# Evaluating Peering Locations

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# What's the best IXP to build to?

- How long is a piece of string?
- It depends...

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# 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

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# 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

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# In brief: “Building” an IXP

- Determing Need
  - Sufficient users?  How much local traffic?
  - Existing facilities?
- Geographic Location
  - Fibre facilities, ‘near’ participants
- Density
  - Centralized in one room?  Campus style?

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# 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?

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# 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?

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# 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

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# 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”

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# 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

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# From a pure *cost* perspective:

- If the cost of peering <= 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

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# 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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www.pch.net/documents