



9 June 2008

Chairman
Telecom Regulatory Authority of India

Attention:
Sh. S. K. Gupta, Advisor (Converged Network)
Email: skgupta@trai.gov.in

Dear Chairman

TRAI Consultation on issues related to Internet Telephony

Nortel is pleased to be able to provide the comments below in relation to the issues raised in the TRAI Consultation Paper on Internet Telephony.

Nortel is a recognized leader in delivering communications capabilities that make the promise of Business Made Simple a reality for our customers. Our next-generation technologies, for both service provider and enterprise networks, support multimedia and business-critical applications. Nortel's technologies are designed to help eliminate today's barriers to efficiency, speed and performance by simplifying networks and connecting people to the information they need, when they need it.

Our service provider customers include some of the world's largest and most successful public network carriers, including wireline, wireless and cable operators. We also provide solutions to newly established and growing service providers serving emerging markets throughout the world. Nortel has a proven track record in providing innovative solutions to our service provider customers that maintain 'five 9s of reliability'.

Nortel is a leading supplier of soft switches to service providers around the world.

Nortel considers the regulation of Internet Telephony to be an important issue for both fixed and mobile broadband networks because we are rapidly moving to a stage where most access platforms will be capable of carrying voice as IP. Already many operators are in the process of moving their core networks to all IP systems but the rate of deployment in access networks is dependent on the provision of broadband. Once broadband is available, VoIP can be carried both as an operator provided service or a service provided by third party. That broadband access link can be both



a managed IP network and the Public Internet at the same time; as we understand the use of terms in the paper.

This means that consumers may use a voice service which from a regulatory perspective can be classified as either Internet Telephony or a voice service provided by a UASL, CMTS or BSO licensee. But from the consumer perspective it is just a voice service. QoS can most easily be managed by the access network provider, but equivalent QoS, or roughly equivalent QoS, may be provided through the Public Internet in some circumstances leading to consumers having the same experience.

Nortel sees this as indicating that such regulatory distinctions may not be sustainable and provide little consumer benefit while restricting the business opportunities for service providers.

Attachment 1 contains our responses to the questions raised in the Consultation Paper. If you wish any of our answers to be expanded please contact me at either graemek@nortel.com or +61 2 6279 7710.

Yours sincerely

Graeme King
Regulatory Policy Asia
Nortel



Attachment 1 – Nortel’s comments on questions in the Internet Telephony Consultation Paper

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? Please give your suggestions with justifications. (para 3.10)

Nortel believes that the current restrictions on Internet Telephony which prevent the provision of local calls to and from the PSTN/PLMN to Internet Telephony users is preventing the provision of IP voice services which could benefit many Indians with lower costs and additional integrated functionality such as instant messaging, presence etc.

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? Please give your suggestions with justifications. (para 3.11)

Nortel is of the view that a technology and service neutral approach to regulation should be used to the maximum extent possible, so that both ISP and current carriers can offer IP telephony over the Internet and/or private IP networks. Doing otherwise risks creating regulatory anomalies, confusion for operators and consumers and often is not sustainable over time. Many countries do not have the interconnection restrictions that apply in India but do have arrangements where different forms of IP telephony have different regulatory requirements often intended to promote the provision of competitive services. Nortel views these arrangements as transitional because declining call costs and access network developments will probably remove the differences currently used for regulation.



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? (para 3.12)

There are 2 possible methods of interconnect:

- a) ISPs need to provide a trunk media gateway providing VoIP to TDM conversion and connect via ISUP signaling in the same way that existing operators interconnect in each circle
- b) Existing operators who have an NGN capability could offer SIP-I based interconnect at the VoIP level. Existing ISUP interconnect capabilities could still be supported over this interface.

As all existing operators may not have a SIP-I facility ISPs would likely need to be able to support both approaches, but it would be a commercial agreement between the carriers.

Method a) is likely to be the most common while VoIP is a small proportion of the calls being interconnected.

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? (para 3.12)

No comment

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? Please give your suggestions with justifications. (para 3.13)

Nortel considers that all voice services whether IP or not should have access to E.164 numbers because this increases consumer benefit by allowing numbers to be ported from different voice services.



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? (Para 3.4)

Nortel suggests that the same standard numbering system be used for Internet Telephony irrespective of the user devices used.

4.7 If ISPs are allowed to receive Internet telephony calls on IP devices/ Adopters, what numbering resources should they be allocated? (para 3.13)

As in 4.6 above.

4.8 Is it desirable to mandate Emergency number dialing 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 dialing scheme be left to ISPs providing Internet telephony? Please give your suggestions with justifications. (para 3.14)

Nortel's soft switches provide Emergency service number access but a complete solution may require working with other service providers and the Emergency service providers. Solutions are often unique for each country depending on the way emergency calls are answered, in particular the number of answering points and whether location information is required to be connected to the correct answering point. As IP voice services are not-fixed and can be nomadic or mobile, the provision of location information can be a challenge.



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? Please give your suggestions with justifications. (para 3.15)

Nortel provides Lawful Interception of VoIP as a standard part of its soft switch offering and this meets the International User Requirements for Lawful Interception and some country specific requirements. This is irrespective of whether this equipment is used by a USAL, ISP or other type of licensee.

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. (para 3.16)

Nortel suggests that caution is exercised in mandating interoperability because IP network services can offer many more features to users than TDM networks. Any regulated interoperability requirements should be for the minimum set of parameters needed for basic voice service interconnection.

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. (para 3.17)

Nortel suggests that the TRAI consider requiring consumer information on QoS be made available by ISPs and other Internet Telephony providers. This is because end-to-end QoS will not be under the full control of the service provider. For example, a consumer's local area network, the performance of their access service and use of their access link for other services can be a major determinant of voice service quality they experience and this and other QoS related factor may be outside of the voice service providers control.