

Status of Recommendations on Improvement in the effectiveness of National Internet Exchange of India (NIXI) sent to DoT on 20th April 2007

S.No.	TRAI's Recommendation	DoT's/DIT's Comments
1.	Interconnection of ISPs at NIXI	
i.	All ISPs or their upstream providers should either be connected at all NIXI nodes or to International internet bandwidth provider through separate domestic peering link.	No comments received from DoT/DIT
ii	All the ISPs providing International Internet bandwidth should be connected at all the 4 nodes of NIXI.	
iii	In case of multi-homing ISP, such ISP will decide one of the up stream providers to carry domestic traffic to NIXI or to ISP providing International Internet bandwidth through domestic peering link.	
iv	Domestic traffic shall either be routed through NIXI or through dedicated domestic peering of ISP with International Internet Bandwidth providers	
2.	Announcement and acceptance of all routes on NIXI	
i.	All ISPs announce and accept all their routes (including that of their down stream providers) at NIXI nodes or at direct peering point as the case may be	No comments received from DoT/DIT
ii	Provision of stringent penalties may be made in the licensing conditions to curb the tendencies of misuse at any interconnection points by ISPs	
iii	It is desirable that details of the routes declared and accepted by various ISPs be intimated in advance to NIXI and put on its website under protected folders so that same can be viewed by NIXI members only. This will help to curb the possibilities of misuse of NIXI connectivity	
iv	It will be desirable that NIXI works out model route announcement code and makes it mandatory for all its members to follow the same	

3.	Segregation of domestic and International traffic	
	All the ISPs who are providing International Internet IP port in India shall be permitted to have peering for exchange of domestic traffic with other ISPs provided such integrated ISPs segregate domestic and International traffic using any technique/ technology suitable to them. This will enable alternate domestic peering points and will bring competition ultimately benefiting the subscribers	No comments received from DoT
4.	Up gradation of NIXI nodes to facilitate implementation of IPv6	
	It is desirable that NIXI may setup test bed to exchange IPv6 routes between IPv6 enabled networks as well as IPv4 networks based on overlay tunnel. This may be completed in time bound manner, say six months so that NIXI is able to commercially support IPv6 exchange of routes	No comments received from DoT/DIT
5.	The Authority sent its recommendations regarding improvement of Quality of Service of NIXI (Annexure A) to DIT in Jan 2007. These need to be considered in a time bound manner.	No comments received from DIT

QoS Recommendations on NIXI

1. All critical components of NIXI node should be up for 99.9% of time in a year. These critical components are NIXI routers/Switches, interface module on which the links of the ISPs are terminated and any other equipment which affects the NIXI traffic. Non critical faults which do not affect NIXI traffic like failure of one power supply module should be rectified by NIXI within 48 hours.
2. Switching Architecture of NIXI should be non-blocking, so that it does not introduce any delay.
3. Uninterrupted power should be ensured to the equipment of the ISP and NIXI router itself in the NIXI node. Power availability can be 99.95% in a year.
4. NIXI should ensure proper carrier class environment (Proper Air-conditioning with Humidity control) for housing equipments of NIXI and its member ISPs
5. **Augmentation of ISPs Bandwidth to NIXI:-**

ISP should augment its bandwidth to NIXI, if the utilization of the existing link exceeds 70% of the capacity for 4 hrs in a day and for 5 days. Such capacity management shall be through increase of capacity and not through reduction routes announced. The augmentation should normally be completed within a period of one month after NIXI intimates to the concerned ISP. This time should be extendable by one more month in valid cases like ISP not having last mile and in case some additional equipment is required to be procured.
6. Carrier class facility for ensuring security of NIXI equipments like access control, monitoring and keeping records of entry in equipment room etc should be ensured.