

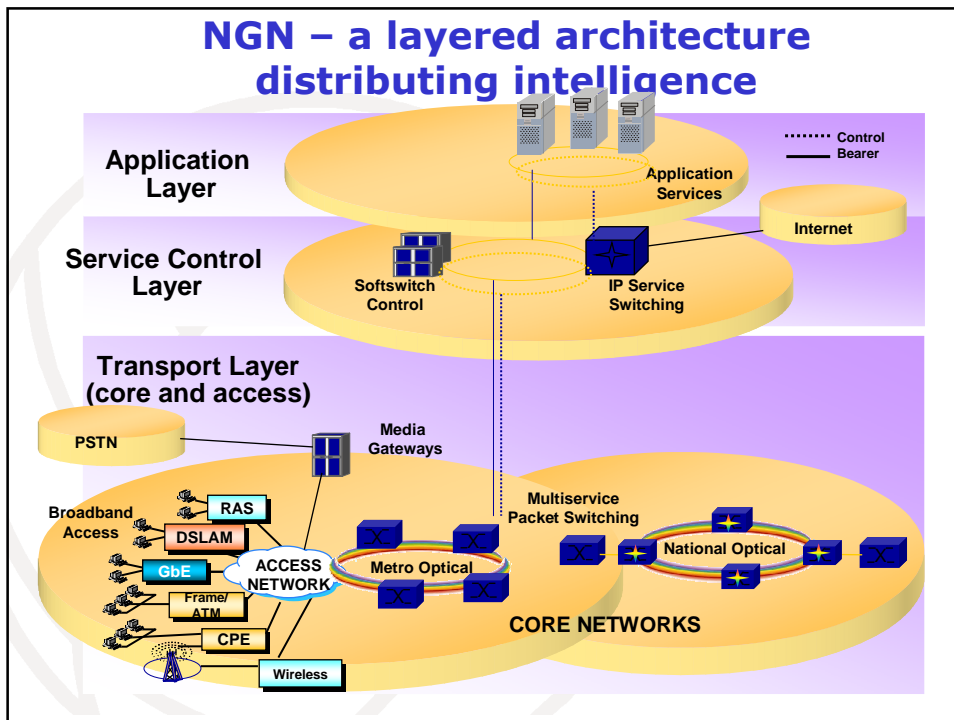
**ITU-D Regional Development Forum 2010
NGN and Broadband for the Arab Region
(Cairo, Egypt, 13 to 15 December 2010)**

**Emerging Trends in NGA Policy and
Innovative Financing Models**

**Satya N. Gupta
Chief Regulatory Advisor
BT Global Services, India and SAARC**

Agenda

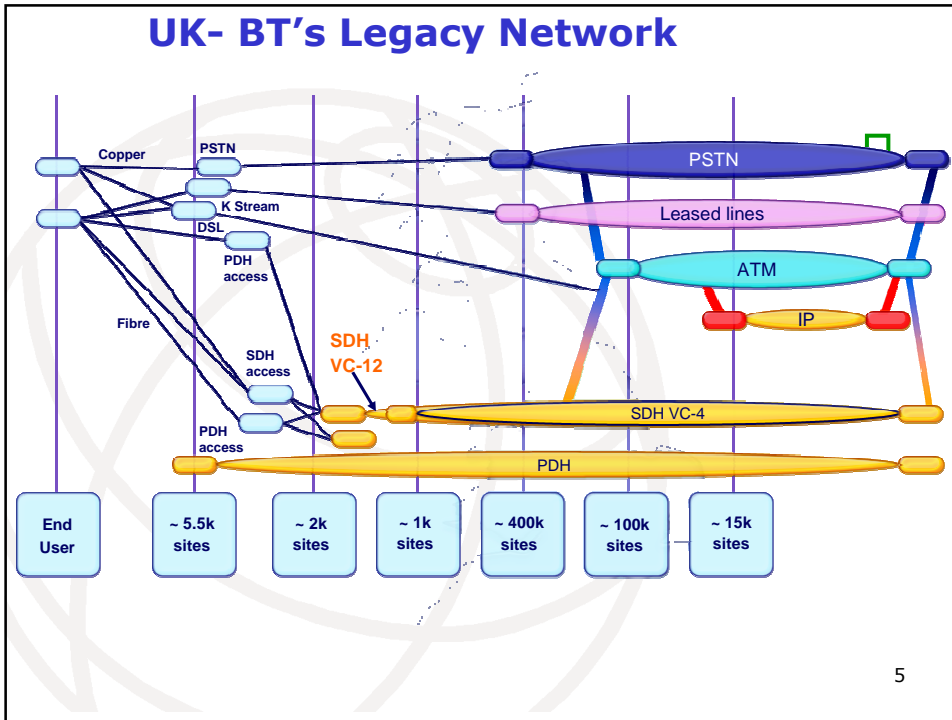
- **Next Generation Network Architecture
– Layered approach**
- **Next Generation Access (NGA)**
- **NGA – Superfast Broadband**
- **NGN Regulation – UK Approach**
- **Enabling Policy for NGA**
- **Innovative Financing Models for NGA**



Technologies for Next Generation Access (NGA)

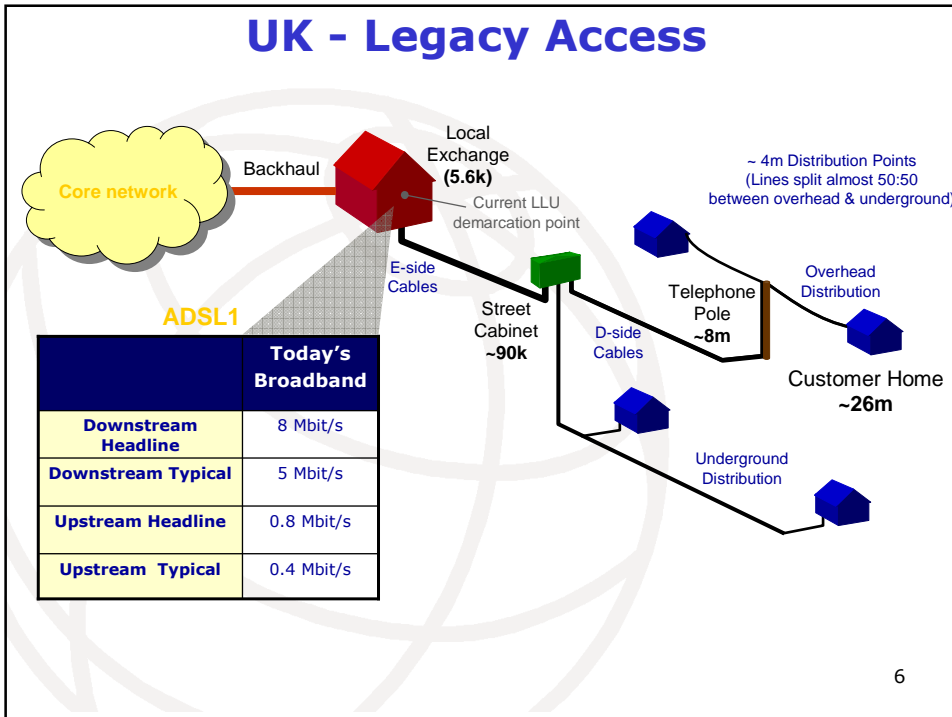
	ADSL	ADSL2+	FTTC (+VDSL)	FTTP (All homes)
Downstream Headline	8 Mbit/s	24 Mbit/s	40 Mbit/s	100 Mbit/s
Downstream Typical	5 Mbit/s	10 Mbit/s	20 Mbit/s	50 Mbit/s
Upstream Headline	0.8 Mbit/s	0.8 Mbit/s	10 Mbit/s	30 Mbit/s
Upstream Typical	0.4 Mbit/s	0.4 Mbit/s	5 Mbit/s	15 Mbit/s
Cost of Deployment			£200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

UK- BT's Legacy Network



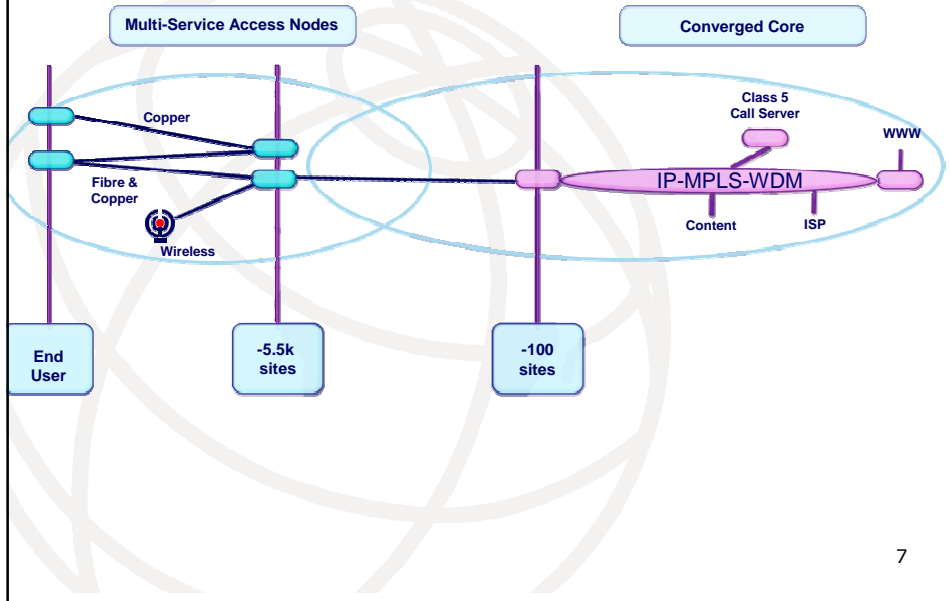
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UK - Legacy Access

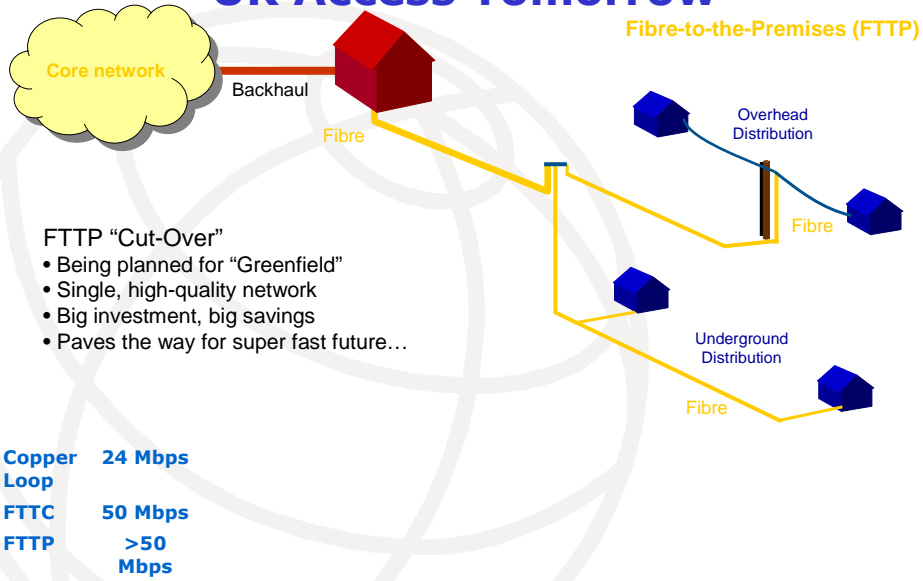


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Next Generation Simplified Network -BT'S 21CN



UK Access Tomorrow



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*

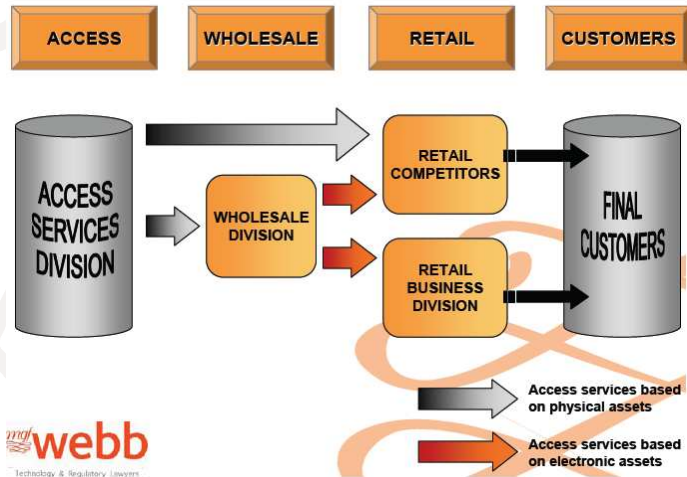
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Regulation and NGN – Key Issues

- **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 simpler**
 - Requires collaboration amongst incumbents, regulators and Competitive communications providers.
 - Over regulation could restrict converged service innovation

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Functional Separation – A new Wholesale Concept

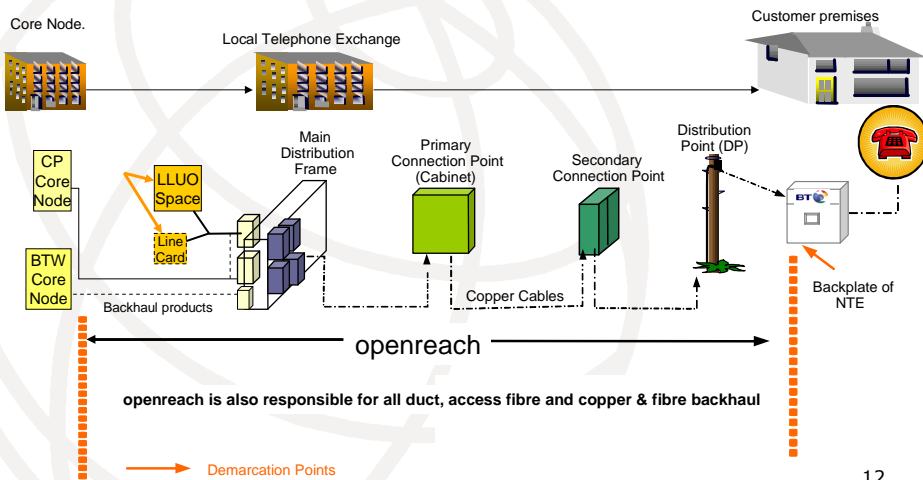


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UK Openreach – Asset Ownerships

PSTN & ADSL Service



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Next Generation Broadband: 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

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UK NGA-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 consumer

- 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

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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

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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

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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

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Removing the barriers to investment

Need to have...

- chance to earn a fair return through cost plus tariffs
- principle based regulation that avoids red tape
- removal of outdated rules, such as having to deploy copper cables in parallel to fibre
- assurance that other Operators will also wholesale their fibre services
- freedom from responsibility for other operators' past investment

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Enabling Policy Initiatives for NGA

- **Allowing wholesale pricing flexibility- Enabling ROI appropriate to risks**
- **Minimizing inefficiencies in Network Design- Forbearing Technical Regulation, Technology- Neutrality**
- **Supporting use of new and more flexible wholesale services**
- **Safeguarding the opportunity for further infrastructure based competition**
- **Symmetric Regulation for all new infrastructure**
- **Setting up of National Internet Exchange (IXP)**
- **Utilization of USO/Public fund for National Broadband Network/Alternate Telecom Network (ATN)**
- **Functional separation of Bottleneck Infrastructure from service provision**
- **Capping the cost of international connectivity**
- **Removing any restriction on VOIP**

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Innovative Financing Models

- **Fast speed Public funding of NBN/ATN through USO (Universal Service Obligation fund)-USA, UK, Australia, Singapore, Korea, Srilanka**
- **Public Private Partnerships – collaboration between government and private agencies**
- **Active infrastructure sharing-Shared LLU, Bit Stream Access, Active Loop Access, BSC, Backhaul Sharing, Franchising**
- **Bundling of CPE with Service offering**
- **Functional Separation of SMP-Unlocking the Potential and Turbo-charging the Utilisation**
- **Managed services (Outsourcing), Capex-Opex conversion/Vendor financing, BOLT,BOO,EaaS**

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THANK YOU

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