INEX - Introduction

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INEX – An Introduction

Why did Ireland need an exchange?

- Internet connectivity was extremely expensive
  - Not unusual to pay £000’s / Mbps / month
- Speed of access was crippling low
  - Local IXP would relieve international links
- Local traffic routed via London / Amsterdam
  - Greater security / resilience for local traffic
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DINX – Dublin Internet Exchange – failed
- Could not agree on a neutral co-lo
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INEX Formed in 1996 with four members
- HEAnet – Ireland’s NREN
- EUnet Ireland (acquired by BT Ireland)
- Indigo (acquired by eircom)
- Telecom Internet (acquired by eircom)
INEX – An Introduction

INEX is **neutral at its core**
- No member is more privileged than any other
- Not for profit, Limited by guarantee
- Open to **anyone** agreeing to and meeting the MoU
- Owned by the members (currently 72)
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Mandate includes:

- Provide high-speed, reliable and resilient IP traffic exchange facilities
- Allow our national and international members to route traffic more efficiently:
  - *Keep Irish IP traffic in Ireland*

[1] https://www.inex.ie/joining/mou
Controlled by a committee of the members
- Two year term, term limits for chairman

Delegates day-to-day operations to the management team:
- Barry Rhodes – CEO
- Eileen Gallagher – Marketing and Membership Development
- Nick Hilliard (CTO) – Operations (out-sourced)
- Barry O’Donovan – Operations (out-sourced)
- Louisa Holmes – Administration / billing

All part time.
2004 – employed professional management
2004 – engaged the IDA and got a loan facility
   * Ireland’s Industrial Development Authority (IDA) were eager to see the development of an international class IXP in Ireland to meet the needs of its international clients and target companies.
2005 – Marketing & Membership Development role
2005 – Second PoP in Telecity
INEX – Key Historical Dates

- 2004 – employed professional management
- 2004 – engaged the IDA and got a loan facility
  - Ireland’s Industrial Development Authority (IDA) were eager to see the development of an international class IXP in Ireland to meet the needs of its international clients and target companies.
- 2005 – Marketing & Membership Development role
- 2005 – Second PoP in Telecity
- 2009 – Third PoP in Interxion DUB1
- 2010 – Fourth PoP in Interxion DUB2
- 2013 – Fifth PoP in Vodafone Clonshaugh
- 2014 – Sixth PoP in Telecity NWBP
Population: 4.6m [+ 1.8 in NI = 6.4m]
Joined the EEC in 1973
GDP in 2012: $46k / capita
  Was $60k / capita in 2007
GDP when IXP considered ~1994 $20,339
Area of primary networking activity: Dublin
A Look at IP Transit
INEX and Ireland in Context

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- Area of primary networking activity: Dublin
- Island on the north-west fringe of Europe
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Area of primary networking activity: Dublin
Island on the north-west fringe of Europe
Well developed data centre / IT economy
  Good US relations, favorable corporation tax rate, favourable climate, English speaking, well educated population, EU member, euro currency.
Two infrastructures – only IXP in Ireland

Shared L2 peering LAN

Pro-bono connections include:
- Verisign DNS root server, PCH, AS112

Resilient route servers and a route collector
- Without route servers, full mesh peering at an exchange is $n(n-1)$ sessions – 72 members => 5,112 sessions.

Minimum peering requirements – 10% (to be reviewed)

3U co-lo for connecting to INEX, co-lo for cache PoPs

Will launch a national time service in 2015

IXP Manager
INEX Traffic Graph

Year Graph

<table>
<thead>
<tr>
<th>In</th>
<th>Max</th>
<th>Average</th>
<th>Current</th>
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</thead>
<tbody>
<tr>
<td>Gbits</td>
<td>73.221</td>
<td>35.397</td>
<td>48.741</td>
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<tr>
<td>Out</td>
<td>73.979</td>
<td>35.425</td>
<td>48.976</td>
</tr>
</tbody>
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