ComReg NGN Forum – 8 March 2007

Ittai Hershman, BT Wholesale

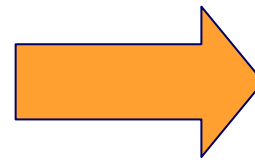**Director, 21CN Commercial Development**

Ittai.Hershman@BT.COM

CAUTIONARY STATEMENT

The details of BT's 21st century network are still in the process of development and the subject of consultation.

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BT's 21CN Strategy

Convergence

Cost Transformation

De-Regulation

Need for Change

Refresh Portfolio

Customer Experience

Innovation

Not simply network transformation…a radical overhaul of BT's business and systems

A world first for a telecommunications company

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The 21CN UK Network Transformation

- **Ethernet for multi-service aggregation & backhaul; IP/MPLS for core routeing**

- **Separation of services from the network using common capability building blocks for global deployment**

- **Initial services in the UK is PSTN, Broadband, Ethernet for ~30 million lines**

- **Equality of Access for BT's wholesale customers for SMP products & services**
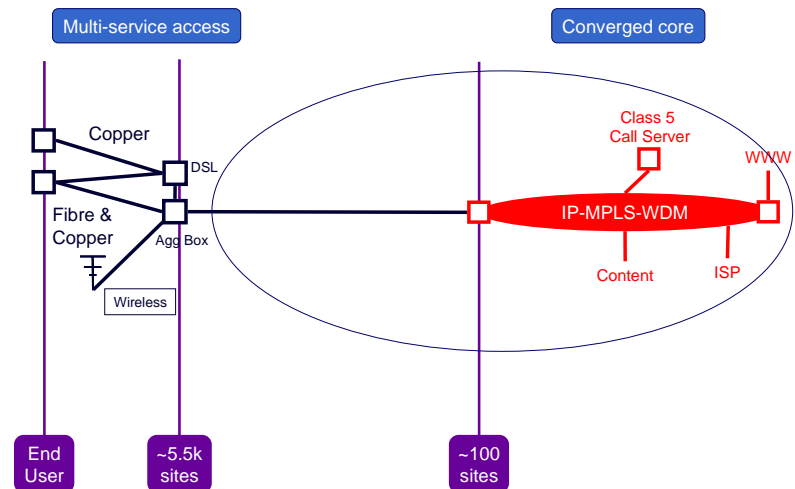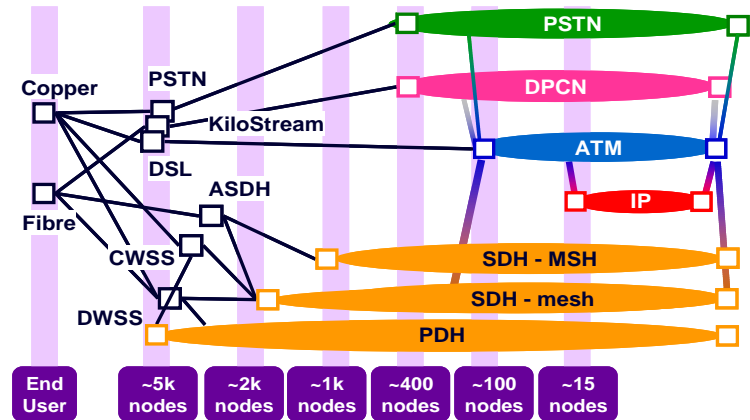
Current thinking. No implementation assurances

BT Doesn't Have All the Answers

- Consult21 launched Summer 2004
- Remit is open and transparent consultation with wholesale customers (CPs)
- Director recruited from a CP
- 10 Working Groups, including:
  - Product Migration from 20CN to 21CN
    (E.g. PSTN Interconnect, Broadband, Ethernet)
  - 21CN Migration Management
  - Communications
- Each WG has BT and Industry Co-Chairs
- Industry Steering Board (Ofcom monitors)
- All proceedings published on the Internet

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Regulatory Certainty is Key

- NGNs are driven by cost savings
  - No one can "build it and they will come" on revenue bet
  - Investment requires demonstrable shareholder value

- Regulators face a difficult challenge
  - NGNs are disruptive to traditional boundaries
  - NGNs challenge past regulatory assumptions
    (e.g. thin & disperse vs. fat & fewer interconnect)

- Regulation needs to become simpler
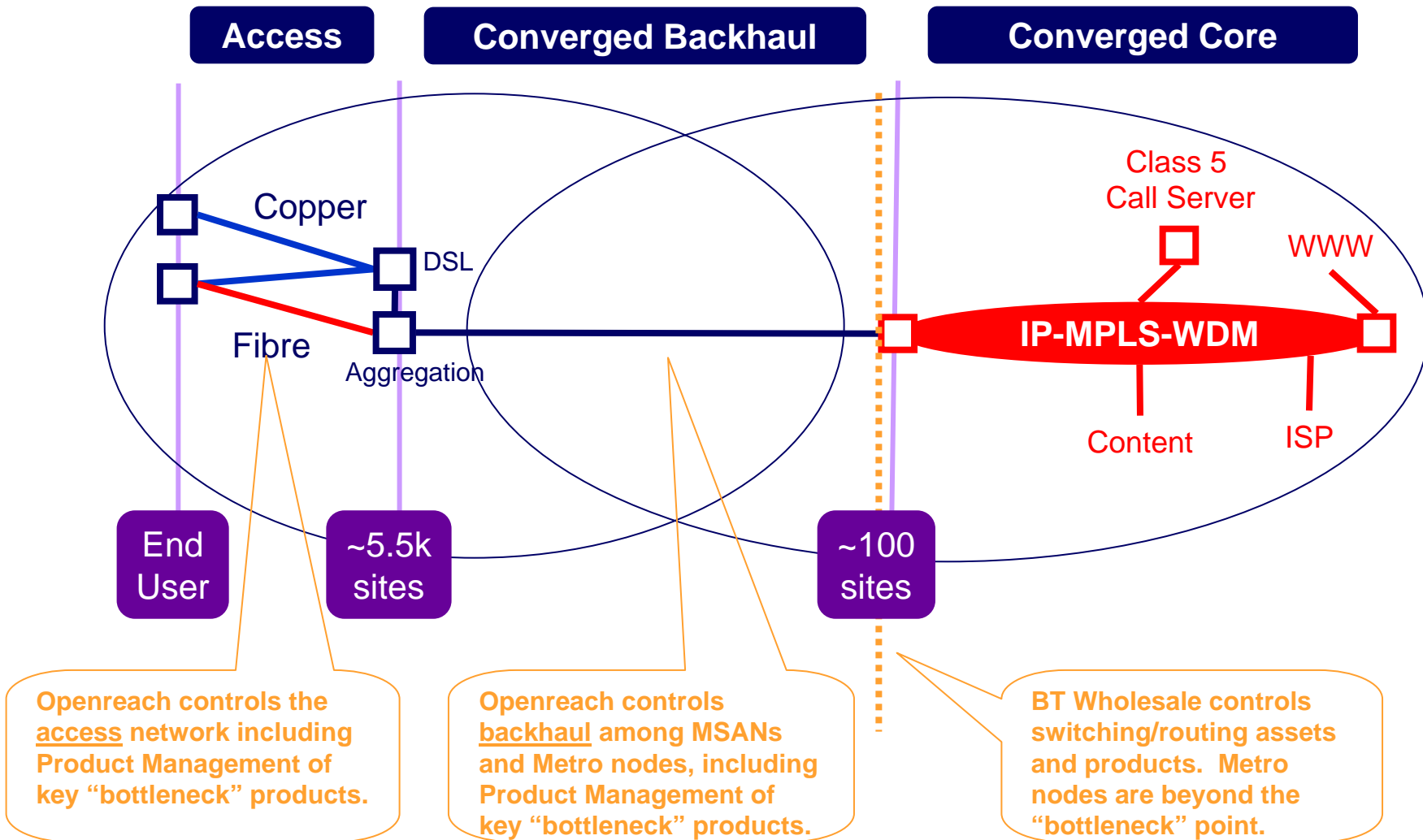 - Requires collaboration amongst incumbents, regulators and communications providers.

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Regulatory Context for BT's NGN in the UK

- ## Ex-ante regulation
  - Applies to defined markets where BT has SMP
  - Provision of network access/interconnect, non-discrimination, cost-oriented prices, etc.

- ## BT's Undertakings – NGN-specific section
  - No foreclosure of network access without consultation
  - Charges to be based on efficient network design
  - Network access to be provided on Equivalence basis
  - Industry group to agree transition to NGN interconnect
  - Compensation arrangements

> BT's NGN comprises packet-based products delivered to/from the exchange through the core network; it is access medium agnostic.
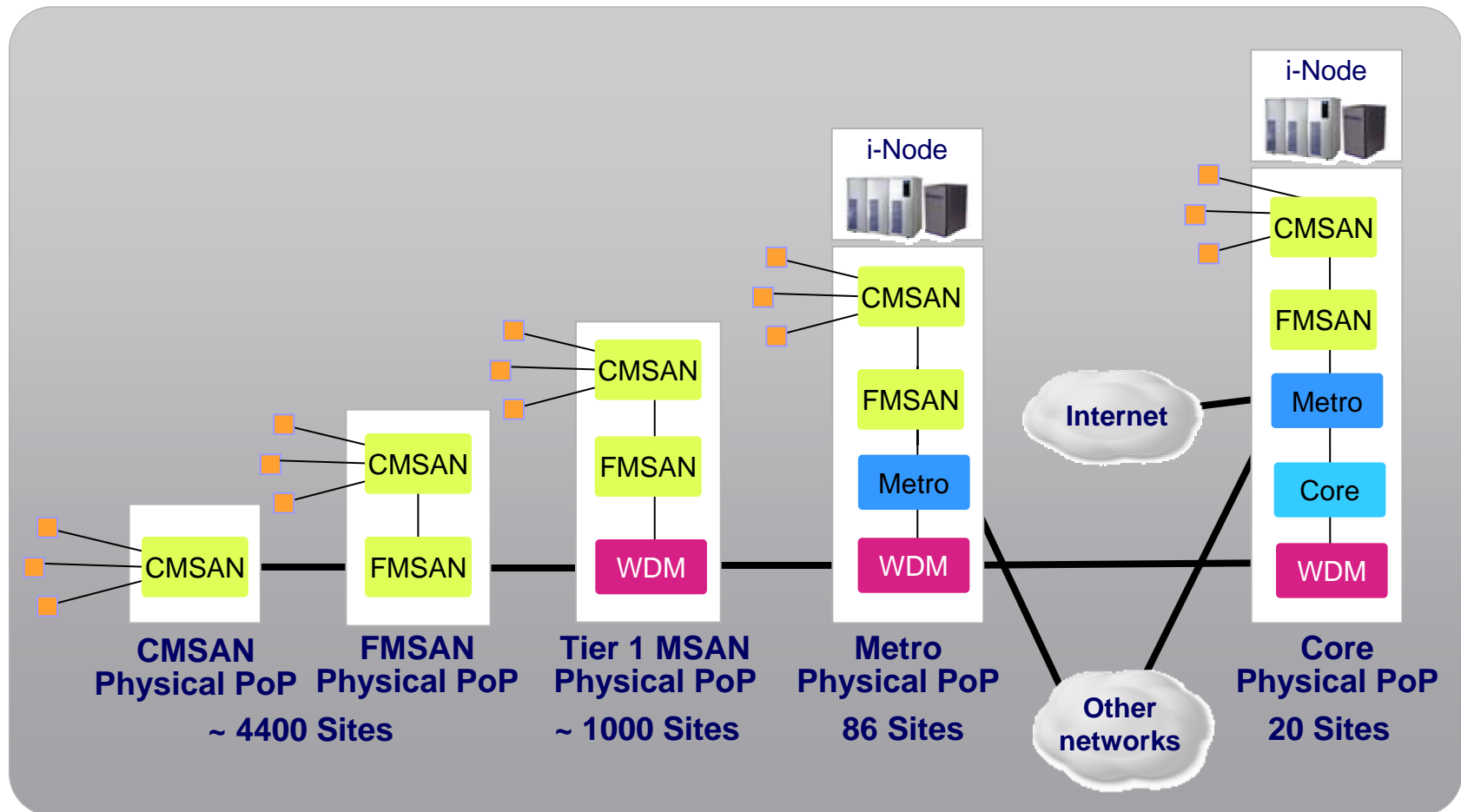
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Our Simplified Network – 21CN

Access | **Converged Backhaul** | **Converged Core**

Copper

DSL

Fibre

Aggregation

Class 5
Call Server

WWW

IP-MPLS-WDM

Content

ISP

End User

~5.5k sites

~100 sites

Openreach controls the <u>access</u> network including Product Management of key "bottleneck" products.

Openreach controls <u>backhaul</u> among MSANs and Metro nodes, including Product Management of key "bottleneck" products.

BT Wholesale controls switching/routing assets and products. Metro nodes are beyond the "bottleneck" point.
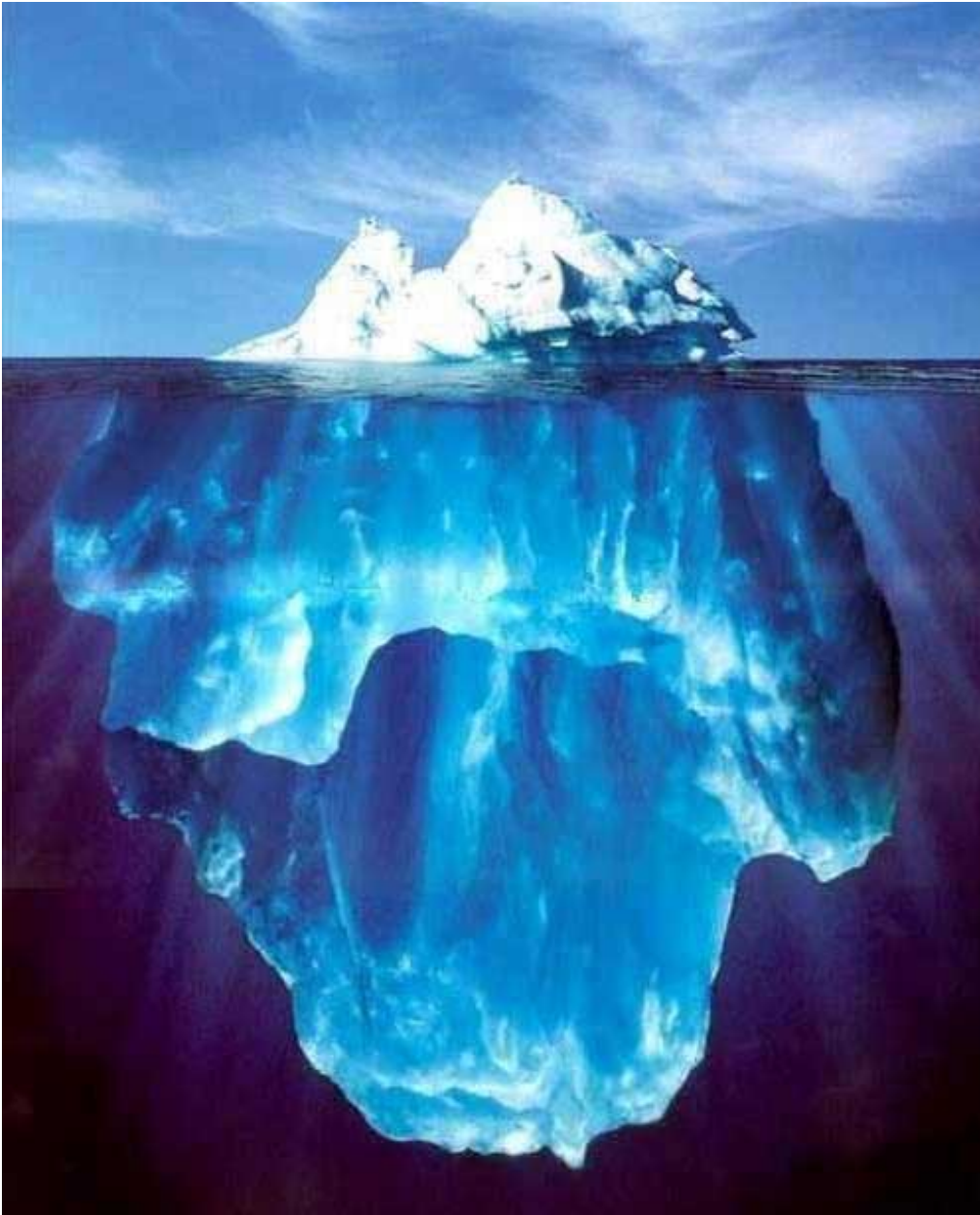
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21CN Network Architecture

The interconnect Iceberg

Technical Standards

Notional charging models

The interconnect iceberg

Technical Standards

Notional charging models

Detail of architecture

Mapping functions to physical nodes

Planning rules

Practical commercials

Practical contracts

Transition arrangements

Testing/Trials

Support of legacy services

Support of new services

NGN PSTN Interconnect State of Play

- ## Legacy Interconnect Product (VIC)
  - Virtualises TDM Local Switch (DLE) Interconnect to Tandems preserving commercial neutrality through systems
  - Ideal for CPs not ready for NGN Interconnect

- ## Interim NGN PSTN Emulation
  - NGN PSTN SIP-I (C7 Encapsulation) mimicking current TDM commercial charging: i.e. regulated network charge control
  - Ensures commercial certainty during migration interregnum

- ## Voice Line Access
  - Product to allow an intelligence-heavy infrastructure-lite CP to provide retail feature differentiation using their own Call Server

- ## Future NGN PSTN Interconnect
  - Subject of discussion at independent NGNuk Industry Group
  - Intended as a commercial model for all NGNs, not just BT

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Planning for 21CN End-User Migration

- Consult21 Working Groups on Migration and Testing
- Open and Transparent Testing Process
- Migration Command and Control (MCC)
- End-User Communication
  - One Website (www.switchedonuk.org)
  - One call centre – 0800 030 4000

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21CN – We've flicked the switch!

- First end-user lines were migrated on 28 November 2006.

- A global first has been notched up in a Welsh village with the first call over the most advanced telephone network in the world.

- It was made by 11 Year Old Laura Wess from Wick in the Vale of Glamorgan,

- Migration of around 350,000 end user lines in the Cardiff, Bridgend and Pontypridd area is next.

- Valuable industry insights will help assure future migration of 30 million lines across the UK.

end user migration boundary
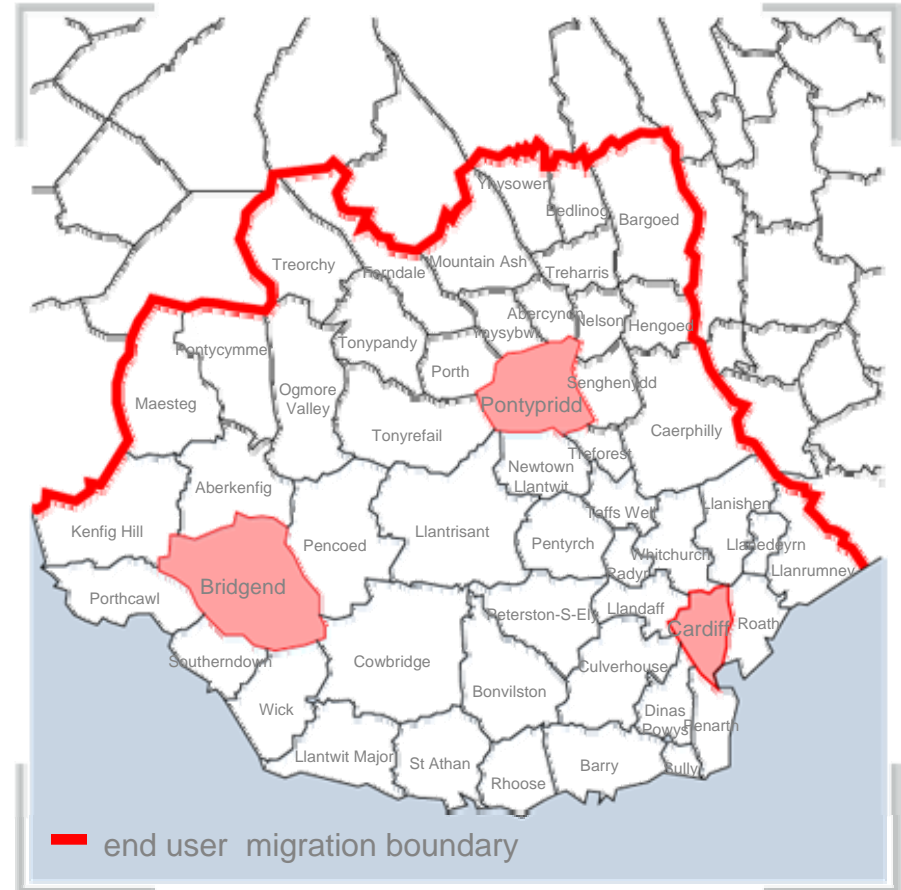
Next Generation Access: Is it Next?

- Need to be clear what is meant by NGA (as opposed to NGN)
  - Is it about rolling out Access Fibre specifically i.e. technology specific or….
  - Is it about rolling out high bandwidth access independent of technology?
  - NGA today is about access bandwidth speed
- But, what services will this higher speed actually deliver?
  - Is this another "solution in search of a problem"
- BT believes the commercial context should be:
  - Can the networks carry the applications people want?
  - Do they reach all of our people?
  - Can people afford to use them?
  - Do those that build them recover their costs?
- So we choose to concentrate on the four things that matter:
  - applications; ubiquity; affordability; commerciality.

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BT's Current View of NGA in the UK

- BT does not believe that there will be a market driven economic case for national or geographically universal NGA fibre deployment for the foreseeable future.
  - But, greenfield and some brownfield sites may cost in using FTTC
  - And we may choose to respond to Public Sector tenders
- NGA deployments need to offer EOI access products
  - In line with the new regulatory framework set out by Ofcom
  - With flexibility where NGA deployment is limited and experimental
- Concerned about perverse outcomes
  - History demonstrates that technology bets, without a commercial driver, rarely succeed
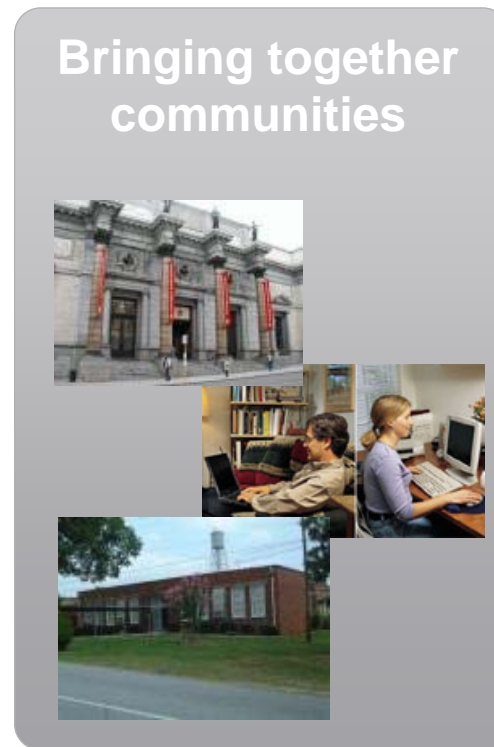 - Public sector subsidy could launch a new bubble economy

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21CN – Lessons learnt

- Make it carrier class

- Be open and transparent

- Be fast

- Don't start until you can do it everywhere

- Be global

- Do it

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The Network Enables a Broader Vision

Data Centre

Mobile

NGN

Home

Anywhere

Branch

HQ Campus

Global, integrated corporate communications

Bringing together communities

Integrated infotainment

Transforming business operations, global supply chains, personalised entertainment and social communities

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