



EBG Federation response to Consultation Paper on Internet Telephony (VoIP)

EBG Federation (EBG) was established on 11th March, 2015 as a Section 8 company under the Companies Act 2013 in order to ensure long term stability and clarity on its purpose as a not for profit organization offering support and advocacy for European businesses in India. Founded as the European Business Group (EBG), in 1997, as a joint initiative of the European Commission and the European Business Community in India, EBG has come to be recognized by the Indian Government and the European Commission as the industry advocacy group representing the interest of European companies in India.

EBG Federation is supported by the Delegation of the European Union to India and represents the 28 Member States of the European Union as well as accession countries and its partners in European Economic Area (EEA). The EU Ambassador is our Patron. Currently EBG has Chapters in Delhi, Mumbai, Bangalore and Chennai with approximately 170 companies as Members including a number of companies from the Telecom Sector. Mr. TV Ramachandran is currently the Chairman of the Telecom Sector Committee of the EBG.

The primary objective of EBG is to actively support growth in India-EU trade relations, become the most relevant advocate for European business in India and ensure that the needs of European business are well presented to policy and decision makers.

Preamble:

EBG welcomes the initiative taken by TRAI to start a discussion regarding the important issue of applying a regulatory framework for Voice over IP (VoIP) and the possibility to submit comments on the issues raised in the Consultation Paper on Internet Telephony as Internet Telephony/VoIP offers the potential to increase competition, to stimulate new and innovative services for the citizen, and to reduce operators' costs.

EBG feels there is adequate ruling already to guide the policies for Telecom services viz. Voice telephony & messages using any technology/mans of transmission t through The Indian Telegraph Act of 1885 and Telecom Regulatory Authority of India Act, 1997 which state that

"telegraph" means any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or other electro-magnetic emissions, Radio waves or Hertzian waves, galvanic, electric or magnetic means.

And—"And "telecommunication service" means service of any description (including electronic mail, voice mail, data services, audio tex services, video tex services, radio paging and cellular mobile telephone services) which is made available to users by means of any transmission or reception of signs,—signals, signals, writing, images and sounds or



EBG FEDERATION

intelligence of any nature, by wire, radio, visual or other electro-magnetic means but shall not include broadcasting services.

VoIP services may also be guided by these rules.

Issues for Consultation

Q1: What should be the additional entry fee, Performance Bank Guarantee (PBG) and Financial Bank Guarantee (FBG) for Internet Service providers if they are also allowed to provide unrestricted Internet Telephony?

A1: VoIP is the technology of the future with its cost effectiveness and ease of use over the internet. However, there are still robust and proven traditional voice telephony networks (PSTN/PLMN) being used worldwide and more so in India with over One billion users and which will be used for quite some time before VoIP takes over completely.

In accordance with the provisions of the ITA 1885, it would therefore be advisable to look at treating both technologies on par where commercial obligations are involved.

In accordance with principles of fairness, equality, transparency and to foster the spirit of competition any service provider who wishes to provide similar service must follow the same rules that the existing providers do. As per the current licensing regime, ISPs are allowed to offer unrestricted Internet Telephony if they migrate to Unified Licencee with access service provision.

Q2: Point of Interconnection for Circuit switched Network for various types of calls is well defined. Should same be continued for Internet Telephony calls or is there a need to change Point of Interconnection for Internet Telephony calls?

A2: The advent of new technologies always gives rise to new regulatory issues and often debatable issues as the conversion from an older technology to a newer technology involves an overlap period of the two technologies co-existing.

The same is true of circuit switched telephony and VoIP telephony. There is a huge network of circuit switched PSTN/PLMN users (over 1 billion) in India, which will be in use for some time to come. Internet telephony will provide a cost effective alternative but may not immediately replace the existing services for few years since quality of service may continue to drive demand of consumers in favour of traditional/ conventional voice telephony ahead of Internet Telephony.

The point here is that an Internet Telephony subscriber must pay interconnect charges to a TSP for every VoIP call that terminates into the TSPs network. In case of VoIP-VoIP calls, the interconnect charges would not apply as no part of the physical network of a public operator is utilised. However, the moment a call is made from a VoIP subscriber



to the public network subscriber or vice versa, then and then the Interconnect charges are applicable. For the sake of equitable and fairness in terms of regulatory compliance, there would be a number of additional regulatory compliances that are currently applicable for traditional telephony calls which should be made applicable to VoIP calls such as numbering, lawful interception, emergency number dialing, Quality of Service (QoS) etc..

The Government is looking at considerable investment in telecom infrastructure to improve communication services and build a new Digital India. Benefit of low cost services for consumers, should not be a reason to entitle VoIP service providers to get undue benefit from non-compliance to legacy regulations and costs unless the legacy regulations are also reworked suitably for existing TSP's too. To ensure equitable & fairness in terms of regulatory applicability & costs Healthy competition should be the principal driver for promotion of a new technology. It would be fair if VoIP services were to be able to provide a cost-competitive solution without having the benefit of any regulatory or tariff arbitrage. In that case, acceptance of Internet Telephony services by customers will grow that much faster thereby creating a logical and justifiable basis for migration. The Unified License for Intra-Circle Long Distance traffic and for NLD services provides flexibility to a TSP to transit traffic of other TSP within the given service area thus avoiding need for large number of inter-connection points to start service. A small Internet telephony service provider may connect to only one TSP and this TSP can transit/carry traffic to another TSP as well. ITSP/ISP's can negotiate a mutual commercial arrangement for transit charge with any or same TSP who is willing to transit its traffic to other TSPs besides terminating its traffic also.

Q3: Whether accessing of telecom services of the TSP by the subscriber through public Internet (internet access of any other TSP) can be construed as extension of fixed line or mobile services of the TSP?

Please provide full justification in support of your answer.

A3: We note that in the present consultation paper, Public internet has been envisaged as the internet access of any other TSP whereas in the 2008 TRAI Consultation Paper the Public Internet was defined as an Internet Cloud accessed by the subscriber through the connectivity and gateway of his/her own ISP/TSP and not through any other TSP/ISP.

Furthermore, a legitimate Internet Telephony call is a different type of call and cannot be compared with real time voice call. Since extension of third party internet access to route a VoIP call is not permissible as per TRAI's definition of 2008, hence there is no question of extending a fixed line/mobile services of a TSP outside its service jurisdiction. Such legitimate Internet Telephony calls require a separate identifiable number series for translation which can be given to TSP providing Internet Access (last mile) and not to an APP provider. Using of SIM/MSISDN or Fixed Line number series



interchangeably with Internet Telephony as defined in license is not allowed and will only lead to arbitrage and illegal routing

We note that in 2008, TRAI has recommended for separate number series being allocated for internet telephony calls as they are different from fixed/ mobile calls.

Q4: Whether present ceiling of transit charge needs to be reviewed or it can be continued at the same level? In case it is to be reviewed, please provide cost details and method to calculate transit charge.

A4: It is well suggested in the CP that “*a small Internet telephony service provider may connect to only one TSP and this TSP can transit/carry traffic to other TSP as well. Presently, transit charge is in the form of ceiling, ITSP can negotiate transit charge with any TSP who is willing to transit its traffic to other TSPs. As per IUC regulations, transit charge should be less than Re.0.15 (Fifteen paise only) per minute and, can be decided by the concerned service providers through mutual commercial arrangement.*”

However, Transit charge cost will need to be reviewed to reflect the true and actual costs taking into account spectrum, SUC, IUC costs, etc amongst others.

Q5: What should be the termination charge when call is terminating into Internet telephony network?

A5: The most important issue with Internet Telephony calls is that it is very difficult for the terminating operator, to identify the originating network (if same number is used for Internet Telephony and PSTN/PLMN) or country of the call.

Internet Telephony has significant implications for interconnection charging. To have sustainable charging regime, there may be a need to have uniform charge to avoid regulatory asymmetries that treat similar services differently based on the technology used to provide the services. It is submitted that Termination charge should be determined on the principle of “work done” and should reflect actual costs incurred. It should also factor in legacy investments already made and present value of future spectrum to be allocated in the coming years before the next revision.

Q6: What should be the termination charge for the calls originated from Internet Telephony Network and terminated into the wireline and wireless Network?

A6: same as Answer 5.



Q7: How to ensure that users of International Internet Telephony calls pay applicable International termination charges?

A7: When an Internet Telephony subscriber makes/receives an international call, under the existing interconnect regime manages this scenario without any issues since these calls travel over an International Long Distance Operator (ILDO). We suggest that the same framework may continue (i.e. all calls should be routed through ILDOs) for all international internet telephony calls.

Q8: Should an Internet telephony subscriber be able to initiate or receive calls from outside the SDCA, or service area, or the country through the public Internet thus providing limited or full mobility to such subscriber?

A8:

In case of a VoIP-PSTN call or vice versa, an interconnect with a PSTN network is involved between Internet Telephony and existing SDCA based fixed networks. In such cases, interconnect charges are applicable.

When an Internet Telephony subscriber makes a Long Distance call from his LSA/SDCA to another LSA/SDCA, existing interconnect regime manages this scenario without any issues.

Q9: Should the last mile for an Internet telephony subscriber be the public Internet irrespective of where the subscriber is currently located as long as the PSTN leg abides by all the interconnection rules and regulations concerning NLDO and ILDO?

A9:

As long as the NLDO and ILDO interconnection rules and regulations are maintained by the Internet Telephony Service Provider, an internet telephony subscriber may be on the Public Internet for the last mile; however; reference our responses above to Questions 7 & 8, NLDO and ILDO rules and regulations should be observed. Public Internet on last mile would be the case in contention when a PSTN to VoIP call is made. In case of a VoIP call made to a PSTN subscriber, the last leg of the call would obviously travel on the Public Network (PSTN/PLMN).

Q10: What should be the framework for allocation of numbering resource for Internet Telephony services?



A10:

Currently, as per ISP License for provision of Internet Services

*"Addressing scheme for Internet Telephony shall only conform to IP addressing Scheme of Internet Assigned Numbers Authority (IANA) exclusive of **National Numbering Scheme / plan applicable to subscribers of Basic / Cellular Telephone service. Translation of E.164 number / private number to IP address allotted to any device and vice versa, by the licensee to show compliance with IANA numbering scheme is not permitted.***

"The Licensee is not permitted to have PSTN/PLMN connectivity. Voice communication to and from a telephone connected to PSTN/PLMN and following E.164 numbering is prohibited in India".

However the current policy permits an ISP to offer unrestricted Internet Telephony in the case of migration to a Unified Licence with Access Service provision. **Telephone Number Mapping (ENUM)** which is a globally adopted methodology for addressing the end devices in case of Internet Telephony may be considered.

ENUM permits additional means for identifying users, enriching the user identification information, creating private number plans, introducing special billing arrangements (e.g. reverse billing, split billing, etc.) makes it suitable for Internet telephony-based solutions.

Q11: Whether Number portability should be allowed for Internet Telephony numbers? If yes, what should be the framework?

A11: In India, Number blocks are allocated separately for fixed line which is SDCA based and for Mobile which is at Service area level. One option could be that TSP can use same number resources and have similar restriction for Internet Telephony service with regard to mobility as it for normal voice services. This will also be consumer friendly as he can be reached or can make call with same identity irrespective of whether he is making Internet Telephony calls (if access to internet is available or it is cheaper) or normal call by same number. However, it will be possible when there is same termination charge for Internet Telephony calls.

Another way could be to allocate separate series for Internet Telephony service and all spare codes which are not being used can be allocated for Internet Telephony calls. At present these numbers cannot be used for mobile services. If these numbers are allocated to mobile, it will have conflict with local fixed line number. If we add '0' in



dialing pattern from Internet Telephony calls to/from other calls (Fixed line/Mobile), it will not have any conflict and this numbering resource which is otherwise idle can be used for Internet Telephony service.

It is advisable since the subject of VoIP itself is quite complex and needs a separate consultation to understand all its ramifications, it may be desirable to have a separate consultation cum discussion on the issue of Number portability for Internet Telephony. Having said that, it must be re-iterated that Number Portability is desirable as it helps enhance the competition and improves quality of service while reducing the costs simultaneously. The framework for this may be similar to the one implemented for MNP (Mobile Number Portability). .

Q12: Is it possible to provide location information to the police station when the subscriber is making Internet Telephony call to Emergency number? If yes, how?

A12: In case Internet telephony service is provided on fixed location and a fixed IP address is used, then such calls can be processed with ease using number translation and routed to appropriate agency.

Cellular phones aren't linked to a single physical location and they are always moving around. However, their locations can be tracked with triangulation (comparing the relative signal strength between three cellular towers) and their GPS hardware.

The problem becomes complex when Internet telephony is provided on devices having mobility or nomadic capability because it breaks the link between calling party and the location information. It can be suggested that access to emergency services can be enabled by routing calls to the appropriate (geographically decentralized) emergency service centers, and provide them with the appropriate location information. A Softswitch in this case may handle emergency number translation.

This type of system is claimed to be designed and have been put into service in some of the EU Member States and USA. Though it serves the purpose to some extent but may not meet the requirement to access emergency numbers fully.

Q13: In case it is not possible to provide Emergency services through Internet Telephony, whether informing limitation of Internet Telephony calls in advance to the consumers will be sufficient?

A13: In case Internet Telephony is unable to connect subscribers of their services to Emergency Services, sufficient public notification must be provided for the customer to be aware of this. It may also be issued as a warning as perceived cost benefits of



internet telephony may lead customers to ignore this service till they are actually in a crisis.

Q14: Is there a need to prescribe QoS parameters for Internet telephony at present? If yes, what parameter has to be prescribed? Please give your suggestions with justifications.

A14: Quality of speech in any communication service is an important consideration. Subscribers are accustomed to the PSTN/ PLMN voice quality and expect similar quality from Internet telephony also irrespective of the technology used to provide such services. Ensuring good voice quality will therefore be necessary for ISPs providing Internet telephony. The recent public furore over call-drops in our country should be an indicator of public desire for enhanced quality of service than available today. Though Internet telephony standards do not prescribe minimum Internet access speed for good quality of service, it is generally perceived that a reasonable broadband connection will be required to provide good speech quality. ITU-T Recommendation G.114 (5) defines maximum one-way latency as 150 ms for good Internet telephony voice quality. This puts a restriction on round trip delay, packet loss, and speed of Internet access.

Q15: Any other issue related to the matter of Consultation.

A15: At the same time, cognizance needs to be given to the existing networks which have been invested in over the past couple of decades by the industry, to create a telecom revolution which has provided such a plethora of integrated services. Introduction of any innovative new technology needs to be done in a phased and regulated manner so as not to burden the existing operators and accentuate their existing losses. The telecom industry today is one of the largest generators of revenue for the economy. It is also a vital service linking people and businesses across the country.