

IPv6 Deployment in BT

John King
john.r.king@bt.com





Cautionary Statement

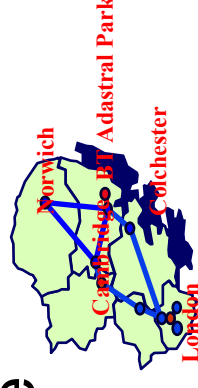
The material in this presentation represents current general technical thinking on how IPv6 in BT could be implemented. It does not necessarily represent BT's plans. In particular, the details of BT's 21st century network are still in the process of development and the subject of consultation.

Overview

- History of IPv6 in BT
- The UK6x
- BT's 21CN
- Global IPv6 Trial

IPv6 in BT

- 1998 – Operation of a 6Bone backbone site
- 1998 - LEANet IPv6 network
- 1999 - sTLA address allocation – 2001:618::/32
- 2001 –  becomes operational
- 2002 – UK6x part of Euro6IX 
www.euro6ix.net
- 2004 – Largest IPv6 only IX in Europe



Collaborative Work

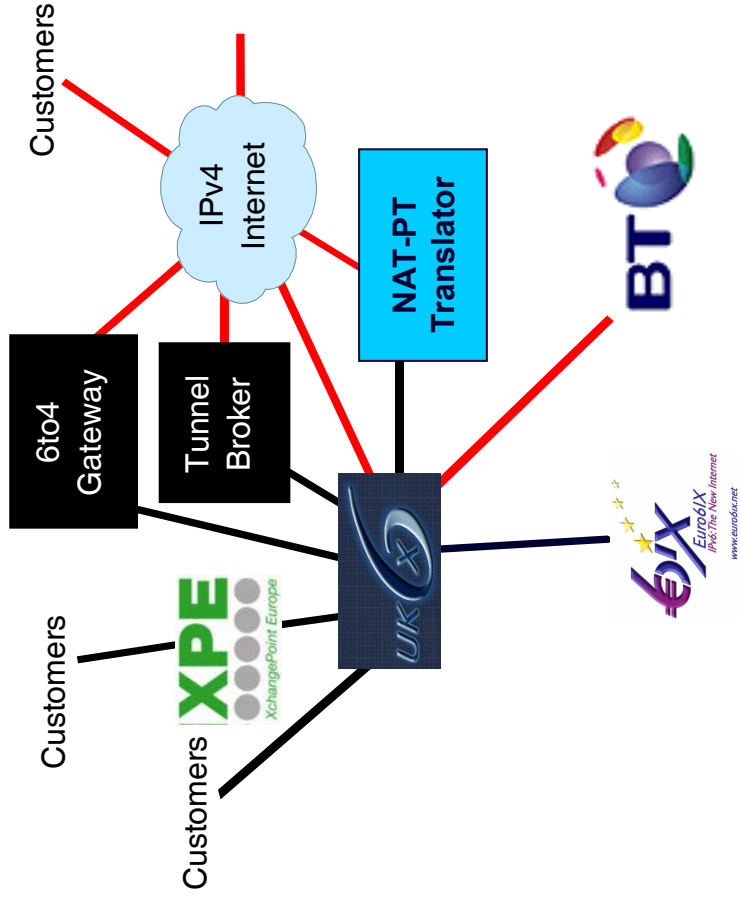
- EU Collaborative Research projects



- Policy Setting/Lobbying

- European IPv6 task force
- UK IPv6 task force
- Irish IPv6 Centre partner
- IPv6forum activities

UK6x



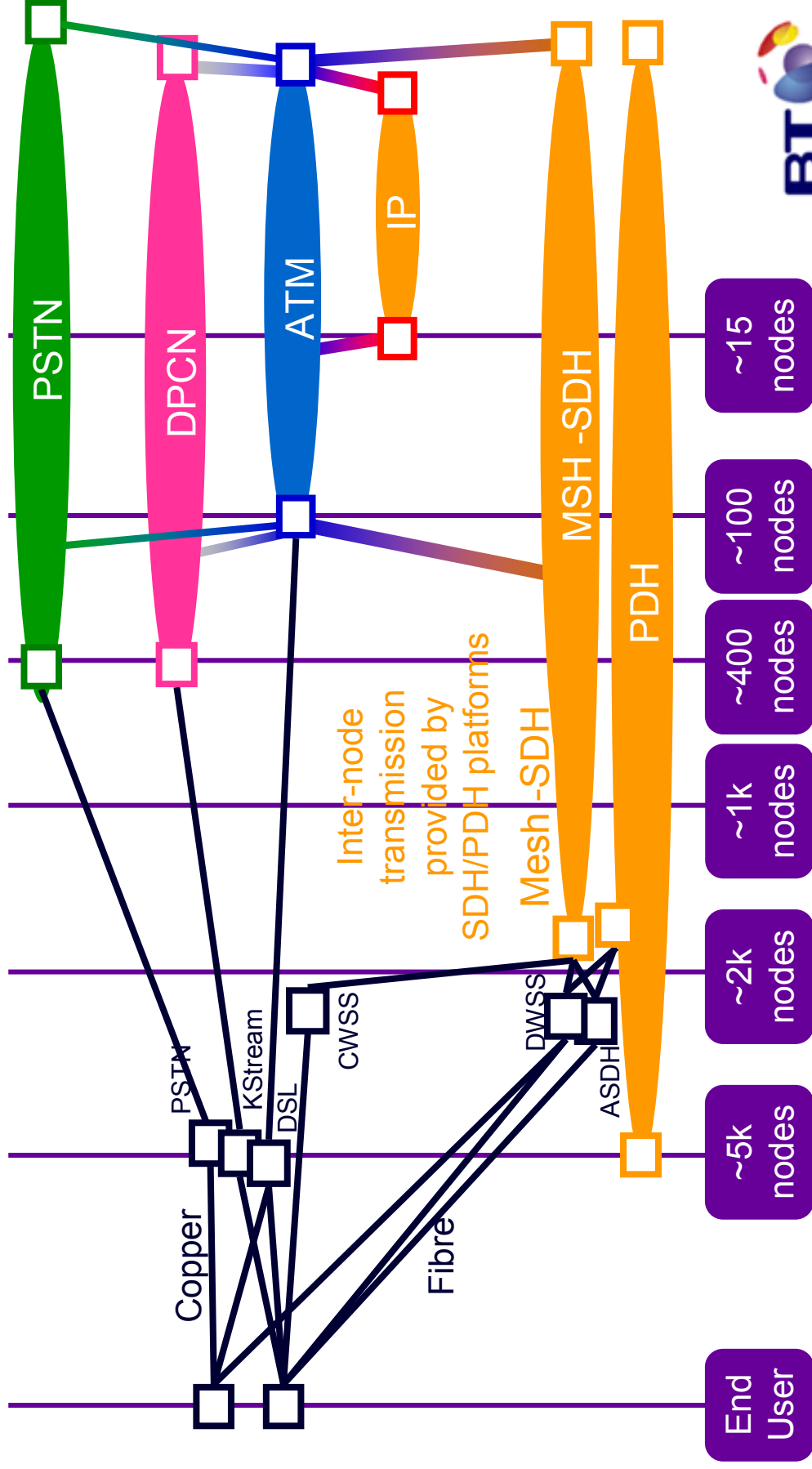
- Layer 2 & 3 IPv6 Internet exchange
- First in the UK
- Uses commercial IPv6 addresses
- Located at the heart of the UK Internet – Telehouse
- Currently free access to all
- Primary aims are:
 - to stimulate the IPv6 environment
 - to monitor interest and growth
 - to understand vendor capabilities

What have we learnt from UK6x

- Native connectivity is a much more common requirement.
- Routing becoming more efficient – tunnels are being replaced by direct links.
- Some small ISPs offer a commercial IPv6 service.
- IPv6 traffic largely NTTN.
- Little commercial market for IPv6 only connectivity.

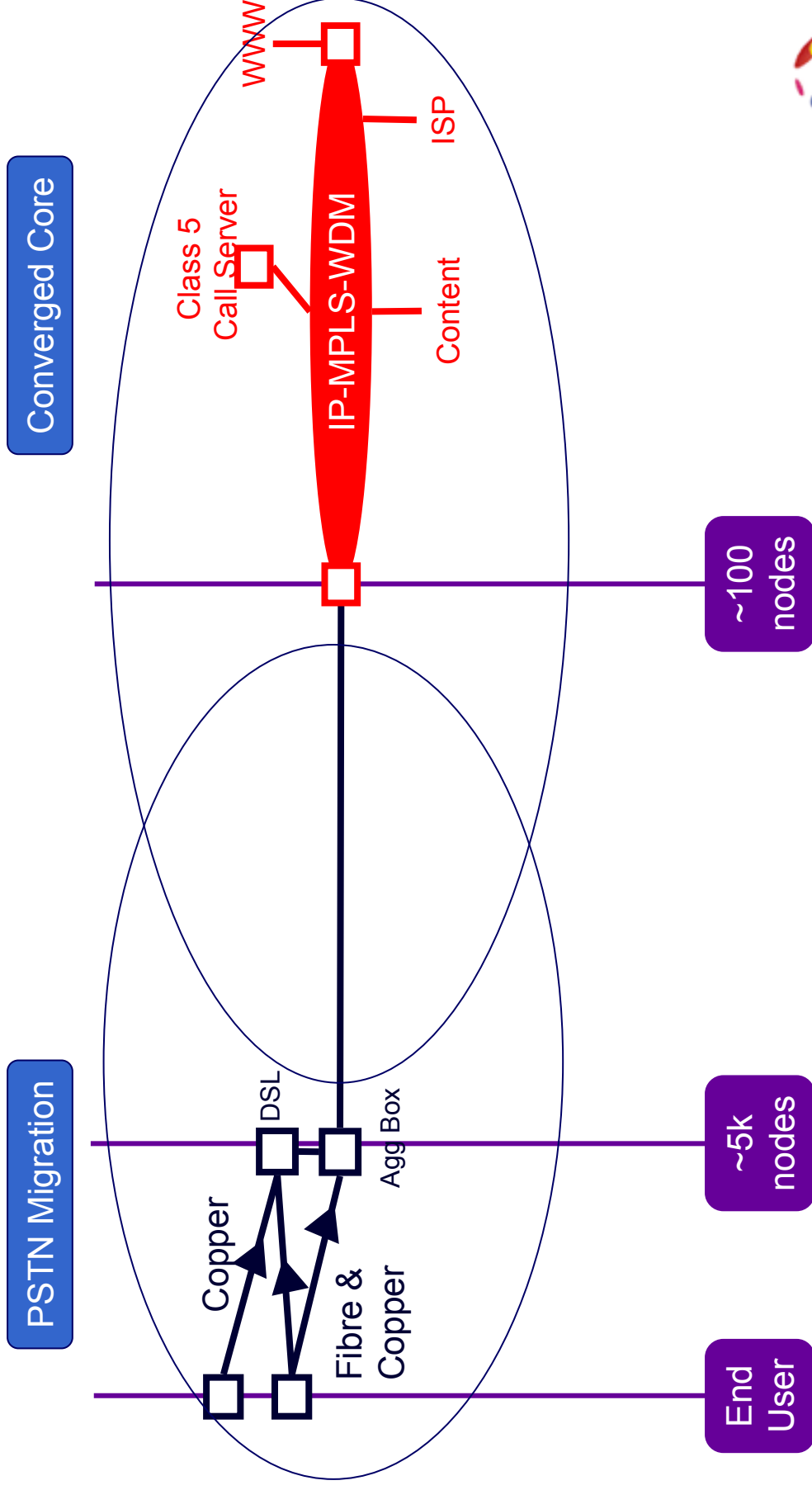
BT's 21st Century Network

Current network



BT's 21st Century Network

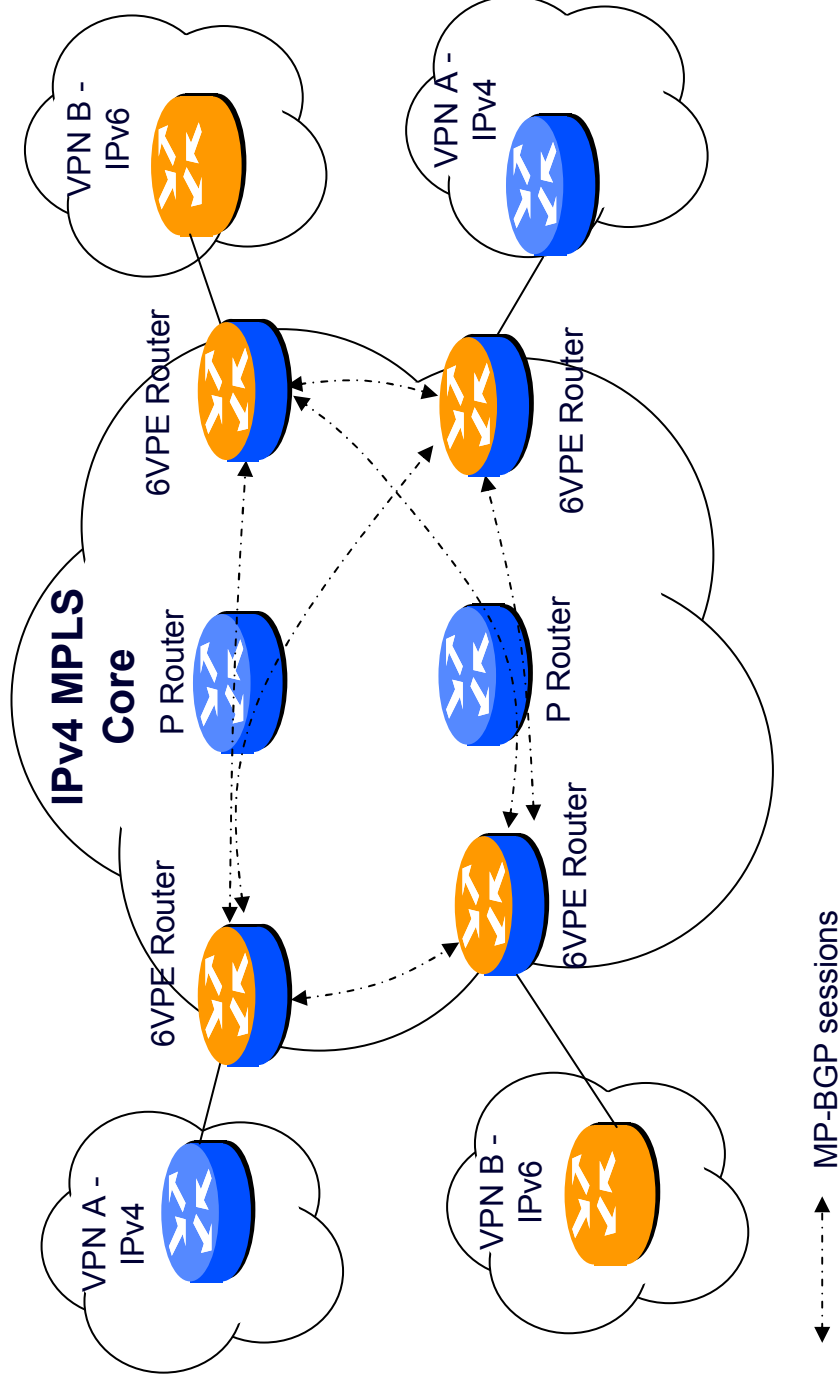
Proposed Network



IPv6 in the 21CN

- 21CN will be IPv6 ready when demand arises
- BT needs to be ready to react swiftly to any change in the market or to use IPv6 to cost-effectively grow our business.
- BT selected vendors that were IPv6 compatible
- Primary focus for deployment on the services necessary to support IPv6 products
 - IP VPN's to support core transport of IPv6
 - Enterprise connectivity
 - Internet Access

Proposed IPv6 Migration



Current thinking.
No implementation assurances

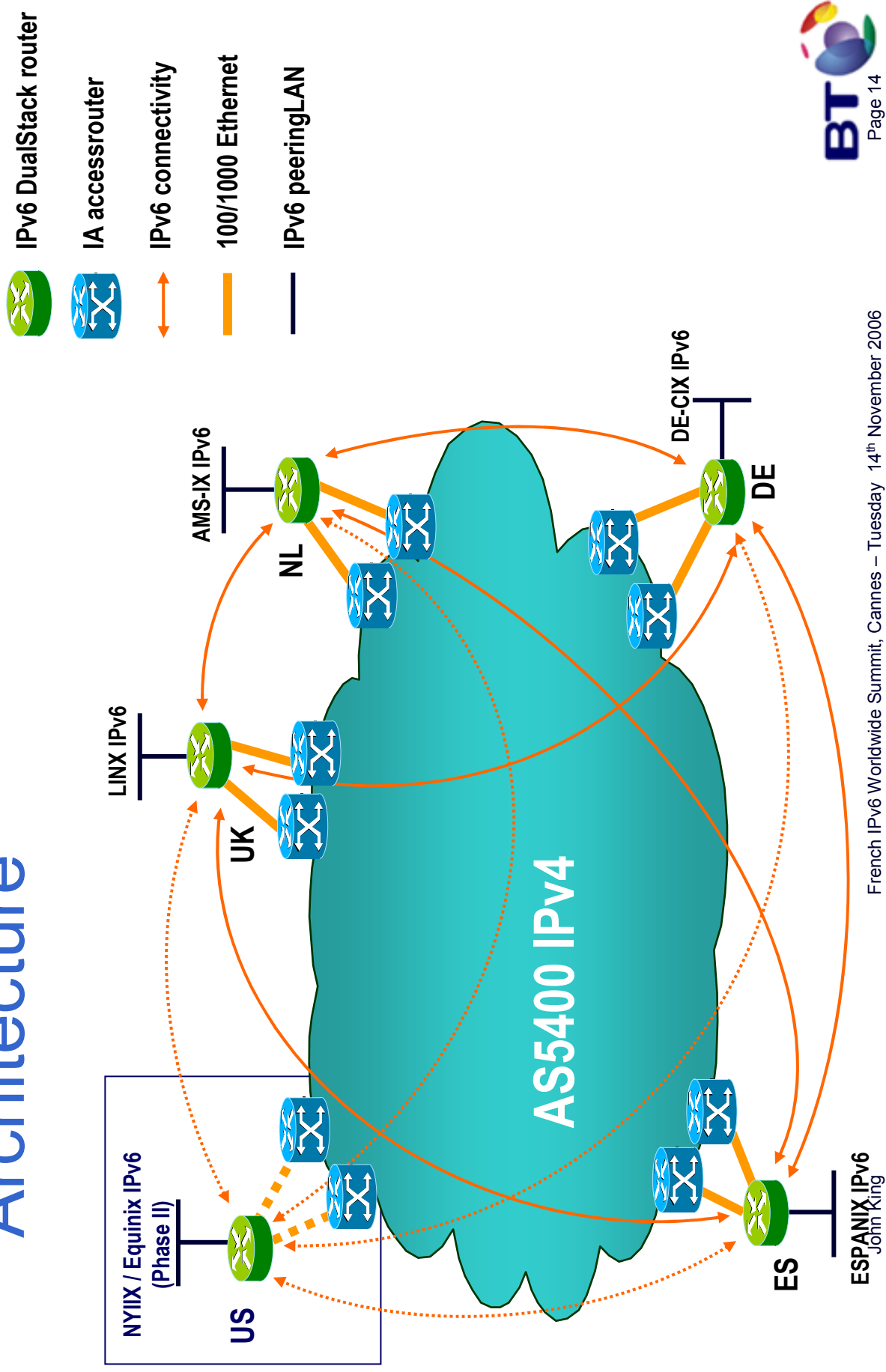
BT's Global Internet Access Platform

- Provides global Internet access to large and medium enterprise customers, content providers and ISPs.
- Globally located PoPs connected via a fully routed backbone
 - Peering with other network operators including UK Internet Access network
- Increasing number of customers are asking about IPv6 support.

IPv6 Trial

- Deploy IPv6 access routers at a small number of PoPs. Replace UK6x and other in-country IPv6 networks
- Peering, transit and Internet Access
- Customer connections
 - v6-in-v4 tunnelling
 - IPv4 approved phys. access (E1 / STM-1 / FastE / ...)
- Migrate IPv6 operational support into existing Internet access product systems.
- Training engineers and support staff.

Architecture



-  IPv6 DualStack router
-  IA access router
-  IPv6 connectivity
-  100/1000 Ethernet
-  IPv6 peering LAN

Summary

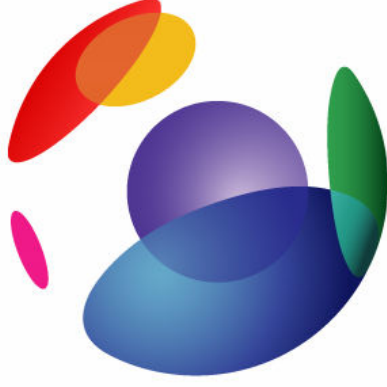
- Operational knowledge gained from running the non-commercial UK6x is now being usefully exploited by the operational lines of business.
- IPv6 migration is being planned
 - For strategic Global customers
 - To coincide with customer demand
 - For the capability in new product development

Any Questions?

john.r.king@bt.com



BT



Offices worldwide

Telecommunications services described are subject to availability and may be modified from time to time. Services and equipment are provided subject to British Telecommunications plc's respective standard conditions of contract. Nothing in this publication forms any part of any contract.

© British Telecommunications plc 2006