

Internet Exchange Challenges

Dublin
24 Networks +
2 Data Centers




London
30 Networks +
1 Data Center



Amsterdam
38 Networks +
5 Data Centers



Hilversum
16 Networks +
1 Data Center



Stockholm
21 Networks +
1 Data Center



Copenhagen
21 Networks +
1 Data Center

Brussels
34 Networks +
1 Data Center



Dusseldorf
40 Networks +
1 Data Center



Vienna
91 Networks +
1 Data Center



Zurich
30 Networks +
1 Data Center



Paris
53 Networks +
6 Data Centers



Madrid
40 Networks +
1 Data Center



Frankfurt
156 Networks +
5 Data Centers



>540.000 ft2 of premium equipped space, across 11 countries, 13 cities and 27 datacenters

Over 350 Carriers/ISPs

The broadest range of network providers of any data center operator in Europe

18 Leading Internet Exchanges with the highest level of connectivity of any data center operator in Europe

Internet Exchange Challenges

- some things to consider when starting or growing an Internet Exchange
- Based on experience
- No names, no examples, but yes, actual issues
- And (hopefully) lots of questions

Foundations

- Member-based Association the norm in Europe
- works well for smaller Exchanges, can be a strain on decision-making process in larger ones
- What is the purpose? In 2010? In 2020?

Income

- Pricing
- Free does not work long term; isn't necessary either
- If you are a free exchange, consider 'Freemium'
- Should members have a say?

Products

- Is there an actual demand, or just because you can?
- How does it affect my members?
- Will my members allow it?
- How does it affect my partners?

Growth

- Data Centers = Your Entire Market Size
- Try to Partner with data centers to sell through them
- Neutrality?
- Partner with too many too soon: dilutes the value to the data centers
- Partner too little, too slow: limit your growth, critical mass, risk the exchange
- Insulate against competing products (e.g. IP Transit)

It's Alive!

- Leading IXPs are 'rich', and full of ideas
- But also born as a purpose-built organization
- Difficult to jump on some business opportunities – Members may not understand or see link to the service the IXP performs for them
- How can these Exchanges unlock this value?

Possible Conflicts of Interest

- Members
- Partners
- Technology

- two choices: avoid them or manage them early on
- don't be rigid, think of the interdependencies between Exchange and members and partners
 - consider: If IP Transit competes with peering, why do Exchanges allow IP Transit providers to connect?

Final Thoughts

- IXPs started when ISPs came together to solve a problem
- This was about fifteen years ago.
- It's unfair to expect to keep them limited to the original purpose, huge knowledge bases
- threat of extinction by inaction?
- In the end, allowing them to evolve maintains the Exchange and the neutral model, even though not exactly the same as when it started

Thanks!

Questions?

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