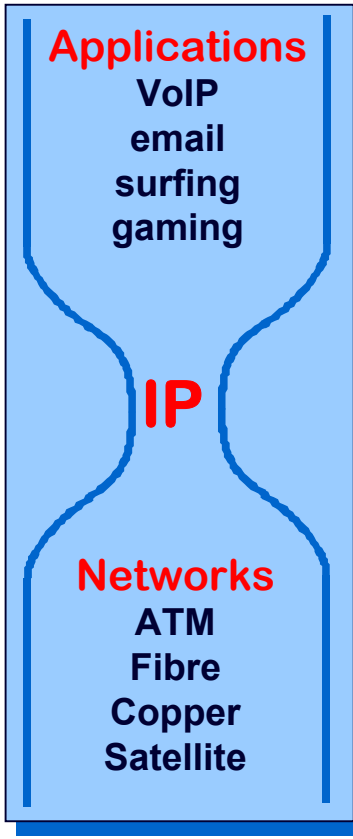
BT & IPv6

[illegible]

An IP-Centric Future

- BT is developing new business based on an IP-centric network that will allow rapid service provision and be scalable and secure
- Key emerging technologies and services include secure customer mobility and flexible peer-to-peer services
- Basic unifying protocol (IP) was not designed for these emerging needs
- IPv6 builds on the success of today's IPv4 protocol
- IPv6 provides the scale required by BT to achieve its IP-centric vision



IPv4 Address Exhaustion

- Official IP address registries in IPv4 conservation mode
  - Private IPv4 addressing becoming common
  - Private addressing does not scale – absolute limit 16 million
  - Private addressing increases network and service complexity and cost

Enhance the Customer Experience

- IPv6 provides the scale to give every customer thousands of fixed IP addresses each
- IPv6 provides low touch configuration to the customer
  - Stimulate home network growth
- NAT removal releases the ability to generate unhindered peer-to-peer services and allows remote management/configuration
- IPv6 has enhanced security and IP mobility

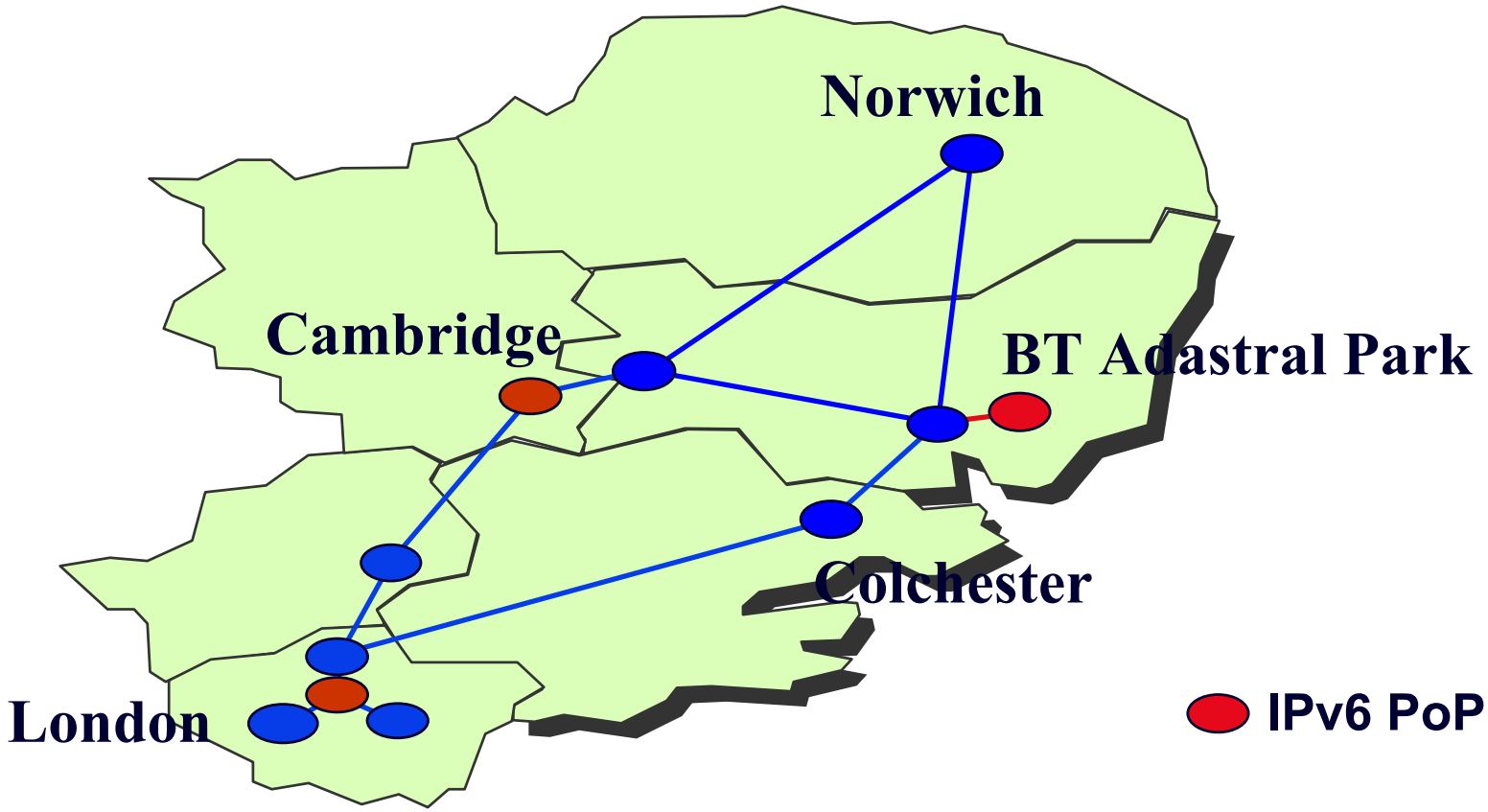
Financial impacts

- Costs to migrate unknown but can be reduced by early planning
- Money saved:
  - NAT Removal
  - Simplified management
- Revenue generated:
  - Enhanced service portfolio
  - Greater connectivity and traffic e.g. home appliances

BT Exact – a Centre of Excellence

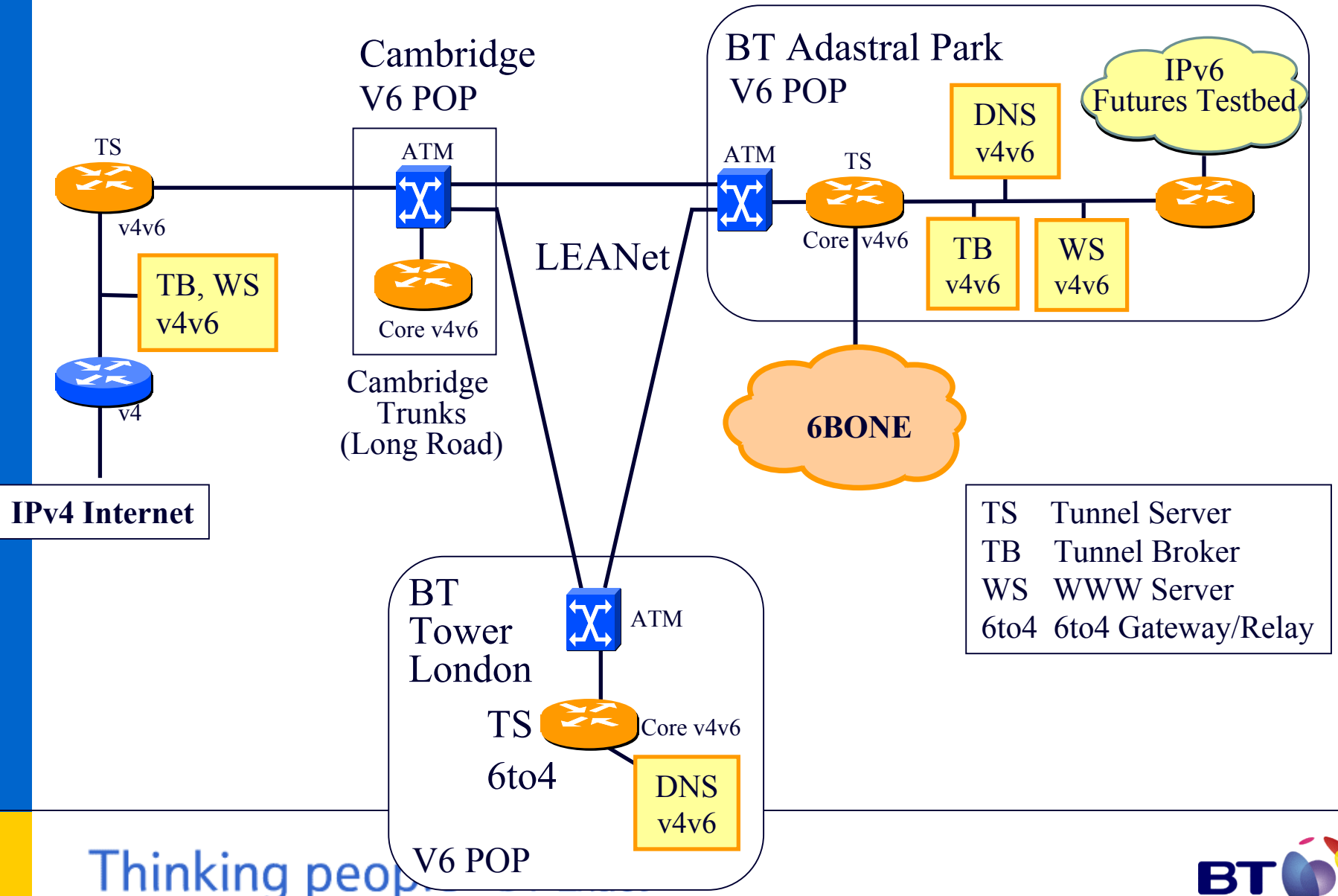
- World leading IPv6 research centre for many years
- One of first IPv6 address allocations
- 6Bone – backbone site since Feb '98
- Contributor to standards bodies, e.g. NAT-PT
- Operational experience – LEANet/UK6x
- IPv6 over GPRS – World 1st with Ericsson/Smartone
- IPv6 @IETF51 – 1st time host provided and with commercial addresses
- IPv6 over 3G – World 1st with Ericsson

LEANet (London East Anglia Network)

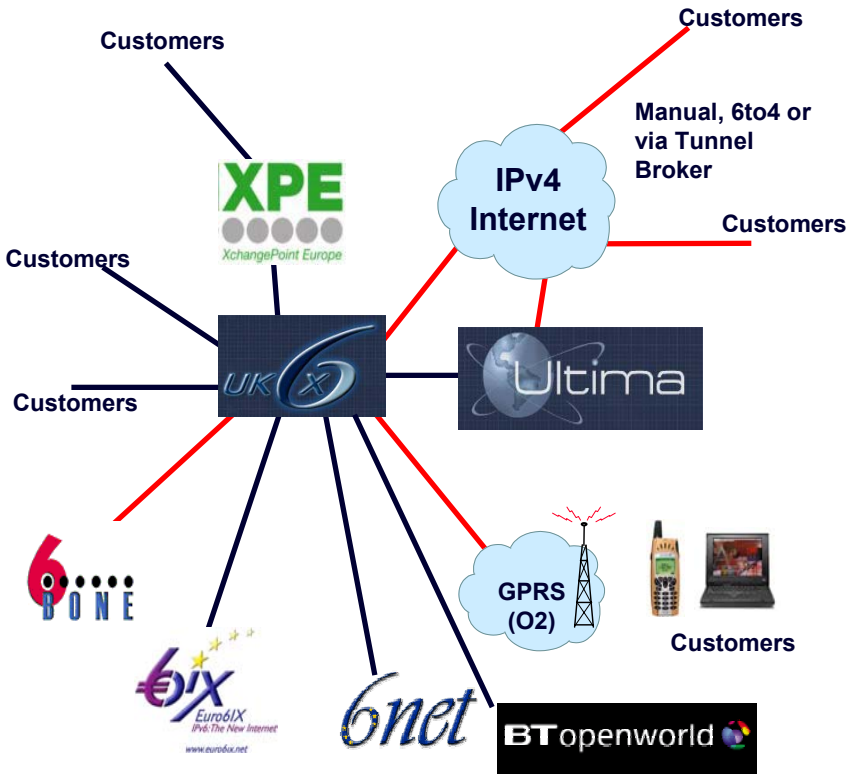


Fibre Optic links 8 or 16 wavelengths - Lucent Technologies Wavestar Optical Line 40G DWDM
SDH 2.5 Gbit/s carrying 16 x 155Mbit/s STM-1 systems - Alcatel 1651SM Add Drop Multiplexors

IPv6 ISP Trial - LEANet



UK6x Internet Exchange



- Layer 2 & 3 IPv6 Internet exchange
- First in the UK
- Uses commercial IPv6 addresses
- Located at the heart of the UK Internet – Telehouse
- Currently free access to all
- Primary aims are:
  - to stimulate the IPv6 environment in the UK, Europe and the World
  - to further the understanding of IPv6
- Part of the EU Euro6IX network

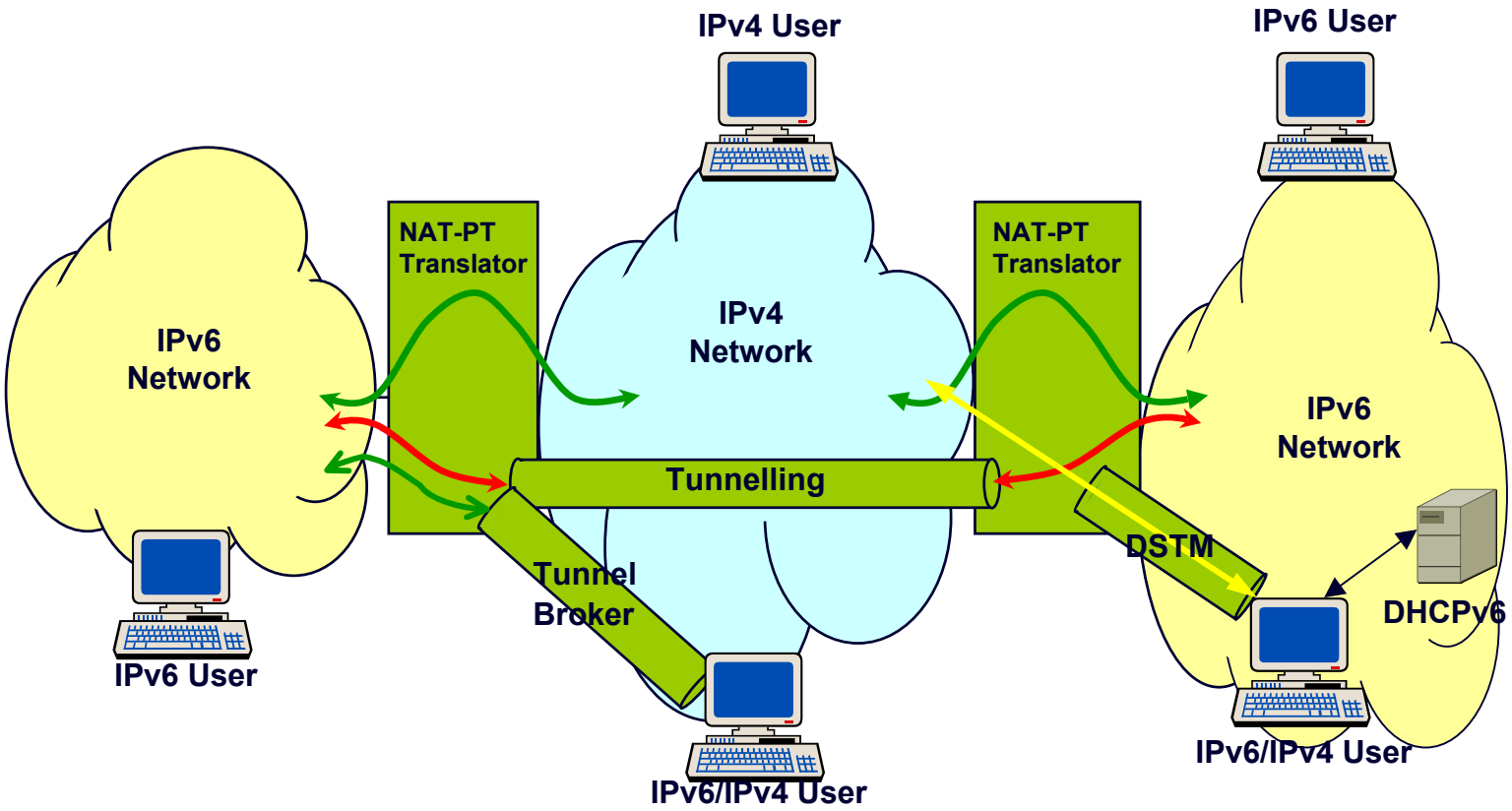
One of the leading Internet Exchanges in Europe

Well respected – NTT depict it on all their global IPv6 adverts!

Services: MP3, Video, MobileIPv6 HA, WWW

Interworking

We have developed in-house a leading IPv4/IPv6 Interworking toolset.



More Information

http://www.bt.com/ipv6

http://www.uk6x.com

http://www.ist-ipv6.com