Evaluating Peering Locations

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What’s the best IXP to build to?

➢ How long is a piece of string?

➢ It depends...
Service Provider Goal

Minimise the *cost* of operating the business

Luckily most ISPs need to provide a “good” quality service

- Often a *cost* associated with bad performance
An IXP is more than just a switch

- A common meet-me point
- A hub for innovative and new businesses
- Focus point for connectivity
- In or surrounded by co-location facilities
- A community and people hub
In brief: “Building” an IXP

Determining Need
- Sufficient users? How much local traffic?
- Existing facilities?

Geographic Location
- Fibre facilities, ‘near’ participants

Density
- Centralized in one room? Campus style?
In brief: “Building” an IXP

Building Management
• Telco hotel? University or City facility?

In-building Facilities
• Pathways, power, cooling, access/security

Services
• Switch fabric, cross connects?
• Route-server? DNS and other servers?
In brief: “Building” an IXP

Business Structure
- Incorporated? Staffed / volunteer?
- Non / for-profit? Ownership?
- Cost recovery?

Policies
- Bilateral / Multilateral / Mandatory Multilateral peering?
- Extensible switch fabric? Privacy policy?
What makes an IXP attractive?

- Lots of routes
- Lots of participants
  - On switch fabric, or co-located in facility
- Networks of interest
  - Local content and ISPs
  - Content - DNS servers, Google, CDNs
- Suitable co-location
Benefits of being at an IXP

➢ Ideally, reduced cost per Mbit/s
➢ Higher performance
   • Lower latency
   • “More” bandwidth
   • Increased resiliency
➢ Stop exporting capital offshore
   • Keep local content local, and help with creation of local content
➢ Marketing: “We support local industry”
But... there are costs involved

Cost of:

- getting to the IXP
- being at the IXP
- connecting to the IXP
- additional network management

All of this is relative to your existing cost structure
From a pure cost perspective:

- If the cost of peering $\leq$ cost of that peered traffic via transit

Then Peer!

- Generally it will make sense to peer at a local IXP even for relatively small traffic volumes
Taking a wider view

- Cost alone isn’t everything
- Higher performance might be worth it, even if transit is cheaper than peering
- Benefits of increased peering apparent as the local Internet industry grows
- IXPs foster a sense of community
  - Increased contact and cooperation between participants
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Evaluating “value” of an IXP

- IXP operators and their websites
- PeeringDB
  - Who is there?
  - What are their policies?
- IXP directories
  - www.pch.net/ixpdir
  - Convenient view of many IXPs
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