

RIPE 48 EIX WG Update

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Recent Developments

- Frankfurt network operational
- Acquired F-IX in Frankfurt
- London 10Gb/s upgrade completed
- Unprecedented traffic growth !
- Some switch hardware issues
- Over 150 customers
- Amsterdam deployment planned May/June

Locations

■ London

- Redbus Interhouse: 3 sites
- Telehouse: 2 sites
- Global Switch: 1 site
- TeleCity: 1 site

■ Amsterdam (Jun 04)

- NIKHEF
- TeleCity2

■ Frankfurt

- Redbus Interhouse
- IX Europe
- InterXion: 3 buildings

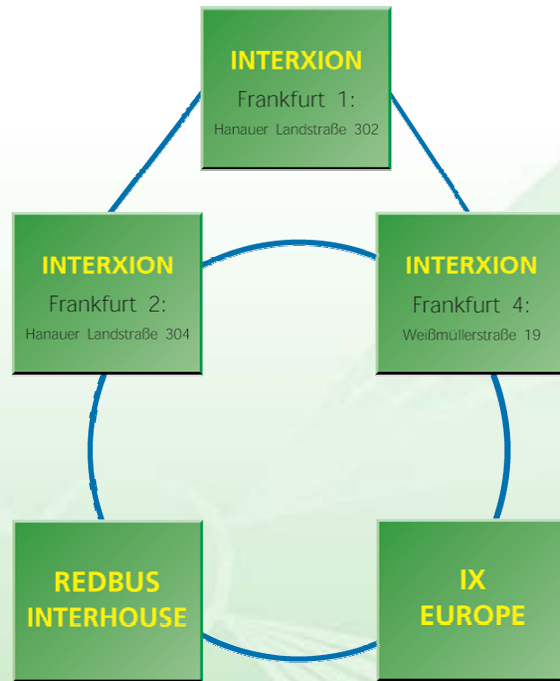
■ Hamburg

- Telehouse

Connections **within**, not between, each metro area

Frankfurt Deployment

FRANKFURT NETWORK DIAGRAM

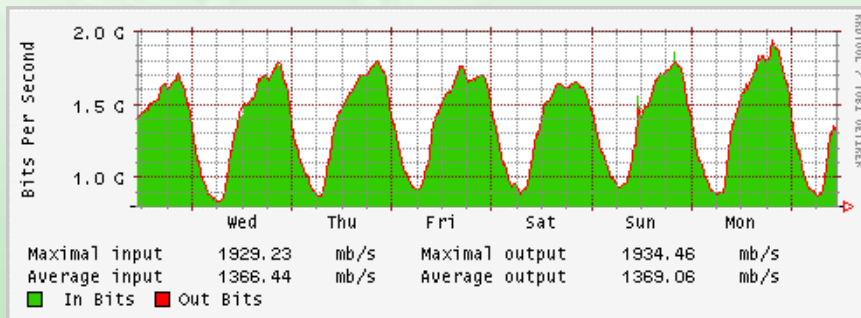


- Operational since early March
- Now 7 customers
- 3 German-based employees
- 2 Foundry BigIron 8000s (JetCore silicon) per site
- Acquisition of F-IX added 3rd switch and building at InterXion
- 802.1w spanning tree for rapid convergence
- Native 1Gb/s dark fibre between sites

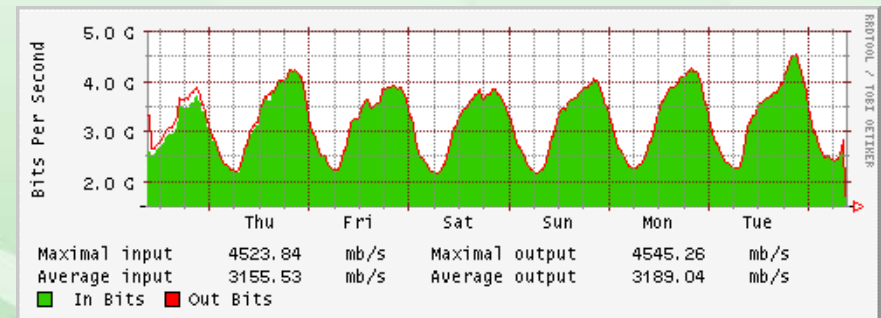
10Gb/s capable Dark Fibre

London Traffic Growth

- Grew by 300% during Q1 – approx 10% per week !
- 10Gb/s upgrade had been ordered end 2003
 - needed to bring forward deployment
 - postponed Amsterdam deployment March->May
- Spare DWDM network capacity provided contingency additional nx1Gb/s λ meantime and avoided congestion
- Ethernet switched traffic now peaking at nearly 4.5Gb/s
- Another 4Gb/s estimated DWDM private-interconnect traffic



End Jan 04



End Apr 04

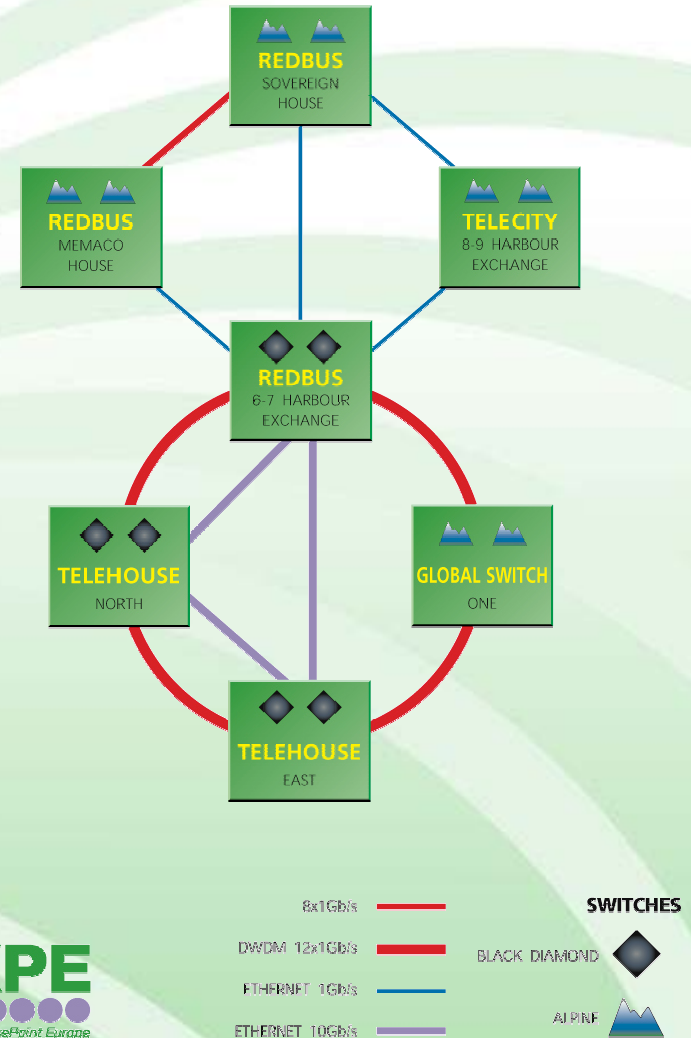
10Gb/s Upgrade Experiences

- We **knew** re-wiring 100 customer connections in one 6-hour slot would be hard, but...
- About 25% of our Extreme hardware inventory failed between Oct 03 and Apr 04
 - blades **and** chassis - included new kit ☹
- Cause not yet known
 - aged/overheated components ?
 - faulty memory/bus transceivers ?
 - new software (7.1.1b14) better at detecting old issues ?
 - awaiting answers from Extreme....
- Upgrading live network from 802.1d to 802.1w
Spanning Tree is tricky
 - Beware default VLAN behaviour different
 - 802.1w now live on London network ☺

London 10Gb/s Upgrade

- Successfully upgraded existing Extreme Alpine and Black Diamond switches to new configuration:
 - 6 x BD 6808s with:
 - 2 x MSM-3
 - 10GX (XENPAK)
 - 10GLR
 - ExtremeWare 7.0.2b25
- Initial deployment 3 sites:
 - Telehouse North & East
 - Redbus Harbour Exchange
- Uses new triangle of dedicated dark fibre
- Additional DWDM capacity now available for private interconnects

LONDON NETWORK DIAGRAM



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Presentations:

- <http://www.xchangepoint.net/info/ripe48-eix.pdf>
- <http://www.nanog.org/mtg-0405/mitchell.html>

Next Event:

- **21/22nd July in London**