

ASIA PACIFIC CARRIERS' COALITION

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16th June 2008

Mr. Nripendra Mishra
Chairman
The Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhavan
Jawaharlal Nehru Marg
(Old Minto Road)
New Delhi – 110 002
India

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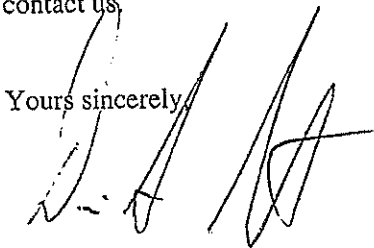
Dear Mr. Mishra,

RE: Consultation Paper on "Issues Related to Internet Telephony" (Consultation Paper No. 11/08 issued on 12 May 2008)

Please find enclosed the submissions of the Asia Pacific Carriers' Coalition to your Consultation Paper on "Issues Related to Internet Telephony".

Should TRAI wish to discuss any of these matters in greater detail, please do not hesitate to contact us.

Yours sincerely,



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Submission by the Asia Pacific Carriers' Coalition

**In Response to Consultation Paper issued by TRAI on
Relaxing Restrictive Provision of Internet Telephony (IPT)
(Consultation Paper No. 11/08 issued on 12 May 2008)**

The Asia Pacific Carriers' Coalition (APCC) welcomes the opportunity to respond to the Telecom Regulatory Authority of India's (TRAI) consultation in relation to "Relaxing Restrictive Provision of Internet Telephony" (Consultation).

The APCC is an industry association of global and regional telecommunications carriers operating in Asia Pacific, established to work with Governments, National Regulatory Authorities and Consumers to promote open market policies and best practice regulatory frameworks throughout the Asia Pacific region including India.

We would at the outset like to commend TRAI on its initiatives and resolve to review and reform major elements of the international telecommunications regime in India recently like ISP and ILD licensing, resale in IPLC International Private Leased Circuit (IPLC) provisioning, rationalisation of IUC, review and waiving off ADC regime, growth of Broadband and Internet, RIO regulation for CLS etc. which are necessary to enable the development of a competitive international facilities market in India. APCC has contributed to these initiatives through its submissions and participation in open house discussions organized by TRAI, from time to time.

This submission made by the APCC reflects the collective opinion of the majority of its members.

As reflected in the consultation paper, the TRAI's comprehensive proposal is to remove the existing regulatory restrictions on IPT for the ISPs in line with best international practices so as to make it more attractive and useful to the end users in order to fuel the growth of IPT and broadband in the country. APCC is in full support of this initiative and grateful for the opportunity to contribute the comments of its members, which are submitted below:

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Introduction

Internet Protocol Telephony (IPT) which is one of the most popular technological evolutions of Internet has become an increasingly important and indispensable communications media for telecom customers including businesses. TRAI should attempt to ensure that the benefits offered by the deployment of these technologies are fully realized by ensuring that regulation does not hinder the deployment of these networks and services. IP-based networks are different from traditional telecommunications networks and existing regulations should not be imposed on them. Instead, a light-touch regulatory approach that lowers the barriers to entry and fosters competition should be adopted. In its Consultation Paper, TRAI rightly highlights that the Internet and its voice applications, such as (IPT), are technically very different from traditional telephony services, therefore, there is a need to adopt a differential and sustainable regulatory framework that recognizes the importance of such differences between the legacy circuits and IP based network types, and thereby fostering the growth of IP-based services for the benefits of end users. Traditional telephony networks were designed to deliver only one type of traffic i.e. voice. IP networks have revolutionized communications by separating the layers between services and transport network, and thereby enabling multiple services to be provided over the same network. Rather than forcing new IP-based networks to fit into legacy regulatory models, policy makers should develop regulatory framework that facilitate the increasing convergence of networks and services. In addition, the deployment of IPT services will spur demand for broadband connections, and consequently encourage more broadband investment and deployment consistent with the goals and targets of the Indian government.

While considering the regulatory framework that should apply to IPT services, it should not be assumed that the economic and social reasons that were used to justify level playing field, consumer welfare and QoS regulations for legacy telephony providers also will be broadly appropriate for Internet applications, such as IPT. In many cases these justifications will no longer apply because applications, such as IPT, function at the applications layer of the network, and therefore can be offered by a number of competing non-facility based service providers in different innovative manners. A light touch regulatory approach can work best for these types of services to fuel innovation. Where these competitive markets exist, regulators can and should avoid active regulation and instead let market and consumer choice resolve these issues.

We therefore urge TRAI to establish a light-touch regulatory framework that will foster competition and provide incentives to service providers to offer innovative IP-based services at competitive prices which will result in benefits to the consumers.

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While TRAI should avoid overly broad regulation of IPT services, there are a few niche areas where regulatory action is appropriate to foster development of IPT markets, our specific suggestion pertaining to some of such issues are covered in our response below;

4.1 Whether Internet service provider should be permitted Internet Telephony services to PSTN/PLMN within India? If yes, what are the regulatory impediments? How such regulatory impediments can be addressed?

In order for new entrants to the telecommunications market to deploy IP-based services and take full advantage of the potential of innovative services the new technologies can support, they need to be allowed to exchange IPT traffic with PSTN/PLMN within India. The capability to offer such interconnected IPT services will ensure that the Indian consumers will benefit the most from these services. Consumers will become increasingly empowered to customize the services they use and will have the ability to choose these services from a wide range of service providers at a competitive and yet affordable price. The availability of PSTN interconnected IPT services in India will also drive consumer and business demand for broadband connections, and consequently encourage more broadband investment and deployment.

It should be noted that interconnected IPT services in India will be offered in the market that already have at least one fixed service provider and multiple wireless providers Market. These operators are allowed to use IPT for carriage of their calls as a technology-neutral option in their licences, therefore, PSTN/PLMN are already been allowed to be connected to ISP networks to exchange IPT traffic. Restriction to do so in the ISP licence should be removed to make this unambiguous so that more and more PSTN/PLMN operators make use of this facility.

4.2 Whether allowing ISPs to provide Internet Telephony to PSTN/ PLMN within country will raise issues of non-level playing field? If so, how can they be addressed within present regulatory regime?

TRAI rightly acknowledges that Internet services have evolved under light-touch regulation in India. This light handed approach to regulation should continue for interconnected IPT services also. The adoption of a light-touch regulatory approach for IP-based services will play an important role in establishing a level-playing field for all providers of these services.

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It is also worth mentioning here that ISPs for providing any services to end users are dependent on the major telecom operators for the telecom resources and a major part of their revenue goes back to these telecom operators as the charges for the use of telecom resources. Therefore, the ISPs providing IPT should be treated as non facility based, value added service providers and not the competitors for these traditional telcos.

Further regarding level playing field issue, the ISPs providing even the restricted IPT in the country are already paying revenue share based licence fee @6% of AGR, which is at par with most of the telcos.

Regarding entry fee, ISPs while being permitted to provide unrestricted IPT, can not be expected to pay the same entry fee as is applicable to the UASPs as there licence is far more-wide than just providing IPT. A major part of the entry fee is justified as the spectrum charge which is a much more expensive resource they get. In case of ITSP they don't get that type of spectrum which is basically used for mobile voice while being permitted for IPT.

Additionally, while considering whether ISP licensees should pay more in fees just for the purpose of levelling the playing field, when they are allowed to provide unrestricted IPT services, TRAI should take a balanced regulatory approach that will encourage market entry to encourage competition. TRAI in fact, should consider reducing and rationalizing the overall fees that are imposed on licensees, e.g., entry fees, annual licence fees, etc., rather than raising the fees that might be paid by new IPT service providers. It is a well established fact in public domain that the Indian Telecom Market has one of the highest levies in the world. This approach would lower the barriers to entry for IPT providers and other market participants and accelerate the deployment of IPT-based services.

A light-touch regulatory approach for IPT-based services has been adopted by many countries and has proven to be beneficial. For example, in the U.S., the Federal Communications Commission (FCC) has adopted a light-touch regulatory framework for IP-based services which does not involve strict economic regulation. In addition, ISPs which provide IPT services do not have to obtain a license in order to provide these services. This approach to regulate IP-based services including IPT has proven beneficial to consumers because the additional competition in the market has resulted in innovative service offerings at competitive prices. A similar regulatory approach would foster competition and the deployment of innovative IP-based services in India.

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As per TRAI themselves, section 3.11.5 of the Consultation Paper indicates that the provision of interconnected IPT by ISPs has been permitted in many regions of the world and that Indian subscribers are likely to benefit from technological advancement and stronger competition in the telecom sector and the resulting decline in prices with better quality of service. The Indian consumers should also be given the opportunity to enjoy the benefits IPT-based services offer under a regulatory environment that minimizes barriers to entry and policies that foster competition.

4.3 ISPs would require interconnection with PSTN/PLMN network for Internet telephony calls to PSTN/PLMN. Kindly suggest Model/ architecture/ Point of Interconnection between ISPs and PSTN/PLMN?

TRAI correctly acknowledges that interconnection and carriage charges will play an important role in the success of PSTN/PLMN interconnected IPT services within India. The terms and conditions established under which ISPs exchange traffic with PSTN/PLMN will have a significant impact on the future development of IPT services. ISPs will need the capability to exchange traffic with PSTN/PLMN in the most efficient manner given that they will generally own very limited facilities within the local calling areas.

ISPs should have the option to interconnect at any feasible point in the PSTN/PLMN as in the case of other telcos, and at a point in the network that allows the maximum scope for traffic termination and collection will be the most efficient form of interconnection. An efficient point of traffic aggregation at which ISPs could interconnect would be at the tandem level or any other location in the hierarchy of the network that would provide similar capabilities.

Section 6.4.5 of the TRAI Consultation Paper indicates that the Basic Service Operators are the only *common* points for the provision of termination of IPT traffic to the PSTN/PLMN. TRAI also raises the issue that given the fact that ISPs will have limited options for the efficient termination and collection of traffic, there may be a need to require the major supplier of telecommunications services to publish a Reference Interconnect Offer (RIO) that would also be available to ISPs providing IPT. This approach would facilitate a clear, defined and non-discriminatory interconnection process for ISPs as they deploy IPT services.

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Additionally, the option of Common Interconnect Exchange as is already available for ISPs in India, could also be supported to enable transfer of traffic between Telcos and ITSPs. However this being a time-consuming exercise, as an interim arrangement, telcos should be mandated to interconnect with ISPs interested in interconnecting with them and the current timeframe of interconnect within 90 days of execution of contract between telcos, should be extended in this case also. Moreover the Authority should also mandate RIO by telcos, to enable the ISP a level playing field while negotiating the Interconnection agreements with the telcos on commercial basis. TRAI should therefore mandate interconnection of ITSPs with other UASLs/CMSPs till the time interconnect exchanges are in place so that Agreements between operators on commercial terms can be mutually decided.

4.4 Please give your comments on any changes that would be required in the existing IUC regime to enable growth of Internet telephony? Give your suggestions with justification to provide affordable services to common masses?

Carriage and termination charges will be a significant portion of the total cost ISPs will incur to provide IPT services. Therefore, TRAI should ensure that such charges will not serve as a barrier to the provision of IPT services in India. To start with the existing IUC regime especially for the termination charge and carriage cost could be made applicable to ISPs providing IPT also.

TRAI also recognizes the need for ISPs to have access to competitively priced leased lines and wholesale pricing regime. ISPs will rely heavily on leased line facilities for the distribution of their IPT traffic and wholesale services for the transport of long distance traffic and there business case will not be viable unless the underlying infrastructure they will be using is economically provided on wholesale pricing basis. TRAI, will need to ensure that such facilities provided by major suppliers of these services are available at cost based prices on wholesale basis, primarily in the market in which sufficient competition may not exist.

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4.5 What should be the numbering scheme for the Internet telephony provider keeping in view the limited E.164 number availability and likely migration towards Next Generation Networks?

The numbering scheme adopted for IPT services also will be an important element in the success of the service. The numbering scheme utilized for IPT services should not be different from that used for traditional voice services. A separate numbering level, as is the case in many countries, could be a useful way to differentiate between IPT and traditional telephony, especially if there are some differences in the particular services, for instance if IPT did not carry any obligation to provide emergency call access as proposed later in the response. Nevertheless, IPT service providers should have maximum flexibility in numbering options, including access to geographic and non-geographic numbers. The adoption of E.164 numbers for IPT services will also facilitate customer options when choosing a service provider, in the future; assuming number porting capabilities will be available to customers. Customers who select geographic numbers for their IPT service will have the option to change service providers without losing their telephone number and without impacting the cost incurred by those who call the ported number. This will allow customers to respond better to price and service changes.

There will be a concern if regular Directory Number (E.164) is not allocated to ITSPs, as it may result in ISP customers only being able to make calls and not receive calls back from PSTN/PLMN network, as these customers would not be able to call on IP numbers allocated to ISP customer. Thus there is need for E.164 numbering level for IPT to make the service more marketable and acceptable. TRAI also points out that the E.164 numbering resources are limited and alternatives should be considered. As the demand for numbers increases in the future, TRAI could consider the implementation of thousands-block number pooling. This would provide the capability to assign numbers in blocks of one thousand, which would make the use of numbering resources significantly more efficient. In addition, as mentioned in the Consultation Paper, the ENUM emerging standard should provide significant flexibility once it becomes widely available. ENUM seeks to map traditional telephone numbers to Internet addresses, and provide global interoperability between domain addresses and telephony addresses. For this reason, ENUM will have increasing importance in the development of IPT and in the personalization of telecommunications services. However, as pointed out in the Consultation Paper, ENUM will not fully resolve

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the lack of availability of number resources and would pose obstacles for the implementation of number portability.

- 4.6 UASL and CMTS operators are allocated number resources and permitted to provide Internet telephony including use of IP devices/Adopters. Whether such devices should be allocated E.164 number resource to receive incoming calls also? If so, whether such number resources should be discretely identifiable across all operators and different than what is allocated to UASL and CMTS to provide fixed and mobile services? Give your suggestions with justifications?**

Please refer to the response to 4.5 above. All providers offering interconnected IPT services should be able to obtain E.164 number resources independent of the devices that the service provider utilize. This approach will increase the popularity of IPT and will accelerate the deployment of IPT based services.

- 4.7 If ISPs are allowed to receive Internet telephony calls on IP devices/Adopters, what numbering resources should they be allocated?**

It is suggested that, in the technology- neutral regime, regulation should not depend on or prescribe any end-user or service-provider technology or device-type. This should be left to the convenience of service providers, users and market forces.

- 4.8 Is it desirable to mandate Emergency number dialling facilities to access emergency numbers using internet telephony if ISPs are permitted to provide Internet telephony to PSTN/PLMN within country? If so, Should option of implementing such emergency Number dialling scheme be left to ISPs providing Internet telephony?**

As indicated in Section 3.14.2 of the Consultation Paper, a wide range of technologies are being tried in different countries to enable IPT customers to access emergency services. However, there is currently no consensus on the standards that should apply to IPT emergency services and it still remains a technical challenge. In some cases, the existing systems utilized to provide access to emergency services are preliminary and need significant upgrade to interface

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with IP-based technologies and provide access to emergency services to IPT customers. Therefore the industry should be given flexibility in finding efficient solutions to the provision of access to emergency services by IPT customers.

The global IPT industry is actively developing a wide variety of alternate standards and services for IP-based emergency services. Voice application providers, emergency service organizations, standards bodies, and independent contributors are all in the process of specifying the interfaces, standards and protocols that would make emergency services possible over end-to-end networks. Mandating emergency access before well defined and effective solutions have been widely adopted would cause unnecessary expense and confusion, and stifle innovation in finding creative solutions that will work well in the Indian market.

For these reasons, rather than imposing a strict regulatory requirement on IPT services at this time, TRAI should adopt an “evolutionary” regulatory approach and allow the industry to develop effective technical solutions to resolve this issue of public need. This industry-based approach also must urge providers to notify customers of limitations they may experience when using VoIP services for emergency calls.

As brought out above there are significant technical challenges concerning the provision of emergency calls by IP telephony providers. The most significant being that pertaining to location as the provider does not know where the customer is located, in the IP domain.

The provider will obviously know where the customer is registered, and if that customer does not move it will be straightforward to route any emergency call to the local emergency call centre through arrangement with PSTN/ PLMN operators. The problem is the nomadic nature of IP telephony. If the customer then moves to another location the provider will not know this and will still route any emergency call to the location where that customer is registered and not where they are located at a given time. This could have potentially catastrophic consequences for the customer making an emergency call.

From this point of view it would seem clear that there should be no mandatory provision for operators to provide emergency access. The main issue with this is whether there is an expectation from a customer's perspective, especially if they are issued with an E.164 number under the numbering plan and whether there is

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an expectation of free emergency access. The key point is that it must be made absolutely clear to customers what is and is not available to them.

Therefore, emergency access services should not be mandated and be left to be decided by the ISPs for the time being.

4.9 Is there any concern and limitation to facilitate lawful interception and monitoring while providing Internet telephony within country? What will you suggest for effective monitoring of IP packets while encouraging Internet telephony?

We suggest to enforce/ retain same lawful intercept and monitoring requirements that are part of the current licensing regime. [i.e., ISP license security conditions to continue to apply for ISPs, NLD/ILD security & monitoring conditions apply to NLD/ILD licensees, etc.] making each operator responsible for security monitoring of calls in its network.

4.10 Is there a need to regulate and mandate interoperability between IP networks and traditional TDM networks while permitting Internet telephony to PSTN/PLMN within country through ISPs? How standardization gap can be reduced to ensure seamless implementation of future services and applications? Please give your suggestions with justifications.

Interconnected IPT services have been deployed in many countries and industry members have cooperated to ensure interoperability, without the need of regulatory mandates. In this case, allowing flexibility to service providers to utilize technologies that meet their specific business needs, but providing flexibility when it comes to interoperating with other networks would be beneficial for the industry and ultimately for consumers.

The Consultation paper acknowledges the unnecessary costs that mandated interoperability may impose on IPT service providers and is likely to result in higher cost of IPT service provisioning and devices. It should also be noted that whether the exchange of traffic is done through the public Internet or a managed network, e.g., ILD/NLD, the parameters for interoperability under which traffic is exchanged would be the same. In addition, as mentioned above, the light-touch regulatory framework applicable to IPT services should impose mandates only

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when such regulation is necessary as a matter of facilitation and public policy. Any regulatory framework to apply should be uniform regardless the IPT services are provided by the ISPs over the public internet or by the ILD/NLD licensees over a private network. In this case, there appears to be no such need and hence it should be left to the market forces.

4.11 Is there a need to mandate QoS to ISPs providing Internet telephony to PSTN/PLMN within country? Please give your suggestions with justifications.

There appears to be no need to mandate QoS for interconnected IPT services, especially when the competition is likely to take care of this. Any mandates related to QoS would be difficult to monitor, unduly burdensome and costly for IPT providers, especially the new competitive providers. Furthermore, consumers (both corporate and residential) should be permitted to choose their IPT provider based on factors such as price and quality of service. In some cases, providers may offer tiered service levels that allow customers to choose a lower quality of service for a lower price. The regulatory environment should accept and encourage this type of service differentiation within the market. IPT providers need significant flexibility to respond quickly to market demands and to achieve this level of responsiveness it is crucial that providers remain free from specific quality related technical standards. Market forces will require that providers of IPT services compete on quality of service and price, among other factors, which should ultimately ensure that customers receive the quality of service they demand.

In conclusion, we will like to submit that our members are in full support of this much needed initiative of TRAI and will welcome any future opportunity to further submit our comments and participate in TRAI's deliberations.

ASIA PACIFIC CARRIERS' COALITION
Singapore, June 2008