



IXBradford Peering Policy

IXP MODELS

Institutional and Operational Models for IXPs

A variety of institutional models have been adopted to operate IXPs.

They fall into four categories:

- Non-profit industry associations of ISPs
- Operator-neutral commercial and for-profit companies
- University and government agencies
- Informal associations of networks

Commercial vs. Non-Commercial

Most European IXPs grew from non-commercial ventures, such as research organisations. By comparison, in the US the majority of IXPs are commercial, and some commercially run IXPs have emerged in Europe.

Most of the emerging IXPs have opted for a non-commercial approach. IXBradford will adopt this approach.

Why Consider a non-Profit model

Most emerging IXPs have a common objective of their founders to improve Internet connectivity rather than being built as a company.

The involvement of non-commercial entities such as NRENs, ccTLDs and governmental institutions, make it easier to establish an IXP as non-profit entity.

A non-commercial entity is possibly better placed to maintain neutrality.

IXP Neutrality

Whether commercial or not, virtually all IXPs are owned and managed neutrally with respect to carriers, ISPs and co-location providers.

An example that is often quoted is a group of IXPs in the US, which are owned and run by a carrier. The only circuits that may be used to gain access to the IXPs must be purchased from that carrier, thus producing a monopoly situation.

Many ISPs have expressed strong feelings about the importance of neutrality of IXPs, and most of the larger European IXPs attribute their success to their neutrality.

IXPs generally prohibit themselves from carrying out any activity that may compete with member or customer business activities.

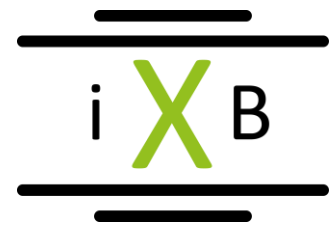
If an IXP competes with members or customers it could lose their support. The important point is that the ownership and management of the IXP should always remain neutral.

In many examples of the creation of an IXP there is no formal body - the IXP is run and managed by general consensus between the parties involved (often the ISPs which will benefit from the presence of an IXP). IXBradford is, and will remain, a carrier neutral IXP.

Scope of the IXP

The scope of activities that IXBradford will carry out is worthy of early consideration.

Although this is likely to be a matter for continual assessment as the IXP grows, and the profile and requirements of its members changes. IXBradford will limit itself to purely providing a switched infrastructure with special agreements in place with the data centre operator to provide other managed services such as interconnects (cross-connects) etc.



IXBradford will maintain its mailing lists and manage meetings for its members. This means the IXP can be a natural forum for discussion of subjects of interest to the industry in general. Whatever involvement IXBradford decides to have outside of providing the basic switch infrastructure, it is important that it has the support of its membership, and that the activities are documented so that there is transparency for existing and prospective new members.

BUSINESS POLICY CONSIDERATIONS

IXP Peering and Interconnection Policies

Open peering Policy

- Develop an open peering policy to encourage non-traditional members such as CDNs, Government, Academia, Banks, etc to peer
- Initiate Strategies to grow membership – marketing, public seminars, “tell the story why is this a good business

Regional Interconnection Policy

- Encourage members to exploit the cross-border interconnection opportunities by negotiating fair contracts with Infrastructure Operators and International bandwidth providers.
- Assist operators and members take advantage of regional Interconnection opportunities and become Regional carriers

Transit Policy

- The ability to attract carriers and transit providers at IXBradford is important to grow the value and traffic in Bradford.
- This policy is subject to national regulations on Internet transit.

IXP Peering Agreements

- A Peering agreement is applicable to all members who choose to peer at IXBradford.

IXBRADFORD BUSINESS MODEL

Independent Business Model

All aspects and operational expenses of the are met by the IXP.

The IXBradford will generate revenue by charging fees for the services provided on a monthly, or annual basis, and additional revenues from value added services, one-time fees, etc.

Pros

- Neutrality of the IXP is guaranteed in a self-sustained model
- Sustained revenue to meet operational expenses
- Easy to scale and grow due to ability to implement and maintain management/operational structures

Cons

- Medium-high cost of peering for members in addition to the cost of leasing capacity to IXBradford
- Increased commitments for members on Governance issues and reporting
- Medium-Complex operational structures and management



IXBRADFORD MEMBERS AGREEMENT

- A member must not point default route at any other member.
- Private AS numbers must not be used.
- ARP proxy must be disabled.
- Internal L3/L3 protocols must be disabled DHCP, CDP, MOP, RIP, OSPF, IS-IS, (R)STP, VTP, any kind of L2 kept alive.
- A member may in no way interfere with traffic to or from any other member.
- On the Peering VLAN, only ethertypes 0x0800 (IPv4), 0x08dd (IPv6) and 0x0806 (ARP) are permitted.
- A member should not advertise IXBradford address space to any other network.
- You are a network owner with your own ASN who wishes to peer with others, or you will use a Layer 2 VLAN
- You need at least one IPv6 /48.
- You will provide us with valid information (company name, company website, contact and peering details).
- You will respect all Members and Partners and use the IXP with care and consideration at all time.