



Traffic Growth & Address Exhaustion

Rob Evans

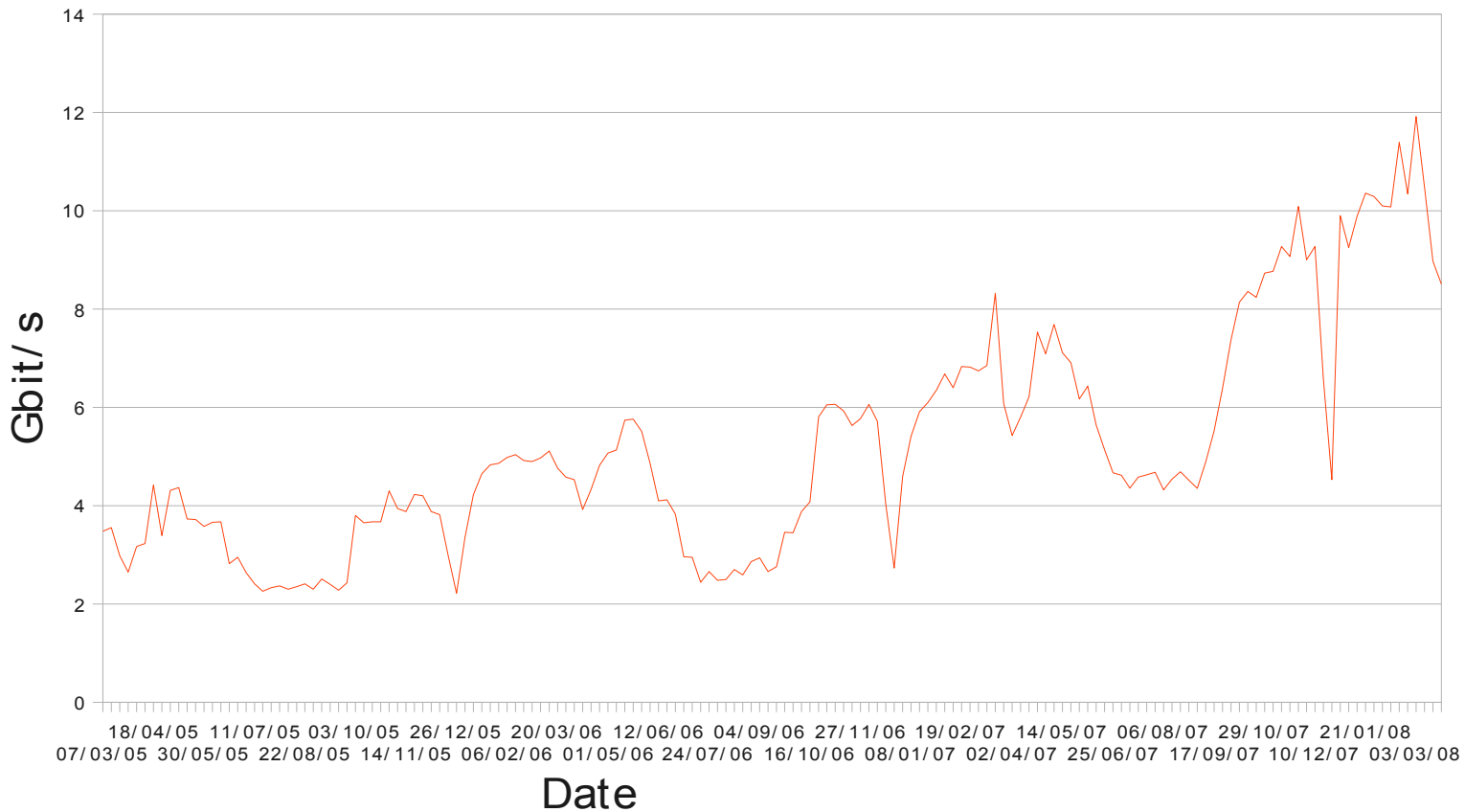
Duncan Rogerson

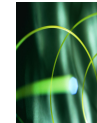
JANET(UK)



External Traffic

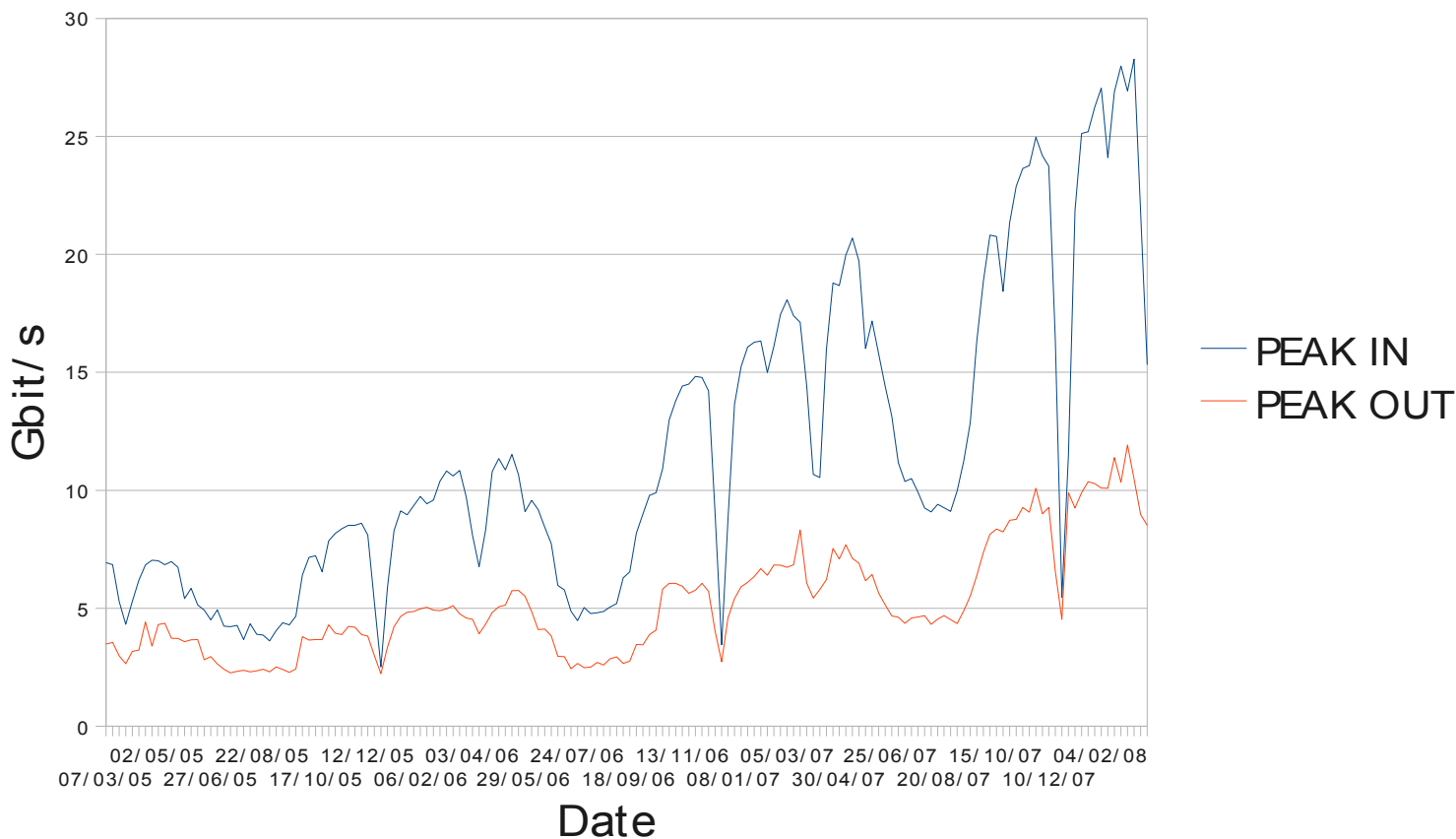
Weekly 5- minute Traffic Peaks





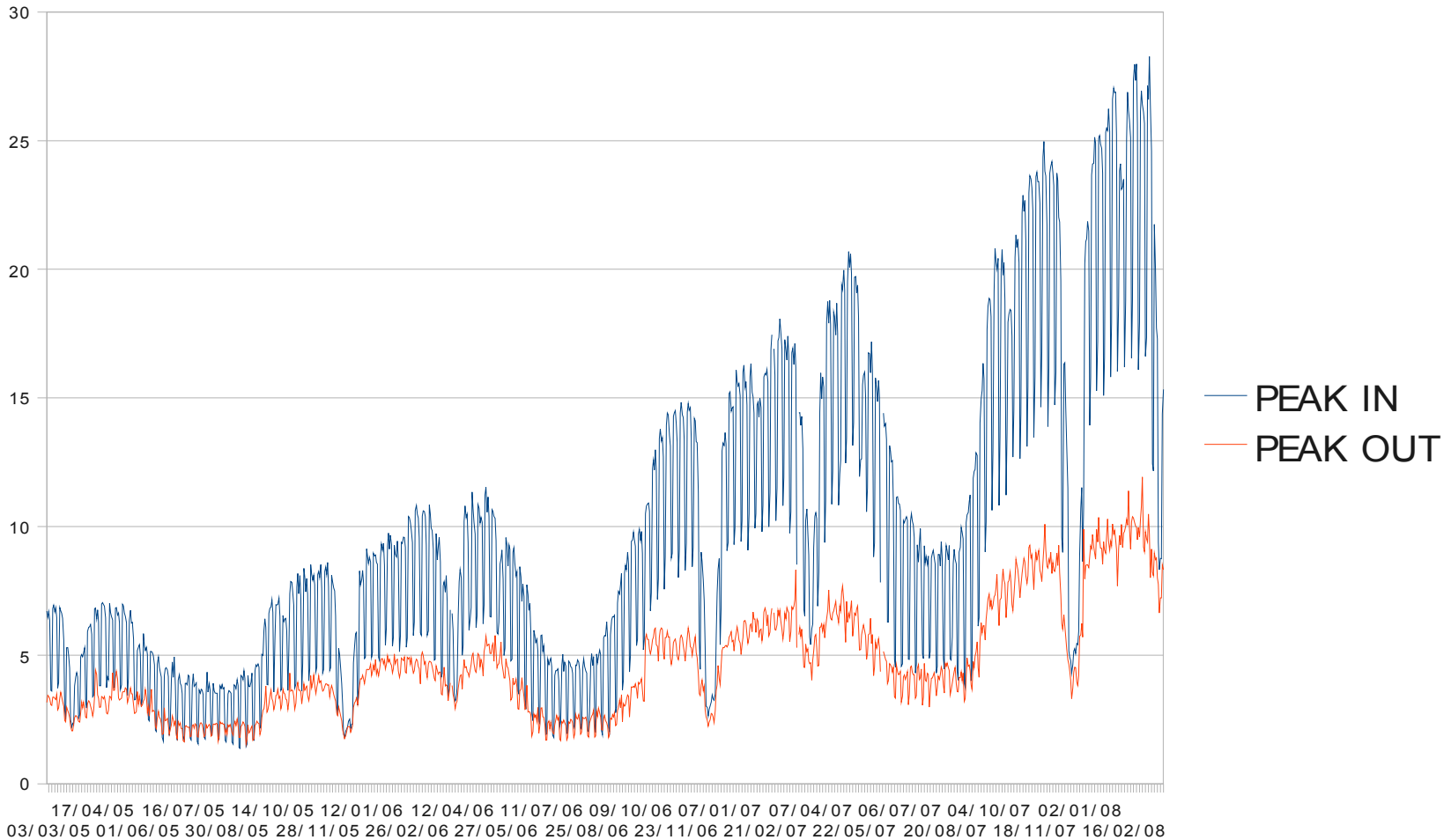
External Traffic

Weekly 5- minute Traffic Peaks

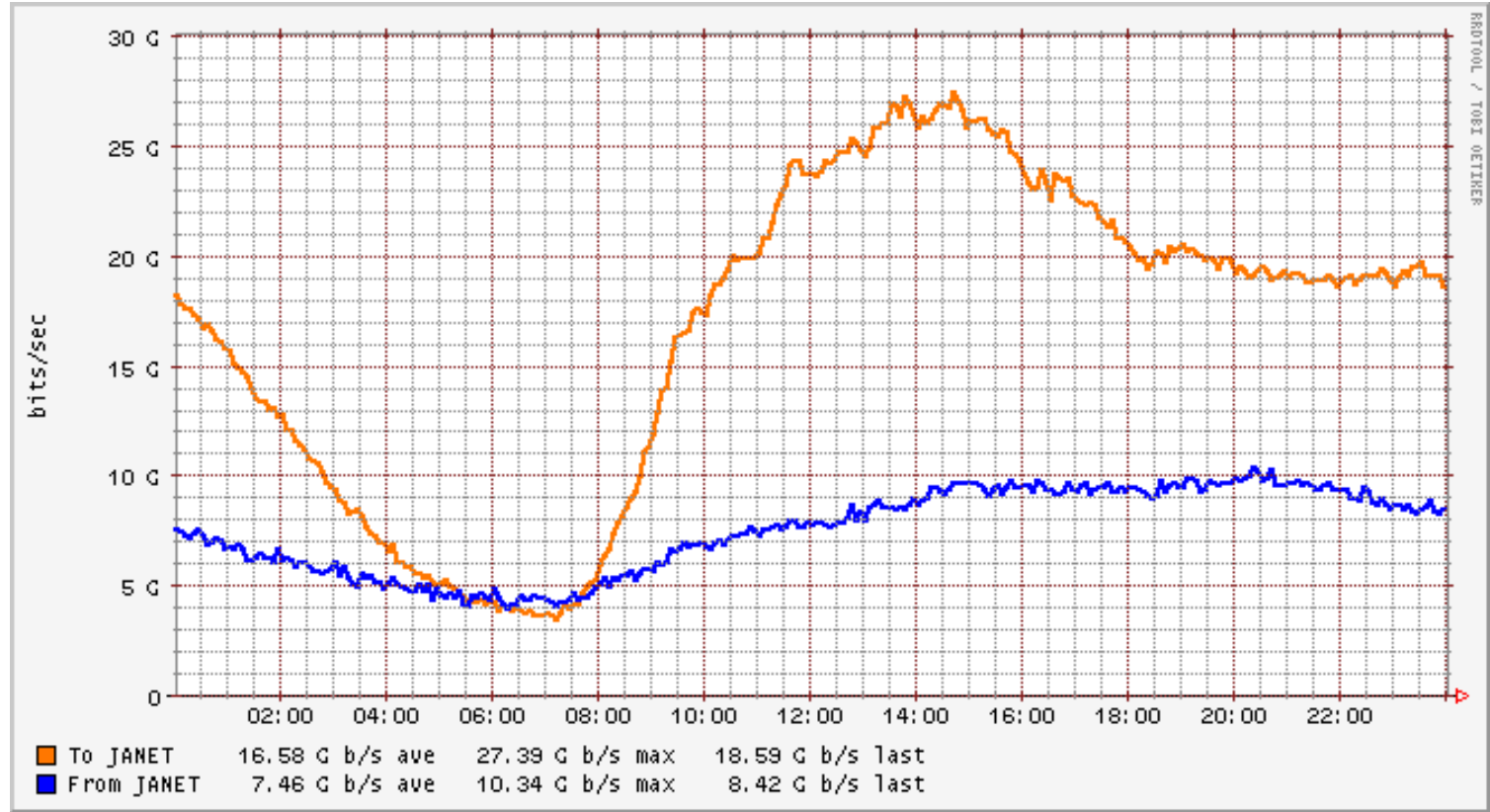
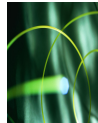




External Traffic



External Traffic





What is all this traffic?

- Limited visibility.
 - Waiting for Netflow acceleration hardware for the routers.
 - Waiting for more powerful Netflow collection and analysis system.
- Can split it out by private peers.
 - Installed 10GE to Google before Easter.
 - Google and YouTube traffic.
 - When total traffic into JANET was 27Gbit/s, 3.3Gbit/s (>10%) was coming from Google.



Network Topology

WARRINGTON

LEEDS



TELECITY

TELEHOUSE



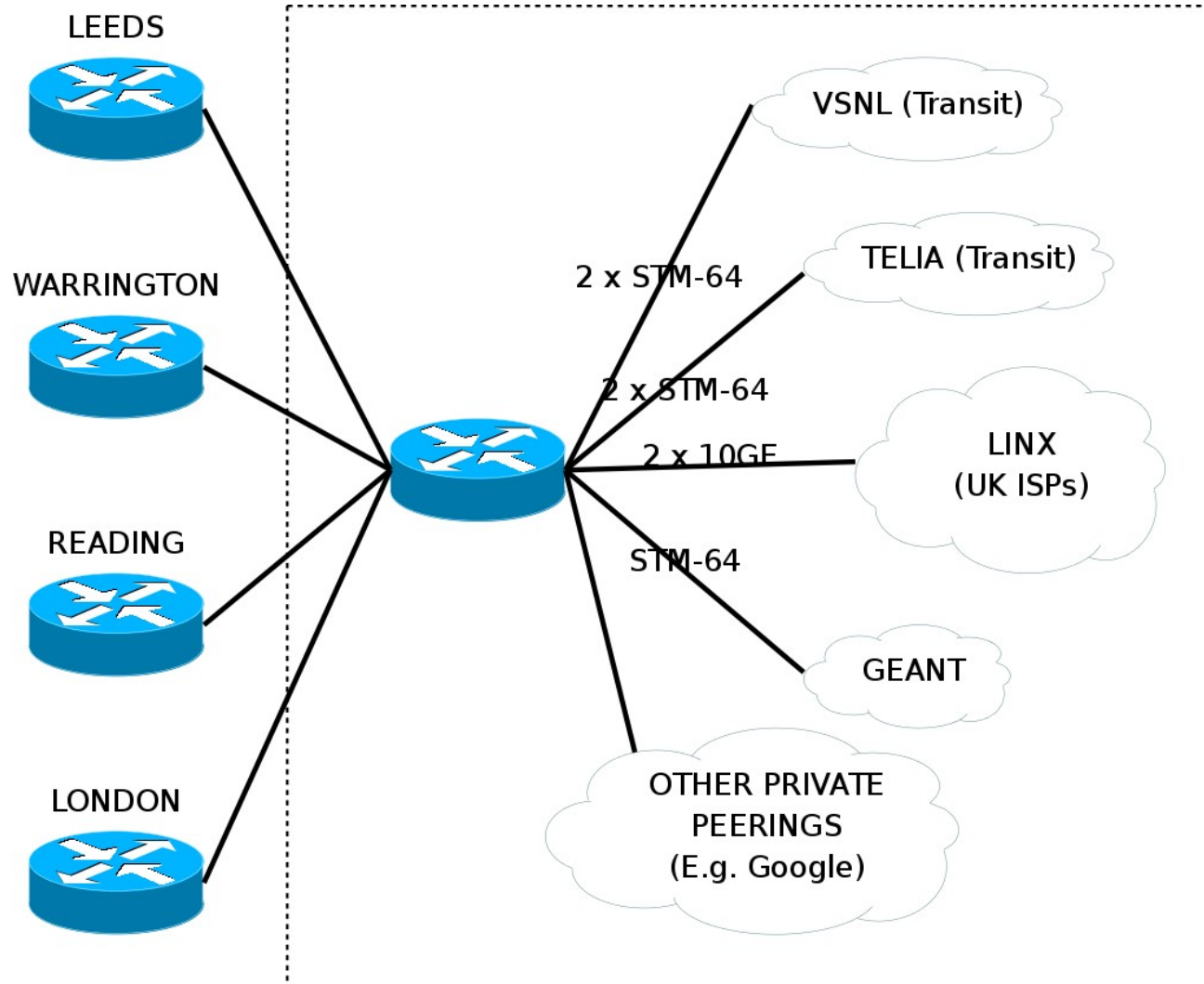
READING

LONDON



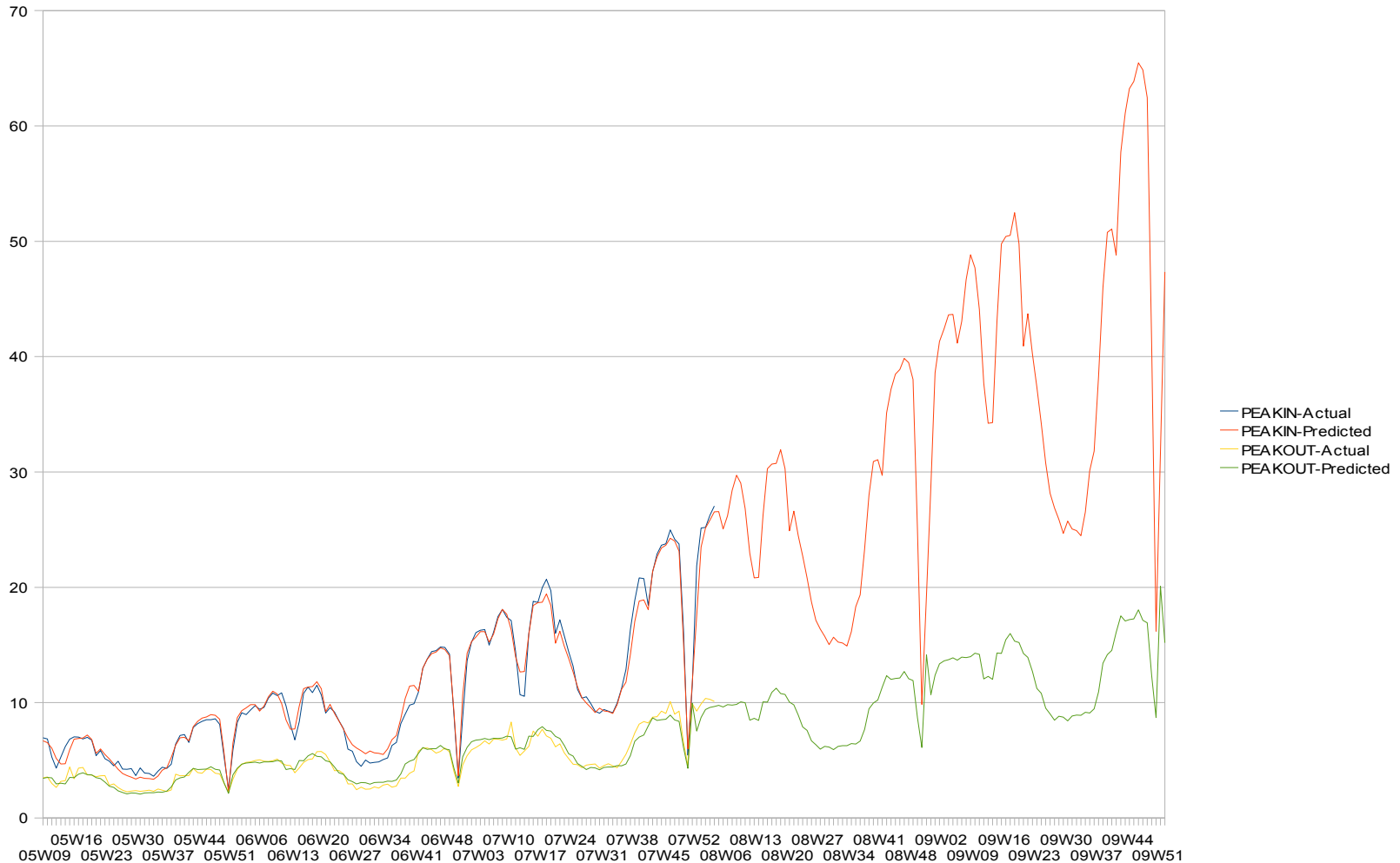


Docklands PoP





Potential Growth

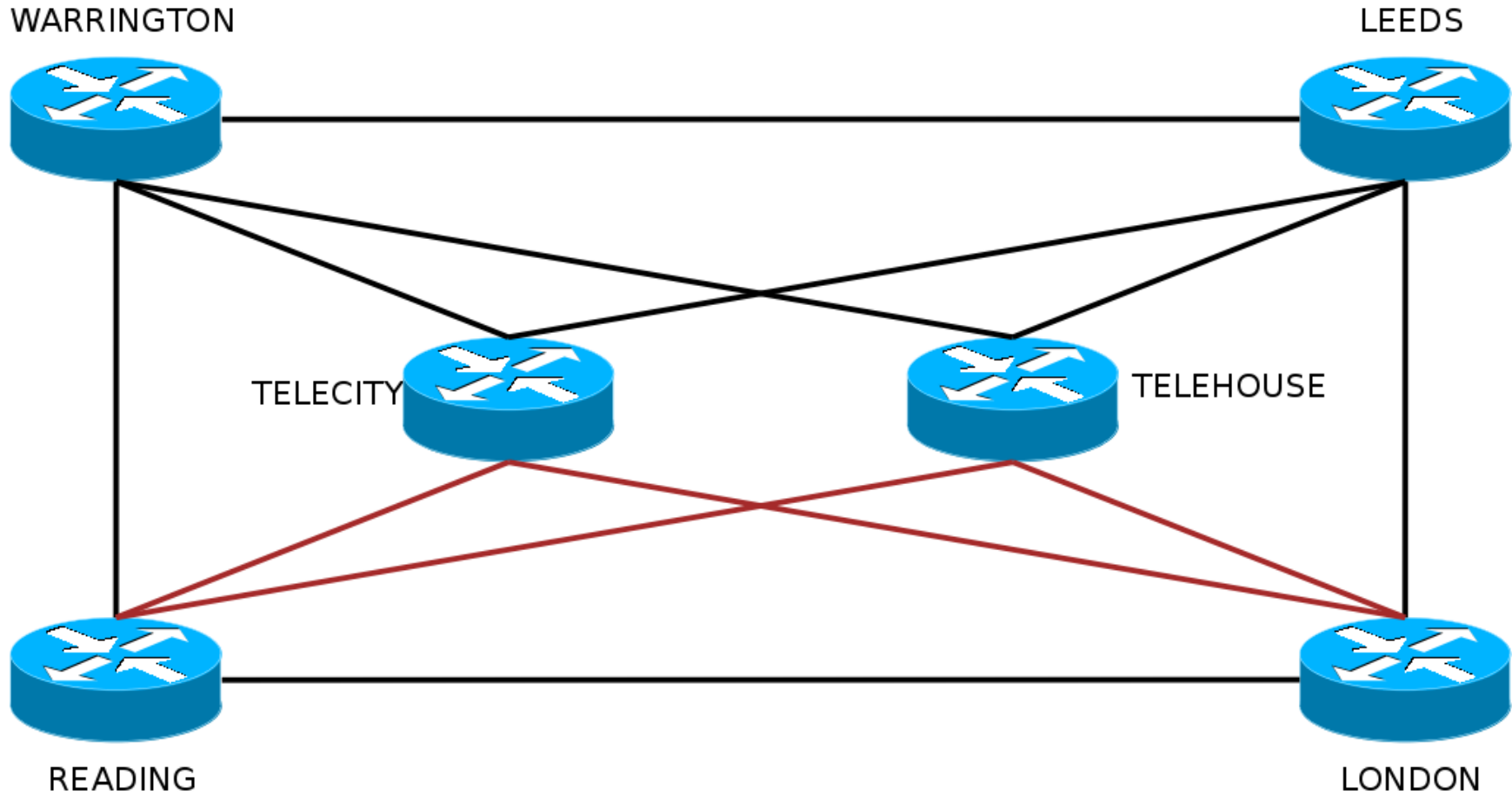
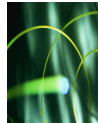




Bandwidth Options

- Bundled 10Gbit/s Links
- Higher Speed
 - 40Gbit/s
 - 100Gbit/s
 - Still a couple of years away from standardisation.
 - Ethernet only.
 - Whilst technically possible, looks unlikely the first standards will run over a single wavelength.

40Gbit/s (1)



40Gbit/s (2)



WARRINGTON

LEEDS



TELECITY

TELEHOUSE



READING

BRISTOL

LONDON





To get there.

- Upgrade Juniper T-640 routers in Docklands, London and Reading to T-1600s
 - “Hitless” upgrade of switch fabric cards.
 - Requires some new DC cabling.
- 2nd Generation Ciena cards
 - May/June certification by Verizon

Thats enough graphs.

- ...is IPv4 dead yet?

