

At the outset we appreciate and welcome this initiative by the Authority and feel that this is an opportune moment to discuss and decide concrete measures to revitalize the Internet sector in India by allowing the optimum use of the technology.

It is imperative to consider the operational aspect of unrestricted Internet telephony and the power of Internet in general so that the same can be used to enable better access, quality, affordability and opportunities for the consumers.

Adding to the context is the tremendous growth in the IP technology and Internet access globally which has ensured that the service delivery increasingly has got delinked with the provision of network and connectivity. Not only the same, some of the advancements in services are intrinsically linked to IP technology with no parallel application in a circuit switched – TDM domain for e.g. the High Definition Voice services enable by virtue of IP Codec developments, needs end to end IP network and cannot be replicated in the TDM domain.

**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?**

The Internet today is changing every industry, with telephony being no exception. Traditional telephony is now being accompanied by IP based telephony in order to primarily reduce the cost of telecommunications and effectively provide more communication options. Indeed Internet Telephony has evolved to become a key platform for realizing the long promised benefits of voice/data convergence and the merging of the PSTN (Public Switched Telephone Network) with the Internet.

Regulation should not deter the technology progress, today the VOIP services has matured substantially as a scalable service. Internet telephony services can bring down the cost of infrastructure considerably and can offer cheap internet telephony services hence we believe that there should not be any additional financial barrier to allow the service provider to provide the Internet Telephony services.

ISPs are required to pay license fees in form of AGR, and this creates a reasonable level-playing field that would allow Internet Telephony to compete with traditional voice on the basis of its service levels and feature-based innovation. If PBG and FBG are imposed, this will restrict the provision of Internet Telephony services to only the large operators who are mobile operators with UASL licence, and these operators do not have an incentive to invest in disruptive technologies to compete with their existing services. The promise of IP Telephony is that it can be offered by smaller operators with unique propositions that are targeted at specific niche segments, rather than the broader consumer market, and the current PBG and FBG requirements are beyond the means of smaller companies.



As the concept of interconnect is based upon the peering of networks and data travels in packets so there is no need of POI for Internet to Internet calls but for Internet to PSTN calls separate PoI over the SIP interface for internet telephony calls may be required.

**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.**

Yes this should be considered as an extension of TSP as TSP networks are mostly migrated to IP based NGN.

**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.**

As the internet connectivity between the networks is on cloud based connectivity so packets travels seamlessly and there is no need of any transit media involved. Therefore there is no need of any transit charges for Internet Telephony calls

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

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

IP Telephony interconnection is less costly to implement vs circuit-switched voice, therefore there is no rationale to discriminate against internet telephony in setting IUC charge. If there is a difference, then IP Telephony should be lower, not higher.

Termination charge should be as per prevailing IUC charges. Internet telephony services should be treated in the same manner as fixed line services where termination charge is ZERO.

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

International Internet Telephony calls terminations should be allowed only through ILDO.

Lacking a set of regulations for domestic termination of IP Telephony actually promotes "Grey Market" calling, as there is an arbitrage between the cost of legally terminated international calls (whether via IP Telephony or Circuit-Switched Voice) and the cost of carrying such calls over the internet and then illegally re-terminating them as circuit-

switched domestic calls. By enabling a comprehensive and consistent set of regulations to cover IP Telephony for both domestic and international use, it will enhance the government's ability to measure, manage, and ensure compliance with the termination charges, as has been the case for the many operators legally offering these services over the last 14 years.

**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?**

The concept of SDCA is based on geographic boundaries and exists from the time when phone calls and telegram services were charged based on the distance between the originator and recipient. With modern technologies costs of carriage and end customer pricing are independent of distance. Internet technologies, and now cloud technologies, have made it easy for subscribers to access any service from any device from anywhere in the world transparently. Artificial restrictions on geographic roaming will be impossible to monitor and control. Restrictions will also slow down the growth of Internet access and use in this country defeating the objectives of the Digital India initiative.

We are of the view that full mobility should be allowed to promote Internet Telephony and to encourage one India.

**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?**

Yes. Our view is that subscribers should be entitled to receive the best Quality of Service (QoS) for all communication needs. No restrictions should be placed.

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

A separate number series should be created for ITSP services and sold to ITSPs at a reasonable price. Mechanisms should be instituted to prevent hoarding of number resources. TSPs should be mandated to carry and route these calls.

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

A framework to be set up by the agency controlling the number resources. CDRs should have field to identify ITSP.

**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?**

Relevant IP addresses of the user can be made available

**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?**

Informing the consumers about non availability of emergency services would be sufficient in line with the global practices

**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.**

The QoS of Internet Telephony calls has been improving exponentially over the past few years. Although there are many parameters that can be monitored such as PDD, ASR, ACD, lost media packets etc., these have been found to be of little use to judge users' subjective experience. We believe that QoS should not be prescribed. We believe market forces will ensure QoS, just as mobile subscribers are switching carriers due to call drops. By providing for more competition and the incentive to invest in advanced technology, encouraging IP Telephony should result in better overall industry QoS.