

TRAI's Reply to DoT letter No. 813-03/2008 dated 17th March, 2009 on its recommendations on "Issues relating to Internet Telephony" dated 18th August, 2008

1. Issue1: Level Playing field (Refer TRAI's Recommendation para 4.1)

TRAI's recommendation

4.1.1 Internet telephony may be permitted to ISPs with permission to provide Internet telephony calls to PSTN/PLMN and vice-versa within country and necessary amendments made in the license provisions.

Issues raised by DoT (refer para 3 (i) of DoT letter No. 813-03/2008 dated 17th March, 2009):

1. How a level playing field would be ensured between the Access Service Licensees, who pay 6,8 or 10% of AGR of licence fee depending upon the category of different telecom service area and Internet Telephony service providers (ISPs) who would have to pay flat rate of 6% of their AGR from Internet Telephony services (excluding revenue from Internet Service)?
2. What should be the entry fee for ISP license with additional facility for providing Internet telephony services?

TRAI's Views:

- 1.1. In the para 3 (i) of letter, DoT talks about Entry fee, License fee, net worth and paid up equity aspects of Unified Access Service License and Internet Service Providers license and have desired TRAI to examine above two aspects.
- 1.2. The entry fee paid by access licensees (UASL, CMTS) embedded with allocation of startup spectrum upto 2 x 6.2 MHz which was subsequently modified to 2 X 4.4 MHz for GSM system and 2x5 MHz for

CDMA system for roll out of 2G services. It is a proven fact that spectrum is a scarce resource and therefore entry fee payable by access service providers reflect the value of spectrum (2G spectrum) to a very large extent. However, an ISP license does not include allocation of any spectrum to ISPs as part of the license and therefore their entry fee is low. Therefore, on account of different basic aspect of two licenses, the entry fee cannot be compared.

- 1.3. It may not be out of place to mention that TRAI in its recommendations on “Review of license terms and conditions and capping of number of access providers” sent to DoT on August 28th 2007, recommended dual technology (Allocation of spectrum for Alternate technology) under UASL license. Para 6.21 prescribes fee for allocation of spectrum for alternate technology which would be equal to fee being paid by existing licensees using alternative technology or which would be paid by a new licensee going to use that technology. This clearly indicates that entry fee prescribed for UASL has a close linkage to the allocation of spectrum embedded with UASL license.
- 1.4. This fact is further amplified in TRAI’s recommendations on “Allocation and pricing of spectrum for 3G and Broadband wireless access services” sent to DoT on 27th Sep 2006. The recommendations vide para 4.42 prescribe for the auction of 3G spectrum. The floor price for auction of 2X5 MHz spectrum in 2.1 GHz for pan India is Rs 2100 crores. Internationally also, entry fee to obtain access service licenses are low and operators have to take spectrum separately through auction or by paying the charges based on the calculation decided by licensor.
- 1.5. Access service providers can provide both fixed and mobile voice service, non-voice services, broadband including triple play services, leased lines, Internet, Internet telephony, VPN, and host of value added

services whereas Internet Service Providers can only provide internet access and limited internet based services as per ISP license.

- 1.6. The access service providers can access the subscribers to provide host of voice and non voice services whereas ISPs can access subscribers to provide only Internet access and few Internet based services as specified in ISP license including the proposed internet telephony. **Any direct comparison of access service providers and ISPs, due to vast difference in privileges, services, and resources given to them under their respective licenses does not seem to be desirable.**
- 1.7. While discussing entry fee arising out of regulatory presumption between two set of licenses, it is pertinent to evaluate the position with respect to not only the fee payable but also the entitlements services, and level of Interconnection facilities applicable for both sets of service providers. Firstly, services to be offered by Internet telephony service providers are not exactly the same set of services that UASL licensee are entitled to offer. Therefore, their services are not strictly comparable and thus are also not substitutable. Secondly, the level of Interconnection resources that the Internet telephony providers are eligible to seek is neither direct nor is the same as that has been envisaged for UASL licensees.
- 1.8. Internationally, there are major differences in approval/ registration/ license fee for access licensees and class licensees (refer Table-1):

Table -1 Details of Entry fee for access licensee and Class licensee

Country	Entry fee for access Licensees operator (in context of UASL) (without spectrum)	Entry fee for Class Licensees (in context of VoIP/ Internet telephony)
Australia	AU\$2500	-
Malaysia	RM 50000	RM 2500

Barbados	USD 25000	USD 250
Singapore	via a comparative selection exercise and/or an auction exercise	USD 200
Nigeria	Naira 50 Million	Naira 25 Millions

From the above, it is clear that entry fee of class licensees (like ISPs in India) is very low as compared with access licensee even when the spectrum is not embedded in their license and same has to be procured separately. In Indian scenario the entry fee of ISPs will be comparable with access service providers if spectrum charges are discounted from present entry fee of access service providers.

- 1.9. Considering above facts, there does not seem to be any level playing field issue as far as entry fee of access service providers and ISPs are concerned.
- 1.10. Let us now consider net worth and paid up equity issues. Access Service providers are facility based operators. Facility based operators (access providers) have to create infrastructure and fulfill rollout obligations as prescribed in their license (clause 34 of UAS license). There is a natural concern to judge the capability of aspiring service providers before allotment of the license. Accordingly eligibility condition for UASL prescribes net worth and paid up equity criteria. This is not applicable to ISPs. Therefore, it is not reasonable to prescribe the Net worth / paid up equity for ISPs.
- 1.11. The other important issue for consideration is the license fee payable by access service providers and ISPs. It is to mention that arbitrage already exists in applicable license fee for different service providers. The effect of arbitrage is clearly visible as most of the UASL, who can provide internet and broadband including triple play services under

UASL, also take separate ISP license and provide these services (Internet and broadband services) under ISP license. While there is no license fee on Internet and broadband access charges in ISP license, access providers are subjected to license fee of 6/8/10 % of AGR based on their area of operation. As a result most of the UASL provide Internet access service under ISP license and pay license fee as per ISP license. Such cross booking of revenue cannot be ruled out till scope of such arbitrage continues.

- 1.12. TRAI has already discussed this issue in its recommendations on “Review of Internet services” sent to DoT on 10th May, 2007. Para 4.5 of these recommendations discussed the level playing field between ISPs and Other Telecom service providers. The Authority observed that in order to maintain level playing field there is a need to impose license fee even on Internet access revenue of ISPs and recommended in para 4.5.3:

“A uniform annual license fee equivalent to 6% of AGR on all ISPs including revenues earned from provision of Internet Access, Value Added Services and Broadband in ISP domain. This will ensure level playing field vis-à-vis other telecom operators.”

Presently revenue from internet access is excluded from AGR for ISPs whereas the same is included in AGR for access providers if Internet services are provided through UASL. This needs to be reconsidered.

- 1.13. TRAI has discussed this issue in its recommendations on “Components of Adjusted Gross Revenue (AGR)” sent to DoT on 21st September, 2006 also. Para 3.17 on inclusion of revenue of one licensed activity in the other licensed activity has considered instances of cross booking of revenue from one license to another license including revenue from

internet service. Based on the various instances and examination, the Authority observed in para 13.17.3.3 on this issue:

“The Authority observed that many service providers are now integrated operators and now provide all telecom services. Since license fee on number of services is charged at different rates, it is possible for service providers to book revenues in such a manner that license fee liabilities are minimized. The Authority noted that recently DoT has brought a few services at par for payment of license fee. The Authority therefore observed perhaps a uniform rate license fee regime could obviate the recourse of diverting revenue from one service and booking it to another where incidence of license fee is lower.”

- 1.14. This issue was dealt earlier also in TRAI’s recommendations on “Unified licensing regime” sent to DoT on 13th January, 2005. Para 10.1 of above recommendations also advocates for uniform license fee for different licensees:

“The telecom services should not be treated as a source of revenue for the Government. Imposing lower license fee on the service providers would encourage higher growth, further tariff reduction and increased service provider revenues. With increased growth, it would be a win- win situation for the industry and the Government. Presently, in addition to license fee (which varies from 0%-15%), spectrum charges (2-6% - wherever applicable) the telecom service providers pay Service Tax of 10%. Since for the services being offered, the service providers are charged service taxes of 10%, we are of the view that the maximum level of license fee should not exceed the contribution towards USF and Administrative fee. The present level of USO contribution is 5% and the level of Administrative fee shall be 1% of AGR presently. Therefore it is recommended that for Unified License, Class License and Niche operators the License fee shall be (contribution to USF (5%) + Administrative cost (1%) i.e. 6% of Adjusted Gross revenue (AGR)”

- 1.15. Here it will also be important to mention that while access service providers are entitled to have direct interconnection among them; ISPs are proposed to be permitted to have interconnection through public internet (Internet Cloud) with NLD operators only to facilitate termination of Internet telephony calls on PSTN/PLMN and vice-versa. The prohibition of direct interconnection of ISPs with access service providers and routing of PSTN/PLMN calls through intermediary will have financial implications for ISPs. Present penetration of high speed internet connections is so low that differential rates for license fee prevailing for access providers when compared with ISPs will virtually have negligible impact.
- 1.16. DoT has also raised the issue of 12 to 14 access service providers operating in all service areas, who are licensed to provide Internet telephony (Unrestricted). DoT perhaps seems to indicate that in view of large number of access service providers likely to provide unrestricted Internet telephony, there is no need to permit Internet telephony to ISPs with facility to terminate Internet telephony calls on PSTN/PLMN within country. The issue has been deliberated in paras 3.1 to 3.3 of TRAI's recommendations. The unrestricted Internet telephony has not been started by access service providers even after lapse of approximately 3 years. Internet telephony is permitted to UASL from 14.12.2005 and to CMTS from 06.02.2006. The fruits of technological innovations must be permitted to reach to common masses and regulatory framework must facilitate technological advancement. Hence restrictions imposed on ISPs must be withdrawn so that such innovative services can reach to common masses.
- 1.17. Artificial restrictions on availability of innovative user friendly services give birth to grey market operations. Analog Telephone Adapters (ATA) and similar devices are now freely available in Indian market at very affordable prices. Incidences have come to the notice of TRAI when

E.164 numbers of foreign countries have been extended in Indian territory through use of Internet adapters. The popularity of web based Internet telephony services provided by agencies located outside India such as Skype, Google, Yahoo, MSN etc is fast increasing. Such agencies are neither having any license from DoT nor pay any revenue share to Government. Incidences have also come to the notice where individuals can download client software to make and receive calls on their mobile phones through Internet. Such software are generally hosted outside India. These entities are also neither licensee of DoT nor share any revenue with Government. Continued restrictions on Internet telephony with facility to terminate Internet telephony calls on PSTN/PLMN within country is likely to support development of grey market operations and may encourage web based Internet telephony by unlicensed agencies resulting in security risk and loss of revenue to government.

- 1.18. DoT has also drawn attention to para 4.9.4 of TRAI's recommendations on "Review of Internet Services" sent to DoT on 10th May 2007:

"Para 4.9.4: In view of above Internet Telephony to PSTN and PLMN within the country is not permitted under ISP license at present and therefore, any Internet service provider who wants to provide such Internet Telephony within Country needs to migrate to suitable license permitting the same."

"It is noted that 'Suitable License' refer to UAS License under these recommendations as Internet Telephony (unrestricted) was permitted under UAS License only."

Here it will be important to mention that para 4.9.4 was only to clarify the existing provision. The consultation paper on "Review of Internet services" was initiated based on the reference from DoT on certain specific issues. Internet telephony to ISPs with facility to terminate

PSTN/ PLMN calls within country was not in the scope of the consultation. This is amply clear from para 4.9.3:

“..it is felt that such issues will require different framework of discussion and not in the scope of present reference.”

Thus these observations are not relevant to present reference. Accordingly, TRAI has come up with separate consultation paper to deal with these issues.

- 1.19. Internationally, Internet telephony through public Internet has been lightly regulated and least restrictions are imposed. European Union adopted a New Regulatory Framework (NRF) under which an advisory body named European Regulatory Group (ERG) has been established to encourage cooperation and coordination among the member states. ERG has issued a common statement for VoIP regulatory approaches:

“Because VoIP services, broadband access, access to the IP network and IP transport can be supplied by different providers, barriers to entry, specific to the provision of VoIP services only, are reduced. VoIP providers who may not have the need to invest in significant infrastructure could become serious competitors to vertically integrated incumbents. This could very well lead to more diverse and innovative services in the market. On the other hand it has been argued that although new innovative providers could push the market, in the long run it would be the established players (including incumbents) with their own networks that continue to dominate the market due to their reputation, reliability, as well as their established customer base and ancillary services such as billing systems, etc. The cost structure of IP networks with high fixed costs and low marginal costs of service provision may reinforce a trend towards flat rate tariffs for users. Such a trend may be advantageous for those providers with established customer relations. This advantage applies specifically to all providers controlling the access infrastructure (irrespective of the technology applied). Based on an

existing customer relationship they can bundle broadband access with broadband data connectivity and/or IP-based voice services. In this way they can leverage their market position from the access component to other parts of the value chain.”

- 1.20. The issue of level playing field arises when two types of service providers are getting the similar facilities, resources and interconnection. It is clear from above discussions that Access Service Licensees cannot be compared with ISPs in terms of facilities and resources they get for the entry fee paid. TRAI’s recommendations on “Issues related to Internet Telephony” in paras 3.10.1 to 3.10.15 has deliberated in detail the issue of level playing field. Moreover, ISPs provide Internet either using dialup connections or leased line. Actually network of access provider is used for providing Internet access whenever a dialup connection is used to provide Internet. Further, most of the leased lines are also hired from access service providers to give Internet leased line. As such ISPs are likely to acquire resources ultimately from access service providers and NLDOs/ ILDOs. The permission to ISPs to provide Internet telephony with facility to terminate internet telephony calls on PSTN/PLMN will develop synergy and will be beneficial for telecom sector as a whole. The Internet/ Broadband penetration will definitely get a boost with the implementation of these recommendations.

Based on the above discussion, the views of the Authority on issues referred for its consideration are as follows:

- 1. The Authority is of the view that issue of level playing field raised by DoT in their present reference dated 17th March 2009 to TRAI stands addressed suitably in the recommendations on “Issues related to Internet Telephony” dated 16th August, 2008 and amplified more now. These recommendations will not disturb level**

playing field between ISPs and access service providers. Hence, no change in para 4.1 of TRAI's recommendations is proposed by the Authority in its considered view.

- 2. The Authority proposes no change in existing entry fee for ISP to provide Internet Telephony services with facility to terminate Internet Telephony calls on PSTN/ PLMN through Internet cloud**

2. Issue 2: Allocation of Numbering resources (TRAI's recommendation para 4.3)

TRAI's recommendation

4.3.4 DOT may prescribe charges for E.164 number allocation to ISPs, if any, considering availability of number resources, ISP's business model etc.

Issues raised by DoT (refer para 3 (ii) of DoT letter No. 813-03/2008 dated 17th March, 2009):

1. In the present recommendations TRAI has proposed to allocate the numbering blocks to ISPs on chargeable basis. However, numbering blocks to Access Service Providers are allocated without any charge.

TRAI's Views:

- 2.1 As per UASL/ CMTS/ BSO license, service providers have to adhere to provisions of National Numbering Plan and provisions for allocating the number resources to BSO/UASL and CMTS are given in National Numbering Plan. No such provision for allocation of number resource except allocation of access code (172xxx) exists for ISP licensee in National Numbering Plan. Numbers are scarce resource. Allocation of numbering resources to ISPs will be desirable to facilitate incoming calls to Internet Telephony subscribers as discussed in para 3.13 of the recommendations.
- 2.2 With the rapid growth of mobile telephony, it is observed that existing number resources as per existing numbering policy may not be sufficient for meeting requirement even upto 2010. The situation has worsened due

to inefficient utilization of number resources by existing access service providers. TRAI in its study paper on “National Numbering Plan – a revised approach suggested by TRAI for achieving greater transparency and efficiency” highlighted that utilization of number resources by many access service providers is well below 60%. Some service providers have asked for additional number levels despite low utilization of allocated number resources.

- 2.3 It has also been observed that service providers are selling special numbers and generating revenue from this scarce resource allocated to them free of cost. Similar incidences may emerge when number resources are allocated to ISPs.
- 2.4 There are about 164 operational ISPs out of which 34 ISPs are presently offering Internet Telephony. To fulfill the requirement of these ISPs, large number blocks will be required. The need of the hour is to ensure proper and efficient utilization of number resources. One way to ensure this is to charge number resources.
- 2.5 TRAI is of the view that optimal and efficient use of number resources is necessary and has to be ensured. Accordingly, TRAI recommended in para 4.3.4 of the recommendation: *“DoT may prescribe charges for E.164 number allocation to ISPs, **if any**, considering availability of number resources, ISP’s business model etc”*.
- 2.6 DoT may take suitable decision to ensure efficient utilization of number resources including prescribing charges for allocation of E.164 numbers to ISPs.

Based on the above discussion, the views of the Authority on issues referred for its consideration are as follows:

- 1. TRAI is of the view that number resources must be utilized efficiently. Therefore, DoT may consider to prescribe charges for**

E.164 number allocation to ISPs, if any, to ensure efficient utilization.

3. Issue 3: Emergency number calling (TRAI's recommendation para 4.4)

TRAI's recommendation

4.4.1 Internet telephony service providers may be encouraged to facilitate access to emergency number calls; however they may not be mandated to provide such services at present.

Issues raised by DoT (refer para 3 (iii) of DoT letter No. 813-03/2008 dated 17th March, 2009):

1. TRAI has recommended that Emergency Number Calling may not be mandated to ISPs at present for providing Internet Telephony.
2. DoT is of the view that provision of emergency Number Calling is important and it should be implemented by ISPs at the time of launching of Internet Telephony Services.

TRAI's Views:

- 3.1 Internet Telephony is a different service in its scope, nature and kind from real time voice service as offered by other licensed operators like BSO, CMSO, and UASL. All calls made by fixed/ mobile subscribers are routed through a managed network while calls made from internet telephony subscribers are routed through public Internet cloud (unmanaged).
- 3.2 It is important to understand the scope of emergency number dialing. Presently scope of emergency number dialing is not clearly defined. The general concept of emergency number dialing in India is limited to access to level 1 emergency numbers like police, fire services, hospital etc. However, no means/ facilities are available with such agencies to know the location and address of the caller. Even in case of mobile networks, often emergency calls do not land on appropriate agency corresponding

to location of the origination of such emergency calls. Manual interventions are required to reach to appropriate agency in such cases. It seems that DoT is referring to mandate existing kind of emergency number dialing i.e. just access to level-1 emergency service numbers. Such type of emergency number access though Internet Telephony can also be provided by ISPs also especially when location of the caller is fixed **and same can be considered for mandating also.**

3.3 TRAI in its recommendations under reference has considered an advance level of emergency number dialing with the facility of identification of accurate geographical location of caller as detailed in para 3.14 of the recommendations. Internationally, in several countries exact location of caller can be identified by the centralized emergency service agencies. In India no such provision for identifying the exact location of caller is available even for mobile networks. Moreover, in many parts no centralized emergency service agency is available. In case of internet connection provided at fixed location, the location of the caller can be known. However, in case of nomadic use of Internet telephony, where a user accesses the Internet from different locations, it is difficult to identify the location of the caller. TRAI in its recommendations considered this advance level of emergency number dialing and therefore, recommended not to mandate emergency number calling at present. DoT may define the scope of emergency number dialing and accordingly take suitable decision.

3.4 It may be important to note that Internet Telephony require high speed Internet connection for making calls and hence not likely to become a substitute for fixed/ mobile telephones in near future. In all probability a subscriber having high speed Internet connectivity may be using either fixed or mobile telephone also. Therefore, such subscriber can avail emergency number access through such fixed or mobile phones. The Authority is of the view that imposition of restrictions and mandatory

obligation on ISPs to provide emergency number calls (Advance level) at this stage may not be necessary.

- 3.5 Initially number of Internet telephony users will be limited as present broadband penetration in India is very low. It is expected that Internet Telephony will mainly be used for long distance calls.
- 3.6 Internationally also, it is observed that Internet telephony through a public network is allowed with very light / no regulatory requirement.

Based on the above discussion, the views of the Authority on issues referred for its consideration are as follows:

- 1. In view of above the Authority recommends “Internet telephony service providers may be encouraged to facilitate access to emergency number calls; however they may not be mandated to provide such services (Advanced Emergency number dialing) at present.”**
- 2. The Authority is conscious of future development and likely need to mandate emergency number dialing in future. Accordingly the Authority has already recommended in para 4.4.2 “The Authority will review its decision to mandate emergency number dialing at appropriate time.”**