

**ITU-APT Workshop on NGN
(New Delhi-15th Oct.,2010)**

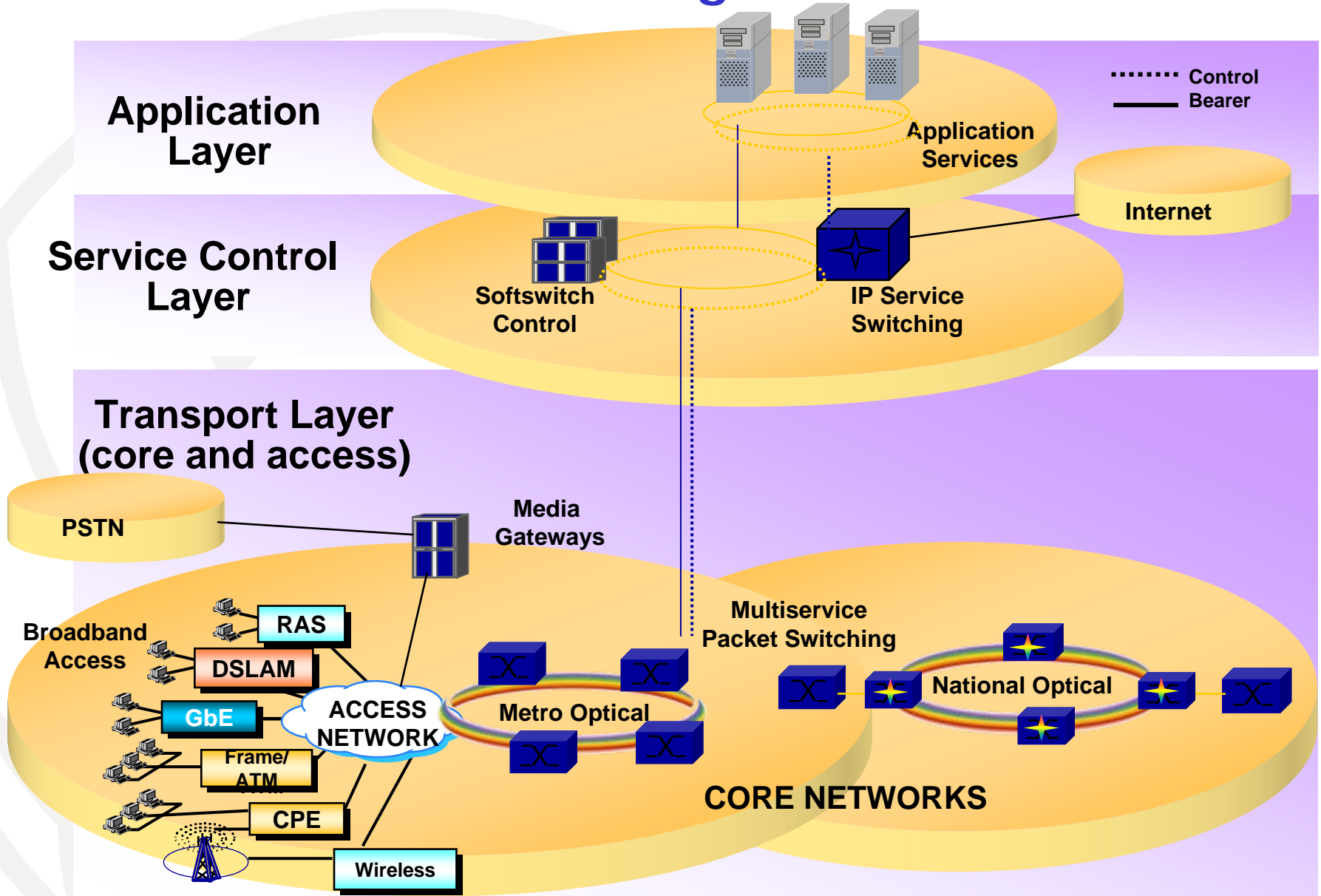
**International Trend in NGA
Regulation- UK**

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Agenda

- **Next Generation Network Architecture**
– Layered approach
- **Next Generation Access (NGA)**
- **NGA – Superfast Broadband**
- **NGN Regulation – UK Approach**
- **Functional Separation**
- **Enabling Regulation for NGA**

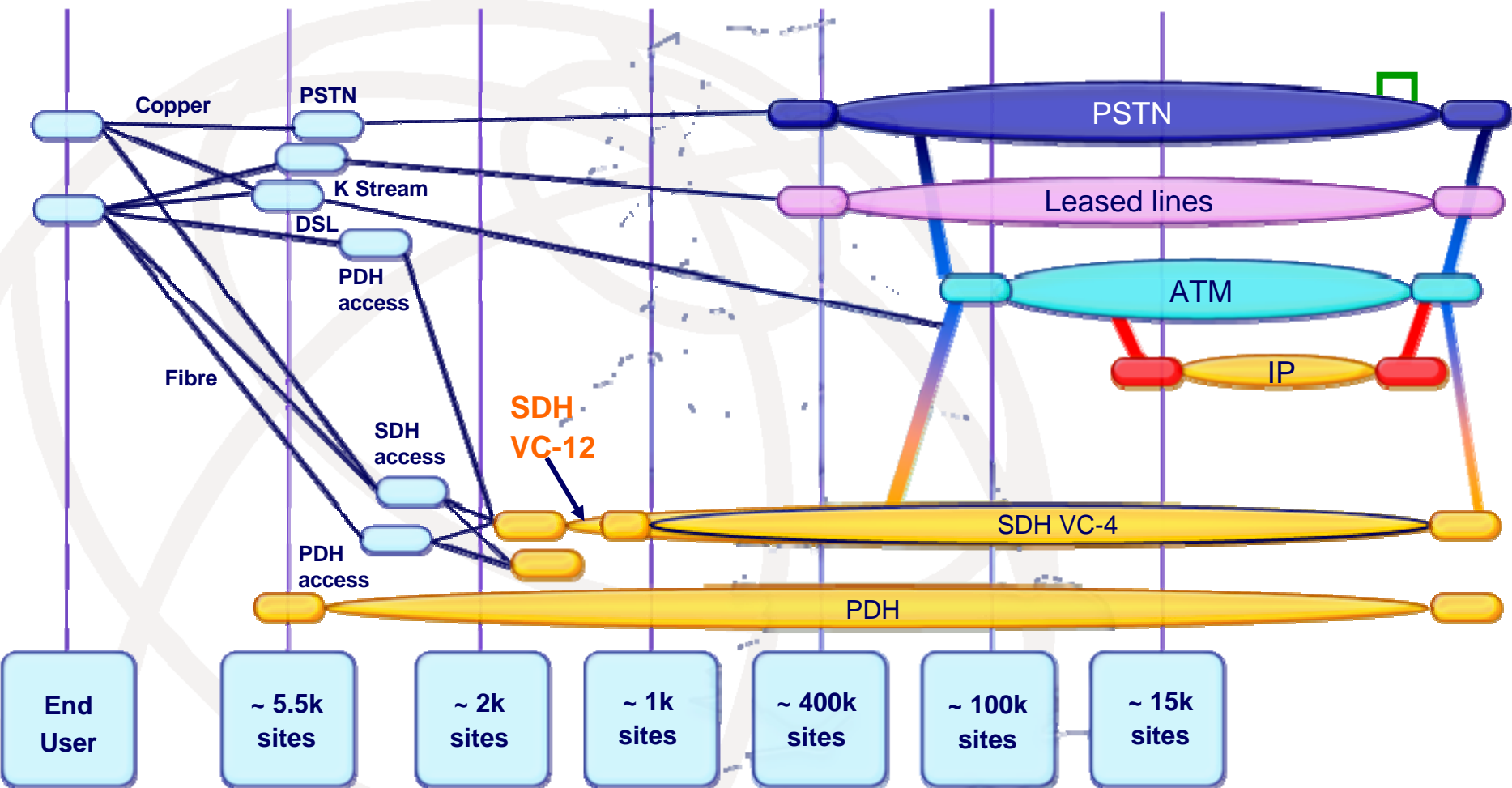
NGN – a layered architecture distributing intelligence



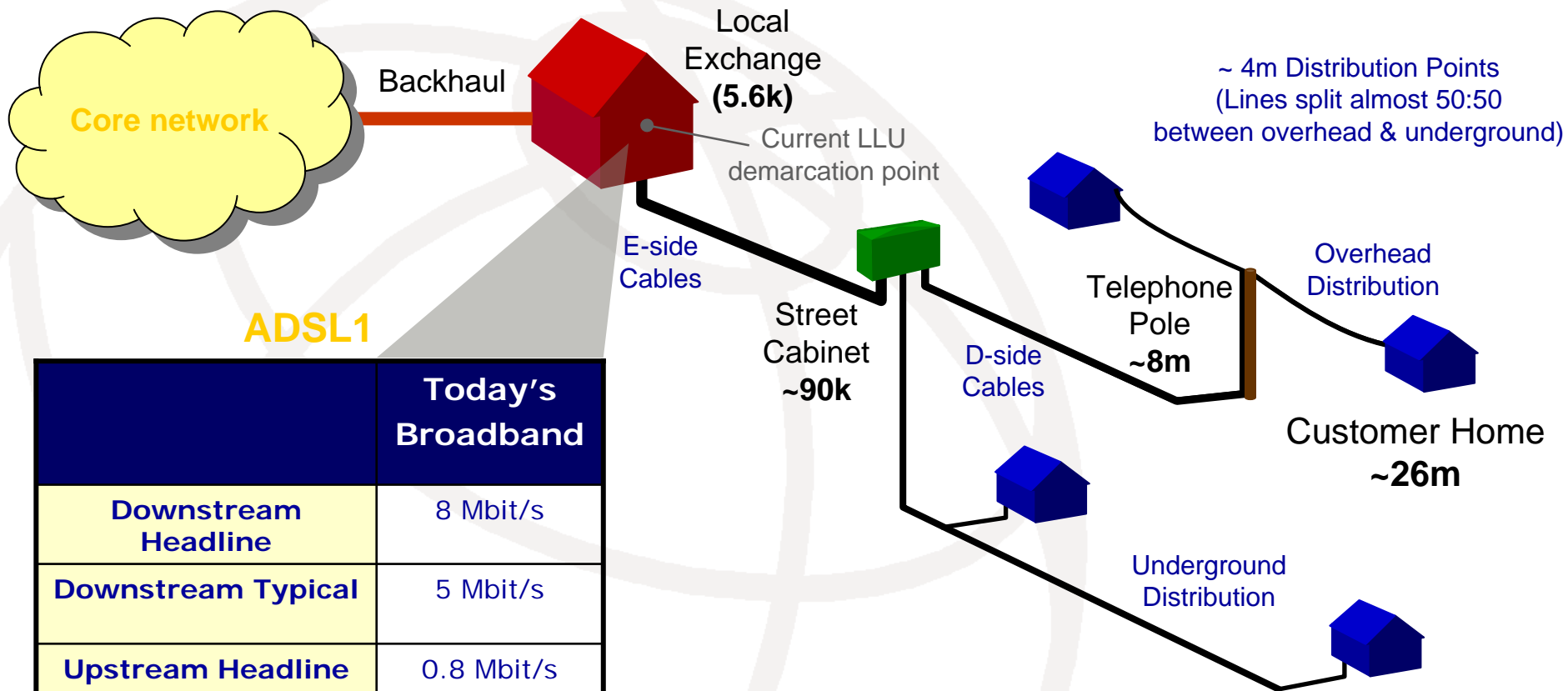
Technologies for Next Generation Access (NGA)

	Now	ADSL2+	FTTC (+VDSL)	FTTP (All homes)
Downstream Headline	8 Mbit/s	24 Mbit/s	40 Mbit/s	100 Mbit/s
Downstream Typical	5 Mbit/s	10 Mbit/s	20 Mbit/s	50 Mbit/s
Upstream Headline	0.8 Mbit/s	0.8 Mbit/s	10 Mbit/s	30 Mbit/s
Upstream Typical	0.4 Mbit/s	0.4 Mbit/s	5 Mbit/s	15 Mbit/s
Cost of Deployment			£200 → £400/line	~£600/line
Regulatory Impact				Regulatory issues to be resolved

BT UK's Legacy Network



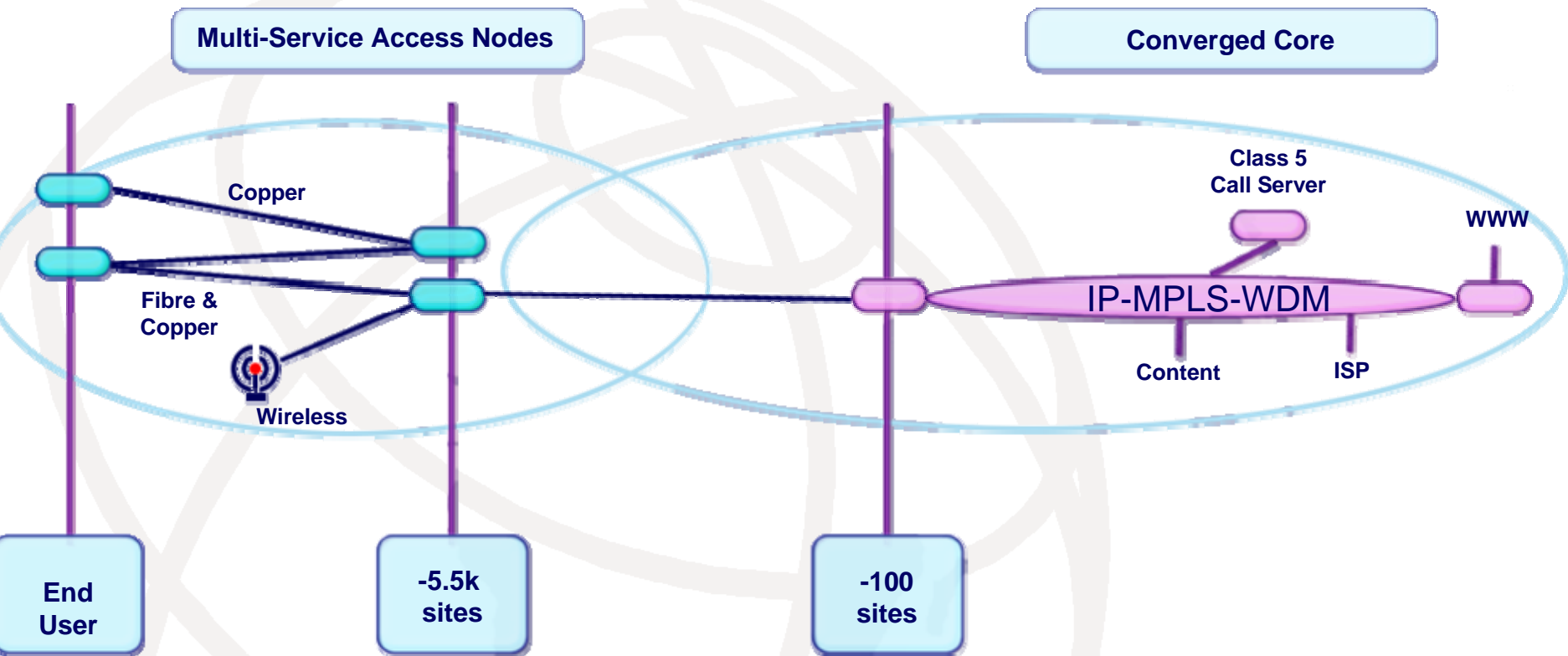
UK Access –Pre 21CN



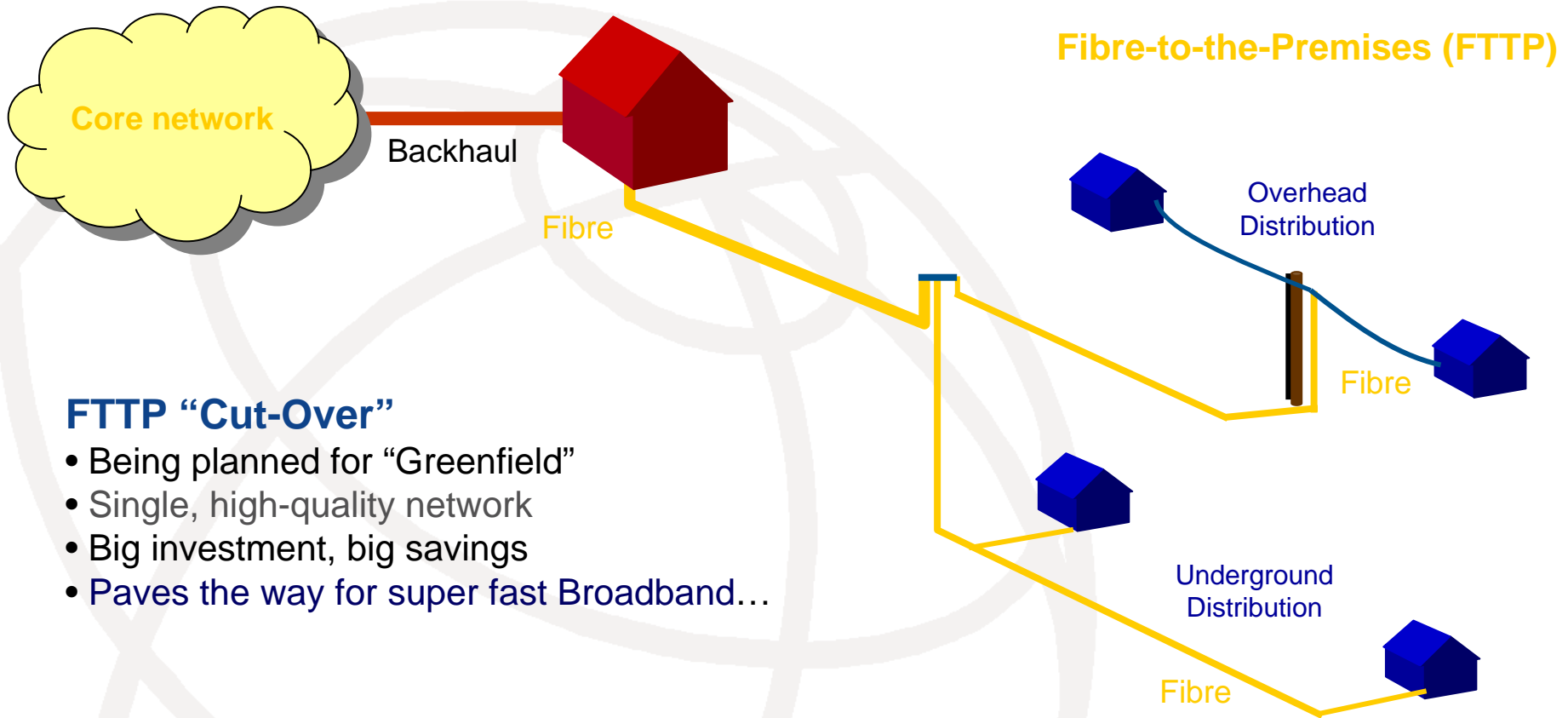
ADSL1

	Today's Broadband
Downstream Headline	8 Mbit/s
Downstream Typical	5 Mbit/s
Upstream Headline	0.8 Mbit/s
Upstream Typical	0.4 Mbit/s

Next Generation Simplified Network BT'S 21CN



UK Access-Post 21CN



FTTP “Cut-Over”

- Being planned for “Greenfield”
- Single, high-quality network
- Big investment, big savings
- Paves the way for super fast Broadband...

Copper Loop (ADSL 2+)	24 Mbps
FTTC	50 Mbps
FTTP	>50 Mbps

UK-New Era of NGN Regulation

Promoting Investment and Innovation

- BT's Undertakings offered in lieu of reference to Competition Commission in September 2005
- Regulation focused on bottlenecks-Access and Backhaul for SMP
- Incentive to invest in NGA and Innovate
- Expectation of reduced regulation downstream
- Promote infrastructure-based competition
- Benefits the consumers, operators and economy- Maximising the Societal Welfare
- Incumbent to compete fairly on a level playing field with new entrants

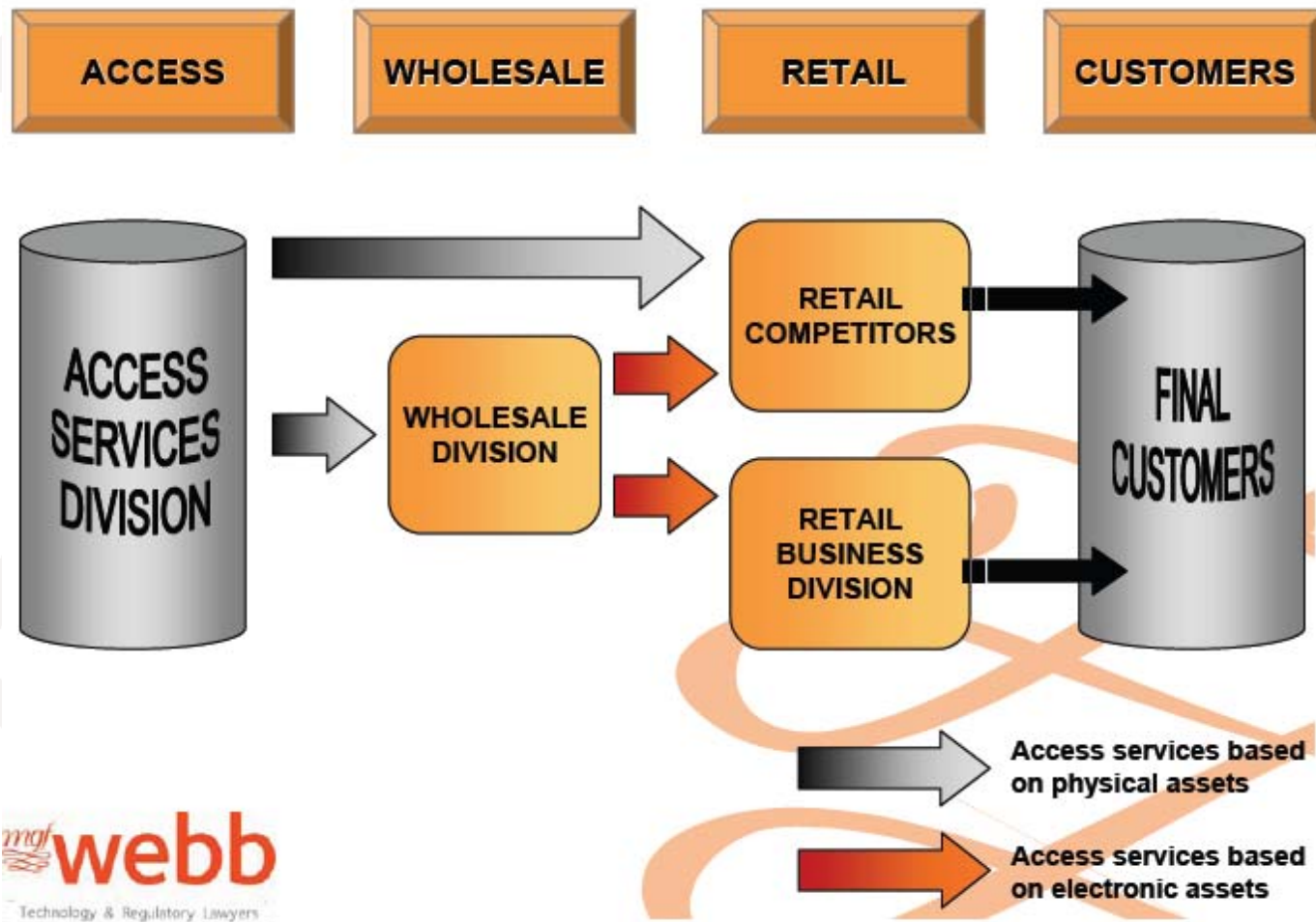
***Creating a climate of confidence for infrastructure
Development, Competition, Investment and
Innovation***

Regulation and NGA – Key Issue

■ Investment – “Regulatory certainty”

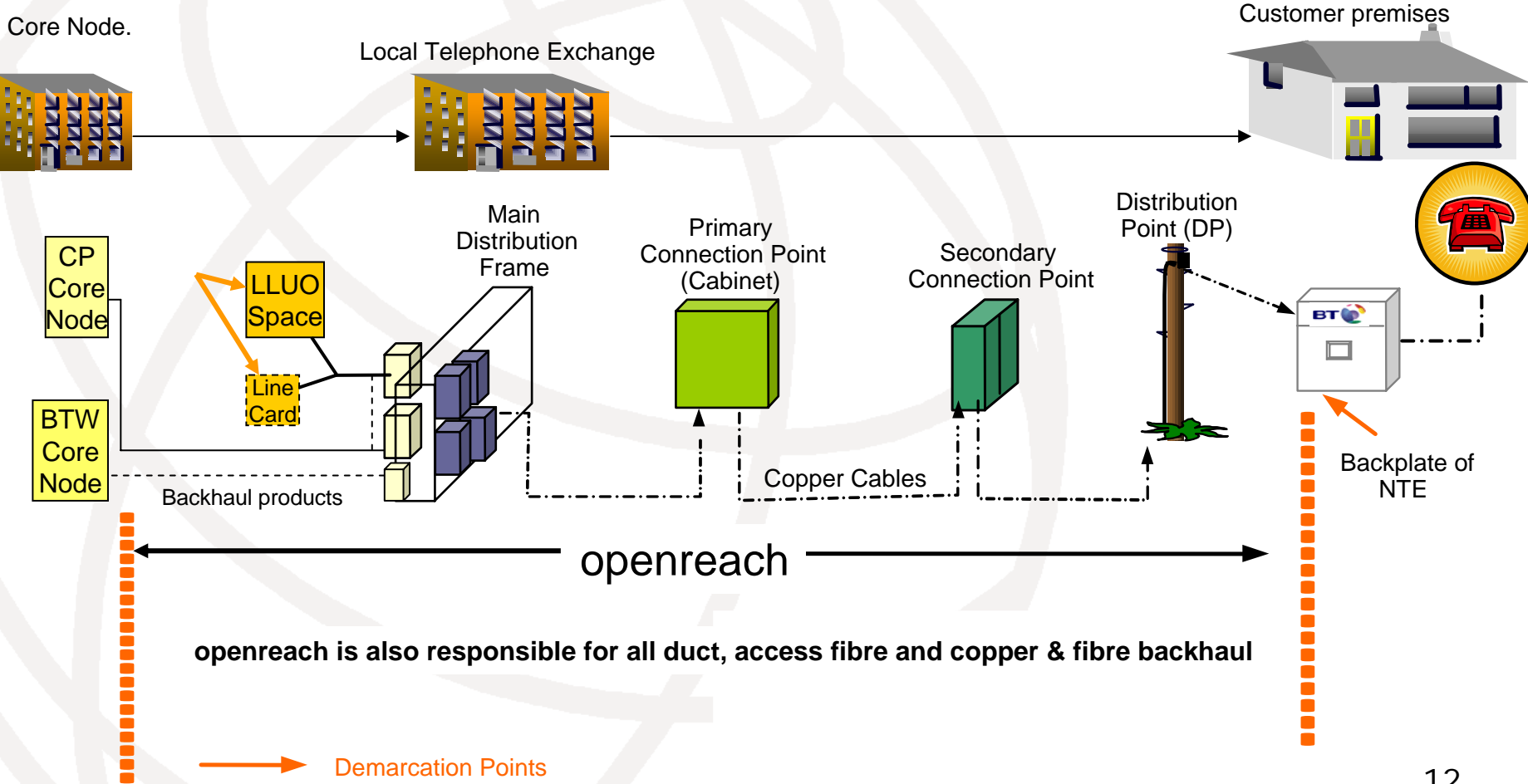
- **NGNs are driven (in part) by cost savings**
 - Investment requires demonstrable shareholder value
- **Regulators face a difficult challenge**
 - No one can “build it and they will come” on revenue bet
 - NGNs / NGAs are disruptive to traditional boundaries
 - They challenge past regulatory assumptions (e.g. thin & dispersed vs. fat & fewer interconnect, minutes & miles vs. Capacity & QOE)
- **Regulation needs to become light and facilitating**
 - Requires collaboration amongst incumbents, regulators and Competitive communications providers.
 - Over regulation could restrict converged service innovation

Functional Separation – A new Wholesale Concept



UK Openreach – Asset Ownership

PSTN & ADSL Service



Next Generation Access: A bold vision for the UK



UK's biggest super fast broadband investment: £1.5 bn




Accessible by up to 10 million homes by 2012



Range of speeds up to 100mbps: with >1,000mbps potential



Basis for nationwide demand led roll out



World's most open super-fast network



Barriers to investment being removed

Building on Success

UK has world leading availability & take up...

- **BT's multi-billion pound investment has ensured everyone can be part of the broadband revolution**
- **10 million kilometers of fibre already in the network**
- **120,000 businesses have fibre to the premises**
- **10 million people work from home using broadband**
- **Higher take up in rural areas than in cities**

...and provides massive choice to consumers

- **Massive customer choice from 200 ISPs**
- **Among the lowest prices in the world**
- **Opportunity to learn from the experience of others**
- **All fibre based services from BT will be wholesaled to other ISPs**

The Next Chapter: a 'mixed economy' model

	Enhanced copper	Fibre
2008 FY*	<ul style="list-style-type: none">• ADSL2+ roll out makes speeds of up to 24 Mbps available to 40% population	<ul style="list-style-type: none">• Fibre to the home in Ebbsfleet• Operational trials of fibre to the cabinet
2010 FY	<ul style="list-style-type: none">• Widespread access to ADSL2+ and speeds of up to 24 Mbps	<ul style="list-style-type: none">• Fibre available to millions of homes and businesses• BT backhaul investment reduces network bottlenecks
2012 FY	<ul style="list-style-type: none">• Continuing to develop technologies to enable faster speeds and more services	<ul style="list-style-type: none">• Fibre roll-out brings range of speeds up to 100Mbps• Fibre available to up to 10 million families• Olympic village, a fibre showpiece case

*2008FY = 08/09 financial year

What it means for consumers

TODAY...



Fast internet...



Instant messaging...



VoIP...



IPTV...



iPlayer...

...But growth of simultaneous usage raises potential peak bandwidth issues for the future

TOMORROW...



Multi viewing High Definition TV...



Advanced High Definition gaming experience...



High Definition video conferencing, Cloud computing, Telepresence



'A' world of new possibilities from super-fast broadband (up to 100Mbps)...

...Assured high quality experience even with simultaneous usage of all new high speed applications and services

What it means for businesses



- Bringing big business fibre services to smaller businesses: speeds > 1 Gigabit



- Improved choice in access speeds providing UK businesses with a competitive edge



- Two way speed allowing collaboration across locations between customers and suppliers



- Improved flexibility in remote and home working, cloud computing

Enabling Regulation for NGA

- Allowing wholesale pricing flexibility- Enabling ROI appropriate to risks
- Minimizing inefficiencies in Network Design- Forbearing Technical Regulation, Technology- Neutrality
- Supporting new and innovative services
- Furthering the opportunity for infrastructure based competition
- Facilitating PSTN-IP Interconnection
- Move towards capacity- based Interconnection charging
- Utilization of USO/Public fund for National Broadband Network/Alternate Telecom Network (ATN)
- Functional Separation of Bottleneck Infrastructure from Service Provision
- Capping the Tarrif of international connectivity
- Removing restriction on VOIP, if any



THANK YOU

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