

**Response of Pacific Internet to Consultation Paper  
On the Improvement in the effectiveness of National  
Internet Exchange of India (NIXI)**

Pacific Internet is pleased to respond on TRAI's consultation paper concerning the improved effectiveness of NIXI.

With regard to the questions indicated in Section 5.2 of the paper we would not advocate mandating that all ISP's should connect at NIXI. For those ISP's without the scale of the largest providers this would increase costs and be ultimately uneconomic. This is especially true for those ISP's at some distance from a NIXI node and if there were minimum requirements in terms of connection size, space requirement etc

Having said the above it makes sense that upstream providers who have a wide national reach and economies of scale should be mandated to connect at NIXI. This would certainly help meet TRAI's objectives of ensuring that domestic traffic stayed within India.

In Section 5.5 there is a question as to whether there is a need to establish NIXI nodes in all state capitals. It is certainly true that for an ISP based in Bangalore to connect to an existing NIXI node would be expensive in terms of circuitry requirements, which in itself make it an unattractive proposition. Even though this criticism can be met to a certain extent by mandating that upstream providers connect with NIXI there still may be a case for more nodes than there are now.

Any decision to establish a new node should be made on the basis that there is sufficient traffic to justify it. The bottom line is that any new node should not increase the overall costs of using NIXI, but establishing an optimum number of nodes that keep unit costs at their lowest possible level.

With regard to section 5.6 we believe that any misuse for routing international traffic can be minimized by a well-defined routing policy and control with monitoring.

In response to 5.8 we feel there should be defined Quality of Service levels at the NIXI nodes. The parameters to be considered include:

- Uptime
- MTTR
- Latency
- Packets lost
- Congestion level
- Redundancy.

All these can be monitored by customized software or freeware.