status of voice over internet protocol (*VoIP*) services depends on the decision whether to classify them as traditional telecommunications services or as information services. Should the Ministries of Telecoms decide on the former classification, that *VoIP* service providers will need to apply for licenses and to ensure that their operations comply with Telecom regulations as their counterparts in the traditional wire line telephony arena, or should *VoIP* be considered as a different service meaning searching for a different solution? .

In October 16, 2003 the U.S. District Court resolved this problem by issuing a Memorandum and Order considering that Vonage "*is an information service provider*" **[11]**, and that the Minnesota Public Utilities Commission MPUC cannot apply state laws that regulate telecommunications carriers to Vonage. The Court added that, "*State regulation would effectively decimate Congress's mandate that the Internet remain unfettered by regulation*."

In fact what Voice over Internet Protocols (*VoIP*) provides is a service that uses Internet protocols to transmit voice-data packages via the Internet, which calls for a complete different technological process totally different from today's telecommunications services knowing that data transmission is by way different from voice over traditional phone cables.

Nevertheless, law enforcement officials were afraid of not being capable to wiretap the new technology, the way they can wiretap conventional phones. The Federal Communications Commission (*FCC*) recently required *VoIP* operators to support CALEA **[12]** wiretap functionality **[13]**.

To conclude it is clear that both technological and legal natures of voice transmission via traditional telecommunication services differ from voice-data transmitted via Internet protocols as information packages known as *VoIP*. Title II of the American Telecommunications Act 47 U.S.C. § 230(b) has indeed distinguished telecommunications services from

information services. The purpose of Title II is to regulate telecommunications services. Hence, *VoIP* services do not constitute a telecommunications service it consists of a data transmission via a broadband Internet connection. The question of *VoIP* and whether it should be regulated as a telephone service or left unregulated as a data service is still hotly debating.

Any law project regarding telecommunications must take into consideration the difference that lies between "*information services*" and Telecommunication Services" especially that we are getting into a new era where IP standard is by far the world's most popular network protocol. Public safety and law enforcement are to be taken into consideration but without strangling the efforts by over-regulating the nascent technology.

In order to enhance their level of economic interaction between business people and the developed markets, countries and especially those from the so called third countries, are obliged to widely open their markets before international investments, especially when Internet and all related services are increasingly and progressively emerging the markets. Banning *VoIP* has become nowadays an attempt to swim against the tide of technology and economical progress.

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[1] *A communications format in which information is transmitted by modulating a continuous signal, such as a radio wave. Voice and video messages originate in analog form since sound and light are wave-like functions; thus, they must be converted into digital messages in order to communicate along digital communications formats or media*". http://bcn.boulder.co.us/aerie/resource/ section4/gloss1.htm

[2] According to Wikipedia the online encyclopedia; http://en.wikipedia.org/wiki/VoIP :"*Voice over Internet Protocol (also called VoIP, IP Telephony, Internet telephony, and Digital Phone) is the routing of voice conversations over the Internet or any other IP-based network. The voice data flows over a general-purpose packet-switched network, instead of traditional dedicated, circuit-switched voice*

transmission lines. Protocols used to carry voice signals over the IP network are commonly referred to as Voice over IP or VoIP protocols. They may be viewed as commercial realizations of the experimental Network Voice Protocol (1973) invented for the ARPANET. Voice over IP traffic may be deployed on any IP network, including ones lacking a connection to the rest of the Internet, for instance on a private building-wide LAN".

[3] Taken from the following web link: http://www.fcc.gov/cgb/consumerfacts/voip.pdf#search='HOW%20%20DO%20ES%%2020VOIP%20WORKS

[4] China Tech News, MII: No Plans Soon To Lift Ban Over VoIP, July 22, 2005, published on the net under http://www.chinatechnews.com/index.php?action=show&type=news&id=2813 ; The Chinese Skype users were told by their local operator that China Telecom is now collecting the identities of those who attempt to use Skype Out to call regular phone numbers from their PCs, see also : Regulators Cautious on VoIP Services, published in China International Business, Nov 01, 2005, http://www.cityweekend.com.cn/en/beijing/cib/2005_11/regulators-cautious-on-voip-services.html

[5] Claudio Bermudez, ICE deputy director, was quoted by La Nacion as follows: "VoIP, which is characterized as a telephone service, is a (telecommunications) carrier and substitute telephone service, and as such uses the public telecommunications infrastructure." Nevertheless, to this date there is no evidence that the ICE has blocked any VoIP service in Costa Rica. http://www.techweb.com/ wire/networking/60403862

[6] Belarusian General Prosecutors' office decision on illegal VoIP services, http://www.e-belarus.org/news/200509161.html

[7] Telkom - South Africa's incumbent telco - has warned that consumers using VoIP could face legal action because it believes the use of such software is against the law. http://www.theregister.co.uk/ 2004 /03/25/sa_telco_says_voip/

[8] Two Belarusian businessmen had their property seized and were sentenced to 5 years in prison for illegal IP-telephony usage. http://www.e-belarus.org/news/200301201.html

[9] A number of ADSL users in Shenzhen – China claimed that they were unable to open some Internet websites and were facing 3000 yuan (US$370.9) penalty by Shenzhen Telecom for the illegal use of services from Skype, the technology that allows people to talk free of charge over the Internet using computers and microphones. http://www. cityweekend.com.cn/en/beijing/cib/2005_11/regulators-cautious-on-voip-services.html

[10] Telecom Decision CRTC 2005-28, Ottawa, 12 May 2005, published on the net under: http://www.crtc.gc.ca/ archive/ENG/ Decisions/ 2005/dt2005-28.htm

[11] Vonage Holdings Corporation vs. Minnesota Public Utilities Commission, Leroy Koppendrayer, Gregory Scott, Phyllis Reha, and R. Marshall Johnson, in their official capacities as the commissioners of the Minnesota Public Utilities Commission, D.C. No. 03-5287 (MJD/JGL), Judge Michael Davis presiding.

[12] Communications Assistance for Law Enforcement Act of 1994. (Pub. L. No. 103-414, 108 Stat. 4279) http://www.askcalea.net/calea.html

[13] Federal Communications Commission, http://www.fcc.gov/FCC-05-153A1.pdf