

## REVIEW OF INTERNET SERVICES

**India has too few ISPs. Restrictions are causing flight of Internet services to foreign shores, weakening our security. ISPs should be deregulated as per earlier recommendation of unified licensing. VoIP is a huge opportunity for Indian firms to win international market share and to address some of the problems of the domestic market.**

**I Q1. At present, there are 389 licensed ISPs out of which only 135 are offering Internet services. Top 20 ISPs cater to 98% Internet subscriber base. In your view, is there a rationale for such a large number of ISPs who are neither contributing to the growth of Internet nor bringing in competition in the sector? Suggest appropriate measures to revamp the Internet service sector.**

*USA has 22000 ISPs. India has too few*

The ISP license is common for Internet access services and content. While there has been a consolidation of Internet access services in sync with world wide trends, Internet content services (such as VoIP etc) are usually the domain of smaller firms which are numerous due to the variety of services offered. USA has 22,000 or more ISPs. In fact there is need to encourage much more entrepreneurship in the sector to bring about vibrancy.

*Indian ISPs have made a large contribution to the economy*

The few content ISPs that operate in India have made a large and unheralded contribution to the growth of telecommunications in the country. E.g., It is found that almost all exporters use VoIP exclusively for their International calling. Indian VoIP providers are thus responsible for the growth of exports to the limited extent communication is necessary for trading.

*Current licensing a barrier to entry*

Current licensing process creates artificial barriers to business. I remember the humiliations faced while attempting to get the bank guarantee required by the license for a business that required no other financial capital, and now employs 50 people. In a capital scarce country that is looking to expand its entrepreneurship beyond historically privileged classes it is vital to allow business entry with minimum capital input.

Apart from needless and excessive guarantees, the task of getting a license is fraught with delays and is unsuitable for the fast world of the Internet.

*Past recommendations of Licensing through authorisation for Internet services should be implemented*

The solution to the above problem can be found in past recommendations of the Authority. The most important of these pertain to unified licensing. As per recommendation of 13 Jan 2005, ISPs were to be covered under "Licensing through Authorisation". This is the trend worldwide and allows for easy entry of innovative players. Unfortunately, recommendations that pertain to the ISP industry move on a slower track and are often denied through the medium of delay. This recommendation should be accepted immediately. The authorisation should be national, since if there are to be no entry fees, it does not make sense to have a circle wise authorisation.

**I Q2. Due to limited availability of spectrum for wireless broadband access, and high cost of creating last mile infrastructure, many ISPs are left with only option to provide Internet dialup access services. With increasing penetration of broadband, what efforts are required to ensure viability of such ISPs in changing scenario? Please give suggestions.**

*Cable operators should be partnered to deliver broadband*

India is blessed with a vibrant cable TV distribution system. However cable TV entrepreneurs face hostility from authorities. We should regularise the Internet operations of this cottage industry by delicensing Internet access and focus on helping them improve quality of their offering. The plant already put up by operators is capable of 10 – 100MBPS broadband, limited to lower speeds due to the outrageous cost of bandwidth.

Their quality also suffers due to lack of re-allocatable IP addresses. Regulated rights to IP addresses would solve this to some extent. If they are helped to bring their operations to speed millions of Indians can be brought on to the broadband network overnight. It will also provide much needed competition to the PSU broadband ISPs.

**I Q3. At present limited services are permitted under ISP licenses. There is no clarity in terms of some services whether they can be provided under ISP licenses. Do you feel that scope of services which can be provided under ISPs licenses need to be broadened to cover new services and content? Suggest changes you feel necessary in this regard.**

*Excessive regulation of email caused flight of industry to foreign shores*

The problems that plague the content industry (including VoIP) are exemplified by the story of email. Email was tightly regulated since inception in the name of security, and to my mind is still a licensed service. However international operators such as Hotmail and even paid corporate email services operated without license from outside the borders and completely over ran the operations of the indigenous industry. Today Sabeer Bhatia, formerly of Hotmail, is treated like a hero despite subverting our laws and licensing.

*VoIP seems to be walking a similar path*

The previous story needed to be retold because the parallels with the current VoIP scenario are obvious. The Authorities are subjecting Indian VoIP service providers to all sorts of restrictions in the name of security, level playing field, revenue etc, and in effect handing over the entire industry to the Americans.

*Internet services can be provided from anywhere, hence should not be regulated*

The plain fact with Internet content services is that it is completely separated from access and can be provided from anywhere in the world. By attempting to restrict delivery from within the borders of India, Government has caused flight of the Industry to countries where it is not restricted. This removes whatever little leverage it had in the first place. This is why sensible governments regulate it lightly.

*Restrictions have disastrously weakened our security*

Today almost all our Email / IM traffic traverses via servers based in USA (including mail to TRAI's gmail account). Most of our web sites are hosted abroad. If we do not learn our lessons fast, the day is only about 5 years away when most of our voice traffic will be routed through servers based in the USA for Uncle Sam to decrypt, inspect and deny at will. Restrictions in the name of security have in this case weakened it disastrously.

*Strategic importance of domestic delivery of VoIP should be recognised*

The solution to the VoIP problem is not just complete deregulation, but making VoIP an industry of strategic import and actively encouraging its indigenous delivery. We have suggested how this could be done as answer to question 12

Also, the aim of licensing is not to create shortages, but to deliver privileged services to licencees, in cases where not more than a few can be accommodated. Some thing to this effect seems to have been communicated in past recommendations of the Authority. Thus, a provider should be able to provide all services that can be delivered on receipt of those government services. Apart from a short exclusion list, all services should automatically be deliverable by everybody. Our reading of the license conditions for various classes indicate that this arrangement is possible under existing terms.

**I Q4. UASL/ CMTS licensees have been permitted unrestricted Internet telephony however none of them are offering the service. ISPs (with Internet telephony) can provide Internet telephony with in scope defined in license condition. The user friendly and cheaper devices with good voice quality are increasing Internet telephony grey market. Please suggest how grey market operations can be curbed without depriving users to avail such services?**

*SIP terminal is nothing but a computer running SIP software*

**Nature of device:** The distinction sought to be made between a computer and a SIP / H323 terminal is ab-initio bogus. A VoIP terminal is nothing but a computer that runs

SIP/H323 software, only the size and shape differ. Even if some distinction were sought to be made on the basis of the extreme case, with the multiplicity of devices available, the task of distinguishing is a fraught one. There are mobile phones that run the Windows operating system and are capable of making SIP calls. Would they be termed a computer, a terminal, a phone, or as one player put it: “kabhie phone, kabhie computer”? Similarly the characterisation of Skype as a “PC” VoIP service is wrong, you do get stand alone devices that run Skype. And how would you distinguish terminals that are USB attached to a computer to derive their Internet connection as opposed to devices that are similarly attached but are only sound devices?

***Routing SIP called based on nature of device is impossible***

Besides the operator has no way of detecting from the network what is being used, all he sees is a sip call coming in. It is impossible to route the call and deny the International leg since the SIP protocol does not communicate nature of device to operator.

***Preconfigured devices reduce misuse. Should be encouraged***

In fact, to prevent misuse we should encourage the use of pre-configured SIP / H323 devices. Delivery of a sip password allows use of that password elsewhere, including for example in a PSTN conferencing device. Many ISPs have run up against this problem.

***Incoming numbers not a security threat***

**Incoming number:** The Authority claims that purchase of an incoming number of other countries network can be used for anti-national activities. This is random rubbish. An incoming number service converts a PSTN call into a SIP one in a foreign country. The call enters the country as a SIP call and can be monitored as such. It makes no difference to the security of the country if the potential terrorist chooses to originate his call on a PSTN phone or a SIP device.

***Innovation should not be restricted in name of security***

Such claims are the Freudian slip that reveal that not only does the Authority tolerate decrepit security arguments but subconsciously participates in the myth making. Any innovative service that is not immediately understood is condemned and burnt at the stake. This feature is celebrated world over as an example of the power of VoIP and is of great use to Indian business to present a local face to foreign associates. Outlawing it will have the effect of making it more difficult for Indian businesses to get such services that are available to their competitors and reducing employment opportunities in providing such services from within the country.

***VoIP services should be de-regulated as per international practice***

VoIP services of all hues and from any device should be completely deregulated like in the US/UK. There should also be no restriction on foreign service providers that provide a service in India without payment received in India. On payments received in India, service tax and license fee should apply subject to a minimum turnover. Payments received by way of credit card should be brought within this net with the help of the RBI.

In other words attempting to restrict foreign providers is pointless, the focus should be on recovering Government dues.

#### **I Q5. How to address the issue of level playing field amongst the licensees of UASL, CMTS and ISPs?**

***Licensing is no longer about assured exclusivity***

The principle of assuring monopoly/exclusivity over service provision in return for universal service has been replaced by the USO fund. Since the NTP 99, it has been an express aim to limit licensing costs only to costs of administration and to maximise competition. UASL / CMTS players need to be limited in number due to the scarcity of bandwidth and due to the complexity of interconnection inherent in the old technology they employ.

***Licensing provides no claim for protection of revenue***

Despite the espousal of this principle on many occasions, telecom licensing in India has been persuasively converted into a means to ensure protection of revenue. The scale of the protection sought and the claim on the revenue share is taken to be proportional to

the amount of license fee paid. Thus if one class of licensee pays a higher fee, his claim to revenues is automatically higher.

***Licensing is not about limiting consumer choice***

This is a perversion of licensing. The point of licensing is not to create artificial scarcity or to limit consumer choice. If two classes of providers can provide the same service despite dramatically differing levels of government services provided, so be it. The consumer will be winner in such cases.

Progressive governments recognise that there is no argument of level playing field between players of such vastly differing size. They recognize the issues of the new vs the incumbent and the stand alone vs the integrated. In all cases they stand in defense of the weak in an attempt to widen customer choice. This behavior is not witnessed in India.

***It is ISPs that face hostile playing field***

ISPs are usually small, are attempting to establish new technologies and are stand alone. They are forced to take facilities from UASL / CMTS players, which are often denied to them. They deserve assistance, not a hammer on the head.

**I Q6. The emerging technological trends have been discussed in chapter 3. Please suggest changes you feel necessary in ISP licenses to keep pace with emerging technical trends?**

**Net neutrality** should be mandated not to protect stand alone service providers, but to protect consumer choice. It should be codified and upheld.

***IPV6 a flawed technology***

**IPV6** is a flawed technology with no workable migration path. It has zero momentum and similar chances of success.

The bugle of IP shortage has been sounded for more than a decade now, on the premise that e.g. "My future refrigerator will order my eggs for me and hence will need an IP address". There are enough technologies old and emerging, such as PAT, NAT, HTTP1.1, STUN, UPNP, ICE etc. that adequately address the needs of this mythical refrigerator. In any case, dedicated servers in the USA still come with 8 IP address as standard. We are completely dependent on that country for our Internet services, and till it feels the pinch of the alleged shortage there is no way for the rest of the world to move to IPV6.

***Dont bother with IPV6***

The former director of APNIC Paul Wilson is himself of the opinion that the IPV4 address space will last another 20 years, an eon in Internet time. So the Authority should not waste its time over this technical issue.

**I Q7. The service roll out obligations under ISP license is very general and can be misused by non-serious players. Do you feel the need to redefine roll out obligations so that growth of Internet can be boosted both in urban and rural areas? Give suggestions.**

***Internet services are dependent on network availability***

Wherever the network goes, Internet services will follow. The effort should be to intensify spread of the network. The ISP license specifically allows dial up access from outside the circle of the ISP, hence all ISP provide national dial up services by definition. In the case of ADSL, standalone ISPs have no role in the absence of unbundling. As for wireless, the third and final frontier, ISPs wait with bated breath. In the light of this, espousing higher license fee, bank guarantee, faster roll out, etc does not make sense.

***Serious player should not equal serious money***

A favourite phrase of Authority is "serious player", which occurs in this consultation too. Since it can hardly mean that we should stop laughing, we can take it to mean "player with serious money". Ergo, an insidious argument to limit Telecom Industry to the cosy triumvirate of old money, PSU companies and foreign capital. Force of ancient habit compels the Authority to measure worth by size of pocket book. But worldwide experience indicates that maximum value has been created outside the circle of

established interests. Old telcos have been mostly value destroyers, especially when the markets are deregulated and the consumer is allowed full choice.

**I Q8. Do you feel that ISPs who want to provide unrestricted Internet telephony and other value added services be permitted to migrate to UASL without spectrum charges? Will it boost Internet telephony in India? What should be the entry conditions? Give suggestions.**

*UASL fees too high even without spectrum*

The entry fee and annual fee is outrageous from the perspective of International practice. It will be a waste of time, just as “allowing” UASL licensees to provide unrestricted VoIP.

*UASL licensing is for many privileges, not just voice*

Further, UASL licensees pay fees for the privileges associated with establishing a network along with services that ride on it. Voice is just one service that rides on it, others such as data, leased line also use the same network. VoIP rides on the the data service of the network and a payment is made separately for the bytes consumed for the call. The license fees are inherent in that payment. Taxing VoIP with license fees amount to double taxation.

**I Q9. UASL/ CMTS licensees pay higher regulatory levies as compared to ISPs for provision of similar services. Do you feel that similar levies be imposed on ISPs also to maintain level playing field? Give suggestions.**

*Without set off, higher licensing will cause double taxation*

ISPs buy network services from such UASL providers , and license fee is inherent in those payments. Such payments are a large part of the revenue of standalone players. In the absence of set off, imposing another license fee will amount to double taxation. Standalone ISPs face lot of discrimination from integrated players, and the current situation assures some semblance of level playing field. The fact that stand alone ISPs are wilting and the integrated players are doing well substantiates this argument.

**I Q10. Virtually there is no license fee for ISPs at present. The amount of performance bank guarantee (PBG) and financial bank guarantee (FBG) submitted by ISPs is low. Do you feel the need to rationalize the license fee, PBG, FBG to regulate the Internet services?**

*Guarantees stop less privileged classes from entrepreneurial activities*

No. PBG, FBG work in favour of old money and traditional entrepreneurial communities. Most Internet businesses are built solely with human capital and need very little capital input. These requirements are repugnant to the aim of broadening the entrepreneurial base of the country beyond historically privileged classes. They should be removed in toto. International practice also suggests this.

**I Q12. The consultation paper has discussed some strategic paths to boost Internet telephony, bring in level playing field vis a vis other operators, and regulate the Internet services. Do you agree with the approach? Please give your suggestion regarding future direction keeping in view the changing scenario.**

*Restrictive approach has caused flight of Internet services to foreign shores*

The restrictive approach with regard to Internet services has caused these services to be delivered from outside India, to the extent that even this response will probably go via foreign shores by way of TRAI's gmail address. However Indian telecommunication businesses are able to directly compete with foreign ones in areas where they have been provided freedom. An unheralded success of the Indian telecom industry are the calling services launched abroad by ILD players such as Reliance and Bharti. These have had the effect of winning for Indian firms the retail value addition of even incoming calls to India. Also, most bulk buyers abroad are switching to legal services provided by Indian ILD players.



***Much to learn from recent success of ILD players***

We can learn two things from this success. First, good things happen when entry barriers are reduced, as they were for the ILD sector. Second, threat of competition from smaller players forces innovation on better capitalised firms.

These lessons should be applied to the Internet sector. Currently Indian firms have been vanquished by foreign ones. Players like Vonage have their back offices in India. With this they sell services back to the country, in effect making Indians laborers to the American cause. It need not be like this, however.

***VoIP is a huge opportunity for Indian firms to win International market share***

VoIP delinks the provision of voice service from provision of the network, thus enabling foreign players to provide services in India. However, this also means that Indian ISPs are capable of providing services abroad. In fact, the cost elements of VoIP service are such that Indian firms should have the upper hand. To make use of this enormous market opportunity India will have to leverage the size of its domestic market to strengthen its VoIP firms.

***Indian VoIP firms should be strengthened***

To enable Indian VoIP firms to compete and win worldwide market share, they should be provided all the freedoms available to their foreign counterparts. This includes:

1. Complete deregulation. No entry barriers
2. Freedom to resell all telecom services and interconnect with PSTN network. Most security arguments in this regard are bogus, as can be seen from the example of many countries that face similar security threats but actively promote reselling and interconnection.
3. Recognition that VoIP is a service that faces worldwide competition, and creation of a taxation / licencing structure that takes cognisance of this. The shipping industry provides a precedent for this.

***VoIP has huge role to play in domestic market too***

VoIP can also solve some problems faced by the domestic voice sector. Private players have operated in the fixed line sector for many years now, but coverage in even a city like Mumbai is spotty. VoIP can be used to resell fixed PSTN services of UASL licensees in areas that are not covered by their network. This is fair to the incumbent, since the consumer will have to take its service for the first line and for the ADSL connection, but simultaneously allow the consumer some choice for his second line or for advanced features of VoIP services.

***Current telecom restrictions greatly reduce consumer choice, employment opportunities and innovation***

For this to happen, reselling and interconnection must be freely allowed as in progressive countries. This puts competitive pressure on facilities based players, hugely improves consumer choice and employment opportunities of the sector, provides entrepreneurial opportunities for the less lettered or capitalised and is responsible for most of the innovation seen around the world.

**I About us**

Trikon Electronics Pvt. Ltd. is a Mumbai based ISP. Our web site is at <http://www.trikon.in>. We can be reached at [deven@staff.ownmail.com](mailto:deven@staff.ownmail.com)