

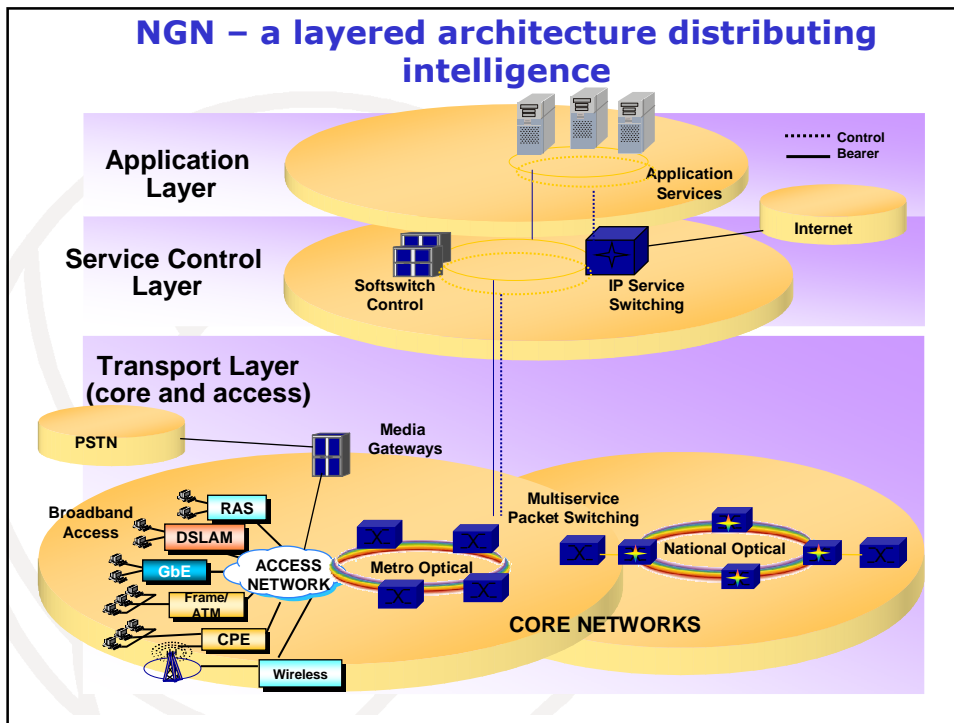


## **Emerging Trends in NGA Policy and Innovative Financing Models**

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

### **Agenda**

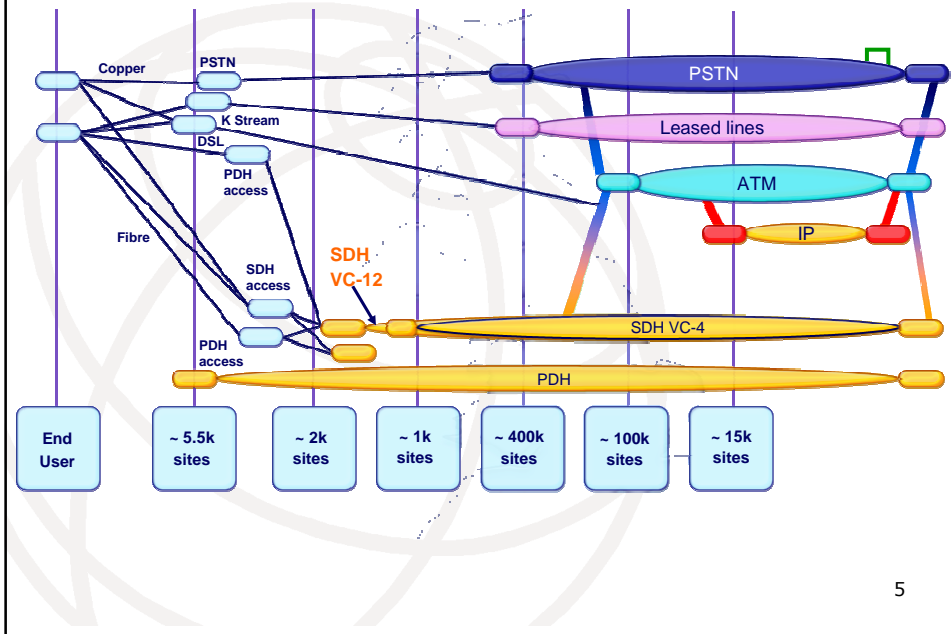
- **Next Generation Network Architecture – Layered approach**
- **Next Generation Access (NGA)**
- **NGA – Superfast Broadband**
- **NGN Regulation – UK Approach**
- **Enabling Policy for NGA**
- **Innovative Financing Models**



## Technologies for Next Generation Access (NGA)

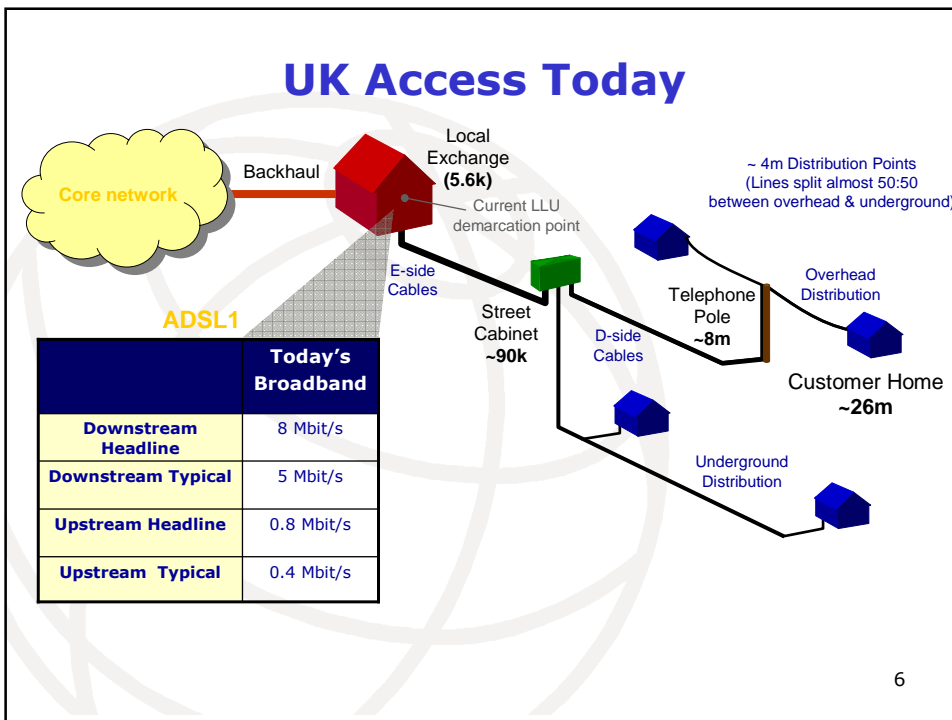
	Now	ADSL2+	FTTC (+VDSL)	FTTP (All homes)
<b>Downstream Headline</b>	8 Mbit/s	24 Mbit/s	40 Mbit/s	100 Mbit/s
<b>Downstream Typical</b>	5 Mbit/s	10 Mbit/s	20 Mbit/s	50 Mbit/s
<b>Upstream Headline</b>	0.8 Mbit/s	0.8 Mbit/s	10 Mbit/s	30 Mbit/s
<b>Upstream Typical</b>	0.4 Mbit/s	0.4 Mbit/s	5 Mbit/s	15 Mbit/s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

## BT UK's Current Network



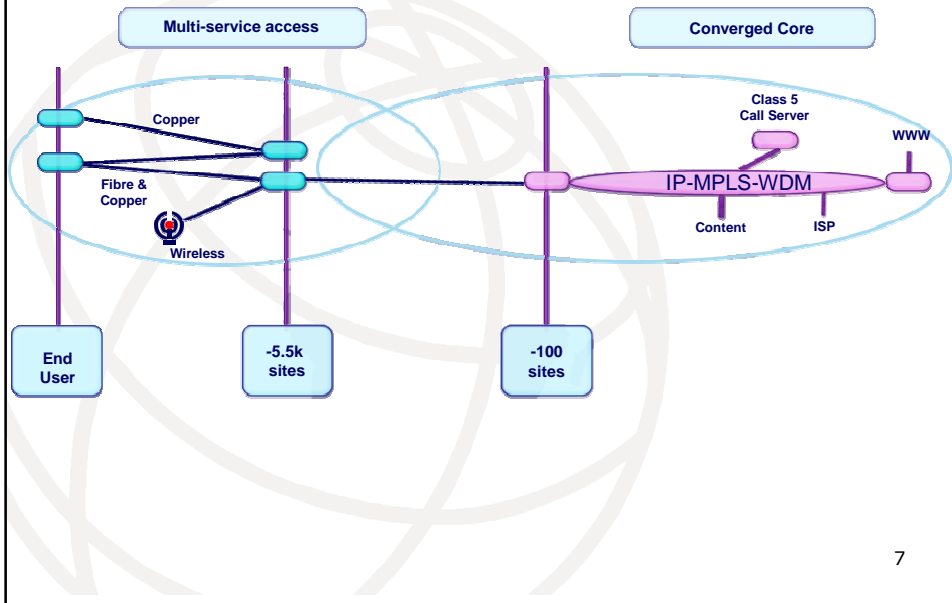
5

## UK Access Today

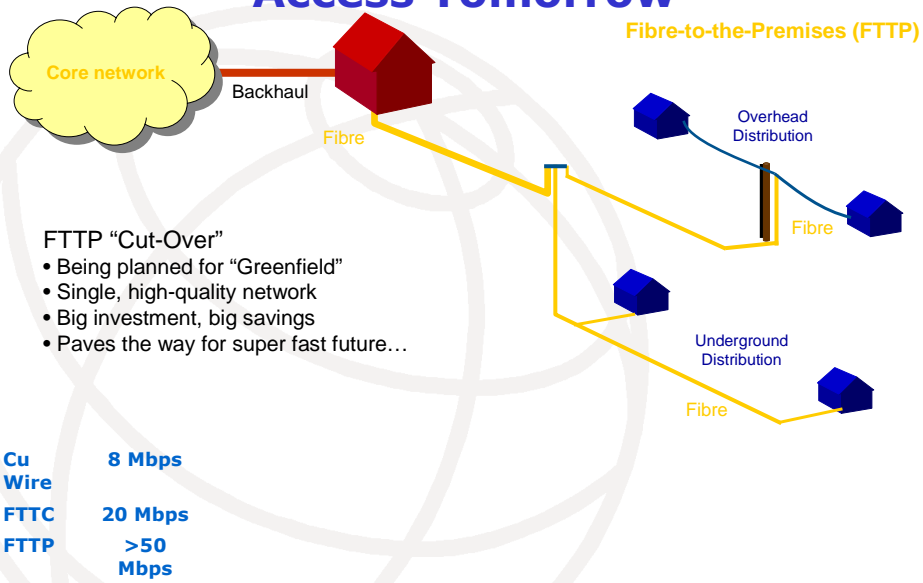


6

## Next Generation Simplified Network BT'S 21CN



## 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 to be focused on bottlenecks-Access and Backhaul for SMP
- Incentive to invest in NGNs and Innovate
- Expectation of reduced regulation downstream
- Promote infrastructure-based competition
- Benefits the consumers, operators and UK economy
- Incumbent to compete fairly on a level playing field

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

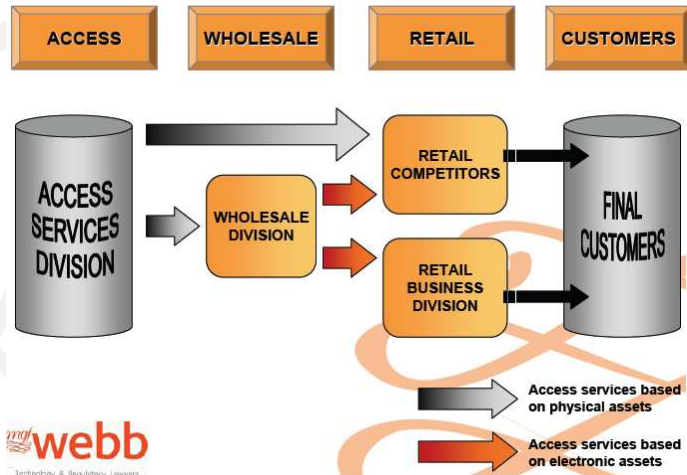
9

## **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

10

## Functional Separation – A new Wholesale Concept

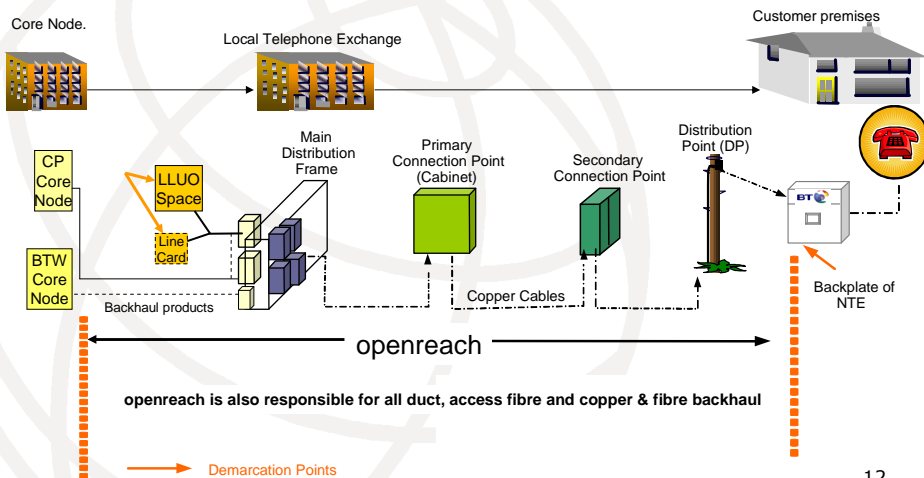


**webb**  
Technology & Regulatory Lawyers

11

## UK Openreach – Asset Ownership

### PSTN & ADSL Service



12

## 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
- Need for the barriers to investment being removed

13

## 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

14

## The Next Chapter: a 'mixed economy' model

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

\*2008FY = 08/09 financial year

15

## What it means for consumers

### TODAY...



Fast internet...



Instant messaging...



VoIP...



BT Vision...



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, 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

16



## 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

17

## Removing the barriers to investment

We need to have...

- chance to earn a fair return if investment is successful
- 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 UK companies will also wholesale their fibre services
- freedom from responsibility for other operators' past investment

18

## 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 Broadband Network
- Functional separation of incumbents infrastructure from service provision
- Capping the cost of international connectivity

19

## Innovative Financing Models

- Public fast speed funding of NBN/ABN through USO (Universal Service Obligation fund)-USA, UK, Australia, Singapore, Srilanka
- Public Private Partnerships – collaboration between government and private agencies
- Active infrastructure sharing-Shared LLU, Bit Stream Access, Active Loop Access, Franchising
- Bundling of CPE with Service offering
- Functional Separation of Incumbent-Unlocking the potential and Utilisation
- Managed services (Outsourcing), Capex-Opex conversion/vendor financing, BOLT, BOO

20



**THANK YOU**

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21