OpenIXP Technical Requirements and Regulations
[version 1.1, August 17th 2010]

Peers shall at all times conform to the relevant standards as laid out in the Common Criteria (CC) and associated Internet documents while connected to the OpenIXP.

PHYSICAL

Each Peer shall be assigned one (1) port in each OpenIXP node. Ports are either V.35 Serial Ports or Ethernet Ports. All Ethernet ports are either 10/100/1000 Mbps auto-sensing or 10Gbps auto-sensing .

Ethernet interfaces attached to OpenIXP ports may be explicitly configured with duplex, speed and other configuration settings with coordination with the OpenIXP administrators. Auto-sensing will be used by default.

MAC LAYER

1. Frames forwarded to OpenIXP ports shall have one of the following ethertypes
   - 0x0800 - IPv4
   - 0x0806 - ARP
   - 0x86dd - IPv6

2. Frames forwarded to an individual OpenIXP port shall all have the same source MAC address.

3. Frames forwarded to OpenIXP ports shall not be addressed to a multicast or broadcast MAC destination address except as follows:
   - broadcast ARP packets
   - multicast IPv6 Neighbor Discovery packets

4. Traffic for *link-local protocols* shall not be forwarded to OpenIXP ports except for the following:
   - ARP
   - IPv6 ND

   Peers will ensure that the following *Link local protocols* disabled on ports connected directly to the OpenIXP :
   - IRDP
   - ICMP redirects
   - IEEE802 Spanning Tree
   - Vendor proprietary discovery protocols (e.g. CDP, EDP)
   - Interior routing protocol broadcasts (e.g. OSPF, ISIS, IGRP, EIGRP)
   - BOOTP/DHCP
   - PIM-SM
   - PIM-DM
   - DVMRP

IP LAYER

1. Interfaces connected to OpenIXP ports shall only use IP addresses and netmasks (prefix lengths) assigned to them by OpenIXP. In particular:
   - IPv6 addresses (link & global scope) shall be explicitly configured and not auto-configured.
   - IPv6 site-local addresses shall not be used.

2. IP packets addressed to OpenIXP peering LAN directed broadcast address shall not be automatically forwarded to OpenIXP ports.

ROUTING

1. Exchange of routes across the OpenIXP may be achieved by static or via BGP4(+). Though BGP4(+) is strongly advised.

2. AS numbers used in BGP4(+) sessions across the OpenIXP network shall not be from ranges reserved for private use.

3. Peers are encouraged to aggregate their routes in accordance with RFC2519 except in conditions where aggregation is not technically possible or might result in routing inefficiency.

4. IP address space assigned to OpenIXP peering LAN shall not be advertised to other networks.

5. All routes advertised across the OpenIXP network shall point to the router advertising it UNLESS agreement has been made in advance by OpenIXP and the Peers involved.

6. Members may use more than one ASN for their OpenIXP peering provided that each ASN presented shares the same NOC and peering contact details.

FORWARDING

1. Traffic shall only be forwarded to a peer when permission has been given by the receiving peer by way of either:

    a. advertising a route across the network by BGP

    b. requsting the addition of a static route in the OpenIXP router pointing to the Peer's router.

    c. explicitly in e-mail and/or writing.

2. It is strongly discouraged to exchanged traffic between two ports owned by the same Peer.

RULES FOR PEER EQUIPMENTS

1. Peer Equipment and cabling shall be clearly labeled with the name of the Peer.

2. Persons working in the OpenIXP sites on behalf of a Peer shall not interfere with another Peer's Equipment or cables without explicit permission from the owner of the equipment.

3. Members shall not connect more than two ports to routers and/or switches at one OpenIXP node unless configured as an ether-channel binding the ports.

4. Members can connect to multiple nodes of the OpenIXP limited by one connection in each city.