The LINX UK-wide Peering Initiative

Prague – May 2014

LINX

Agenda

- A little bit about LINX
- Regional Peering
  - Initiative
  - What have we done?
  - Challenges

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LINX

A little bit about LINX

- Established: 1994
  - A not-for-profit mutual Internet exchange

- One of the three largest in the world
  - More than 515 members
  - 80% of the global routing table visible @LINX
  - More than 8Tb/sec of connected capacity
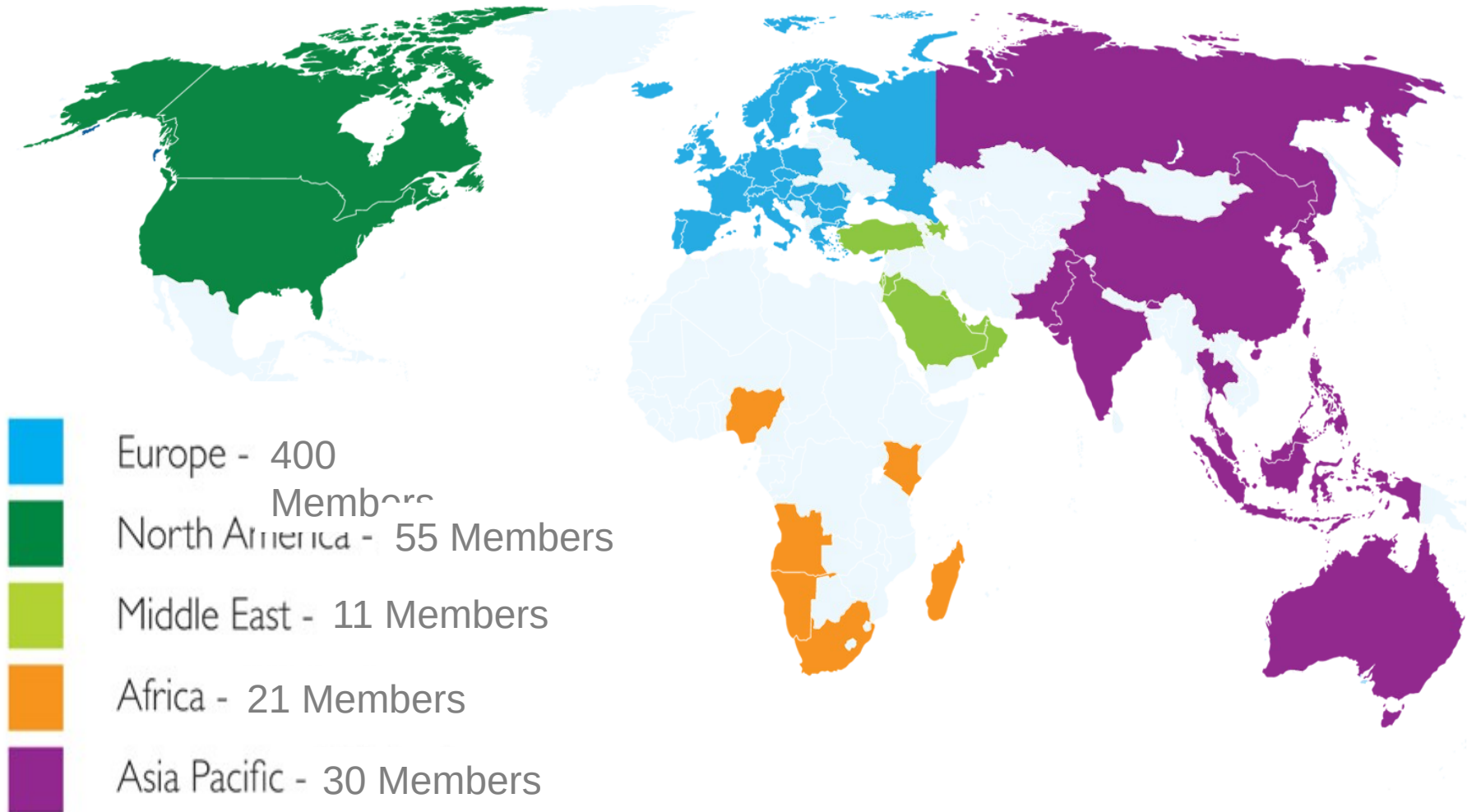 - Peak traffic (public+private) >4Tb/sec

LINX: dual mission

- To facilitate Internet interconnection, especially through public peering

- To represent the interests of our members in matters of public policy

As a neutral, mutually owned membership association

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LINX in practice

- Commercially strong, growing fast
- 10 points of presence in London data centres (connected together by LINX)
- Two networks in London, powered by equipment from Juniper & Extreme
- New exchanges in Manchester & Edinburgh
- Three datacentre exchange in North Virginia (LINX NoVA)
- Around 48 staff in two offices

International LINX

Europe - 400 Members

North America - 55 Members

Middle East - 11 Members

Africa - 21 Members

Asia Pacific - 30 Members

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LINX Public Affairs

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UK-wide peering?

- LINX mission: "keep traffic local"
  - Which, from a UK-vs.-the-world perspective, LINX has done
  - But there is little or no UK peering outside of London
- So can we keep traffic **_more_** local?

Why UK-wide peering?

Many benefits accrue from this:

- – Keep traffic local
  (lower latency, lower costs etc.)
- – Reduce dependency on London
- – Boost for local network operators
- – Boost for local economy around exchanges

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So what have we done?

- ## We launched IXManchester in June 2012
  - ~50 members are connected
  - Significant peering traffic
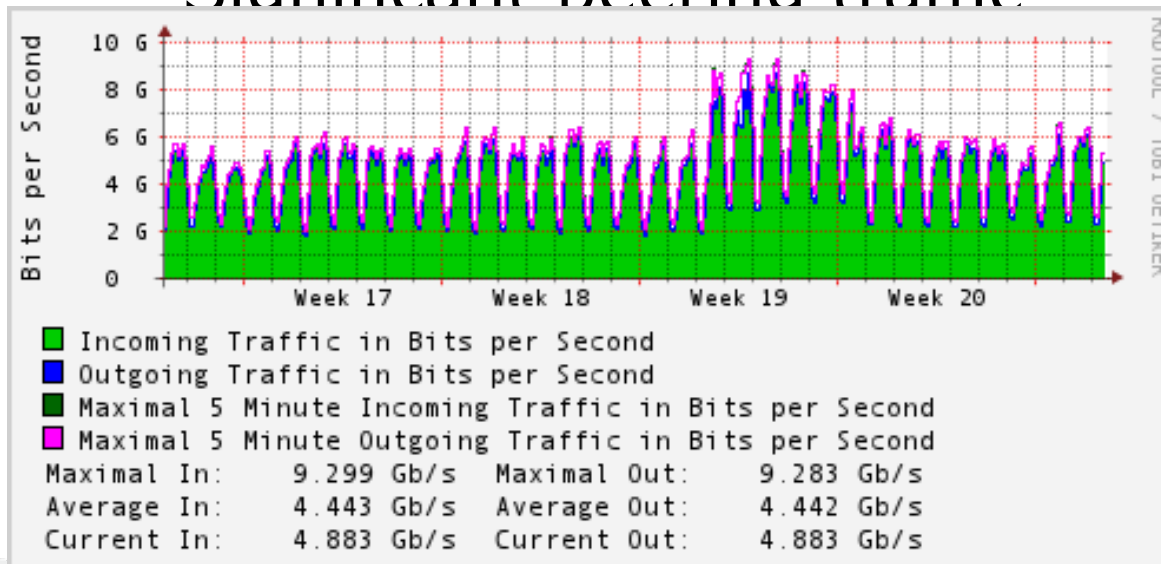
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Where is IXManchester?

- ## Initially in Telecity Williams House
  - Telecity's generous offer:
    - First 50 orders from Telecity customers receive a free (for ever) cross-connect from Kilburn House to the LINX PoP

- ## Planning to extend to other locations…

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IXManchester services

- Just like LINX in London:
  - Existing order process
  - 100Mb, 1G, 10G peering ports
  - Ports stats & sFlow
  - Monitoring & OoH NOC
  - support@linx.net
  - And to come:
    - ConneXions partnership scheme
    - Probably private interconnect

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IXScotland

- Consultation led to a single PoP launch in Edinburgh
  - Pulsant's South Gyle data centre
- Went live in late 2013

IXScotland

- We launched IXScotland in September 2013
  - ~12 members are connected
  - Early days for peering traffic

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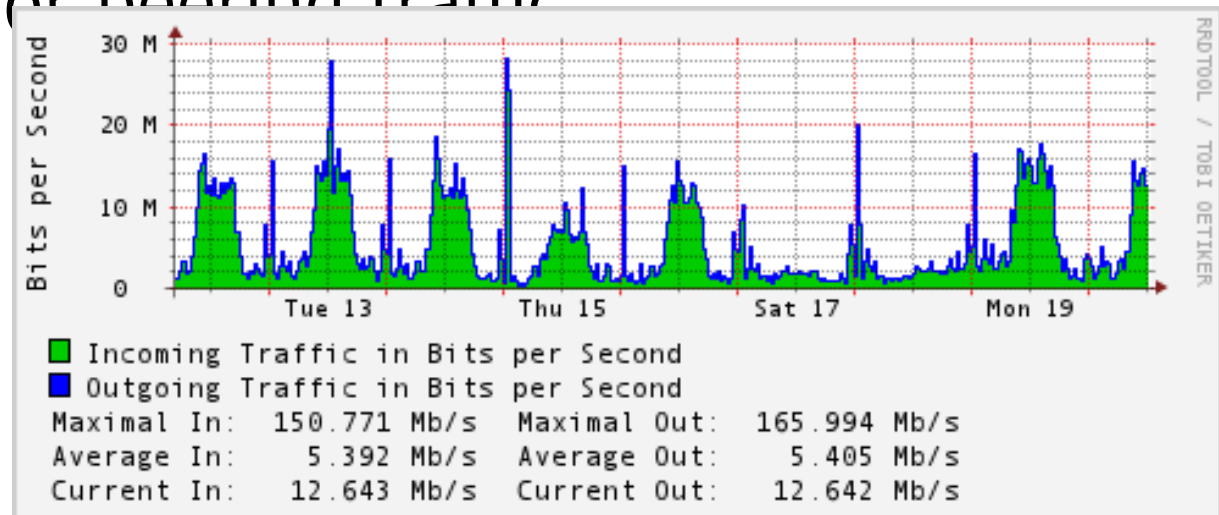
Where next?

- This will be demand driven
  - So needs a local community of interest
- We've had discussions with many more areas:
  - South Wales, East Midlands, Northern Ireland, Liverpool, South East etc.
- Perhaps 10 exchanges in the longer term?
- Will need local data centre operators…

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Style of our approach

- Use the established LINX membership structure

- Respect local 'ownership need'

- Keep it simple & straightforward

- Take the long term view about economic viability

- Separate stand-alone exchanges
  - Not connected back to London

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Exchange template

- Sales, billing, admin
  - Existing process to order ports etc.
  - Single bill, no new agreement to sign
- Engineering support
  - Lessons learnt from 2008 new PoPs project
  - support@linx.net
- Infrastructure
  - 'LINX in a rack' (switch, monitoring server, route server, management network)

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'LINX in a rack'

Optical distribution frame

Route server/route collector

Monitoring server/stats/sFlow server

Site management router

Console server

Peering switch/router

Copper cable tray

Exchange template

- Architecture
  - Mostly start with a single PoP
  - Potential to expand to more connected sites in the longer term…
- Local guidance is important
  - Each new exchange will need a local community of interest to guide and nourish it…
- Lack of established carrier-neutral data centres:
  - Outside of London, SE England, Leeds and Manchester is a delaying problem

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Establishing local viability

- This is the **<u>key</u>** issue
- We are trying very hard:
  - Not to be prescriptive
  - And to take the long term view
- But:
  - It does need a <u>local community</u> of both network content <u>and</u> access providers
  - It does need supportive local data centres

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Questions?