

A better business



A better future

BT Group plc

BT Network Teach-in

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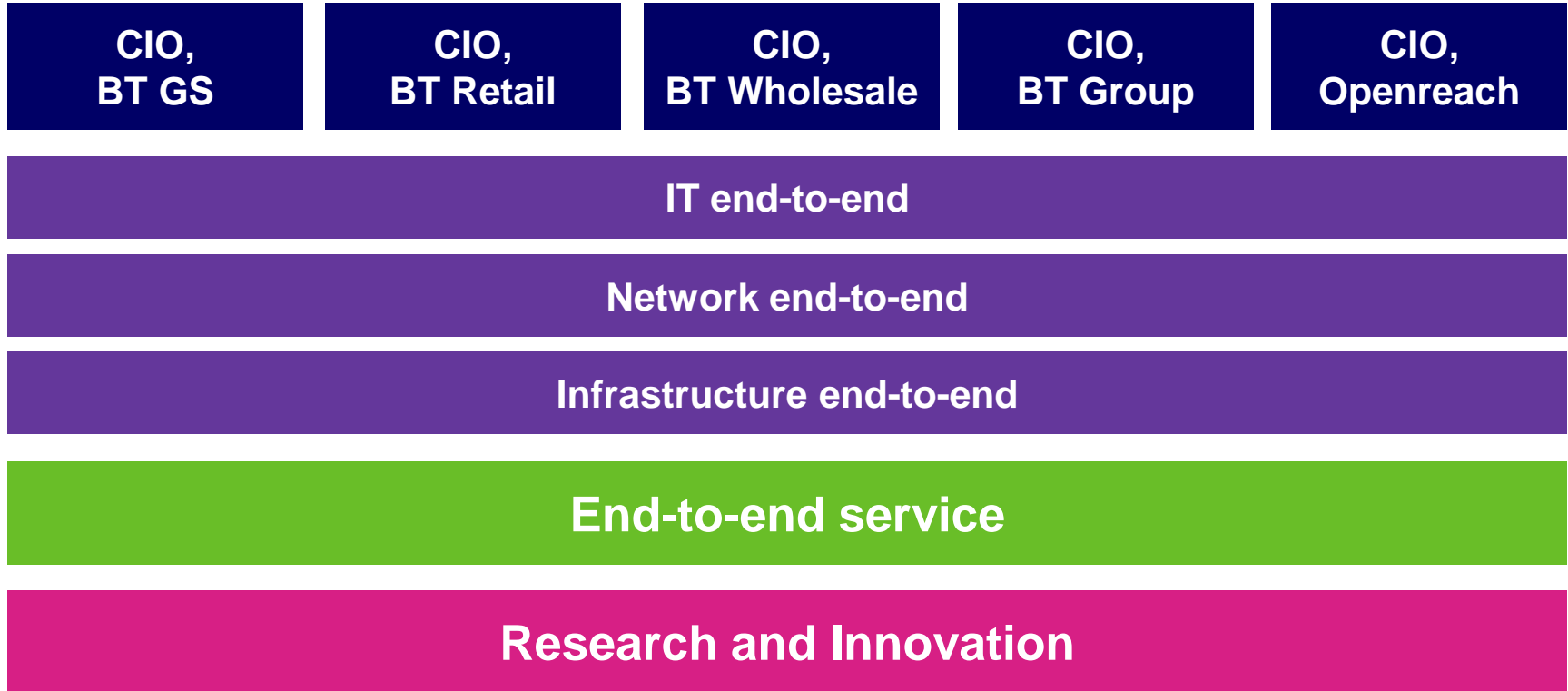
5 March 2013

BT Chief Architect role

- ▶ Part of BT Technology, Service & Operations (TSO)
- ▶ Pan-BT accountability for technology and process
- ▶ Focused on technology of all IT platforms, networks and infrastructure
- ▶ Regularly upgrade IT Platforms with major releases several times each year
- ▶ Own all technical delivery for BT's TV business

BT Technology, Service & Operations

- ▶ TSO – a simpler, more end-to-end structure



BT Technology, Service & Operations

- ▶ Simpler for our people so we can deliver better for our customers

Simplifying our organisation

- ▶ Removing boundaries
- ▶ Allowing a view of the whole lifecycle

Simplifying our processes

- ▶ Removing complexity
- ▶ Speeding up delivery

Simplifying our legacy

- ▶ Networks
- ▶ IT platforms

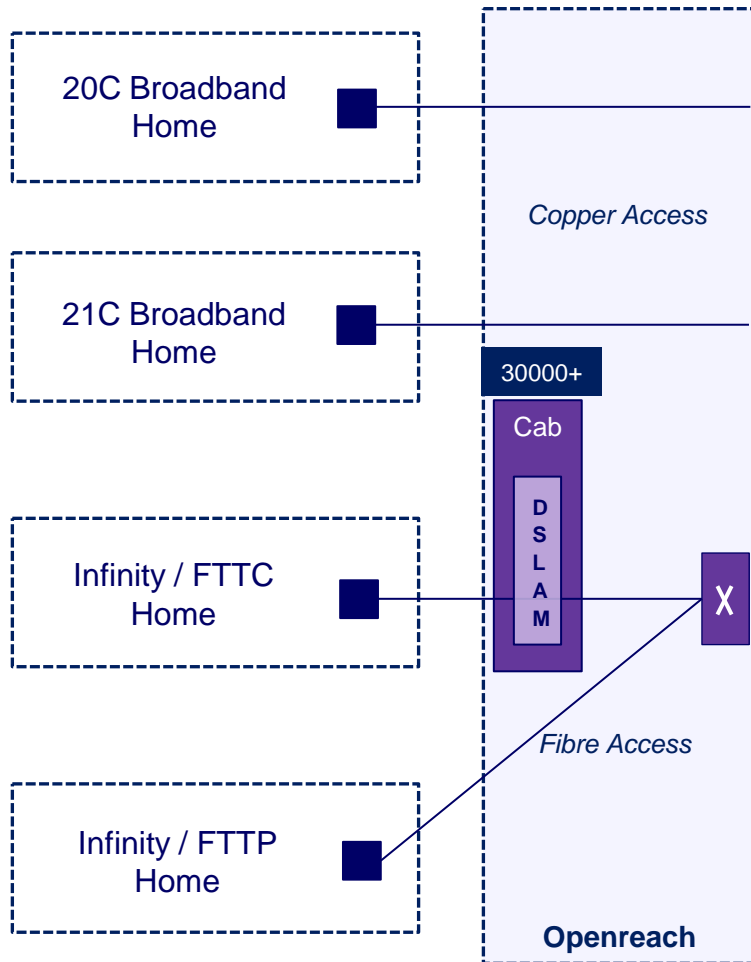
Simplicity to deliver clarity

- ▶ Clarity of accountability
- ▶ Clarity to speed up decision making

BT's UK Network structure

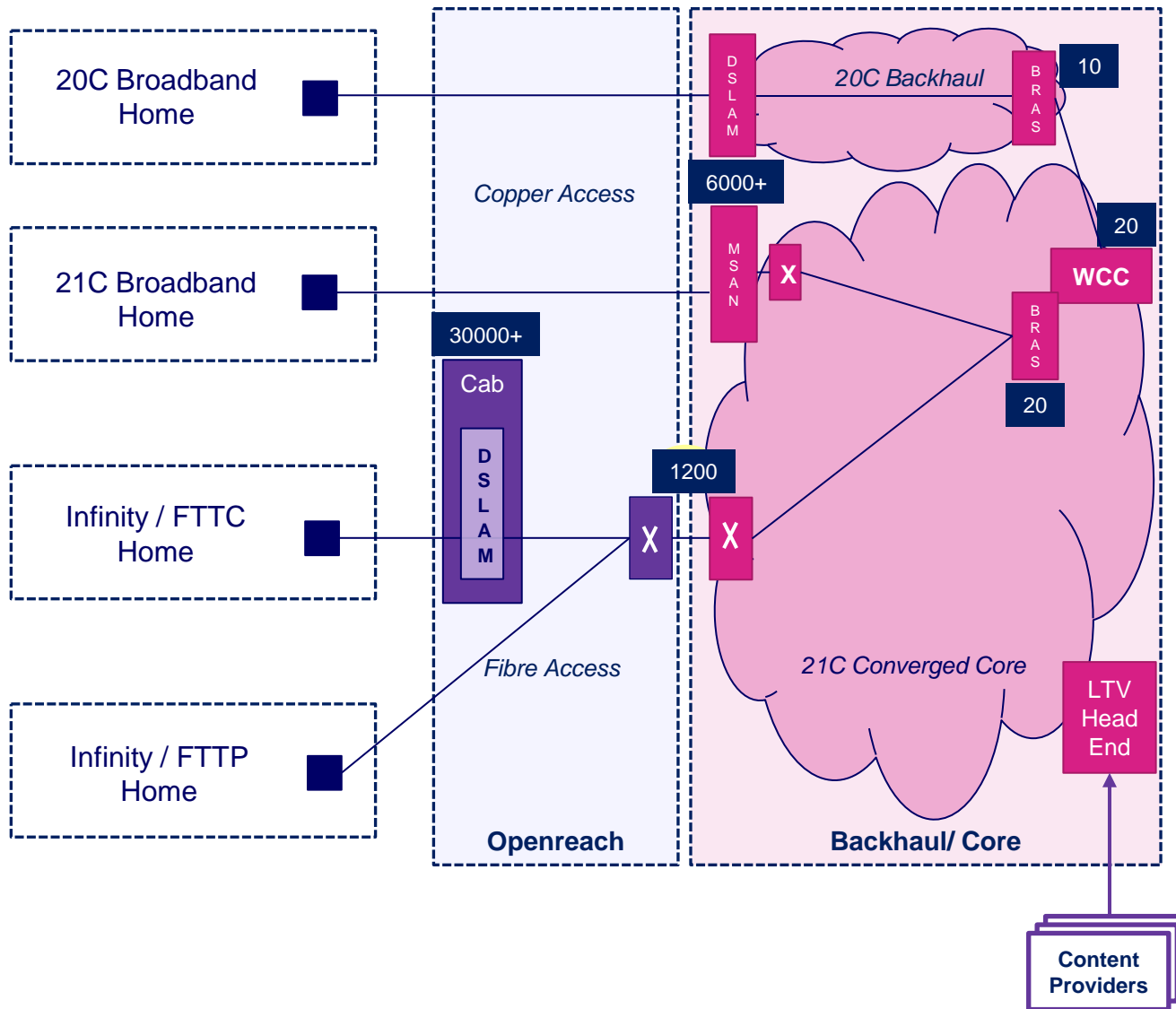
- ▶ Broadband network structured around regulatory interfaces
- ▶ Highly resilient and scalable dual-vendor core
- ▶ Legacy networks still in place (PSTN, 20C data, ATM)
- ▶ Opportunity to change broadband architecture over next few years

BT's UK Network structure



- ▶ Significant investment in fibre and broadband in recent years
 - fibre to more than 13m premises
 - WBC (ADSL2+) to more than 90% of UK
- ▶ Further significant investment in access layer to reach 2/3 premises with fibre during spring 2014
 - potential to reach >90% in 2017

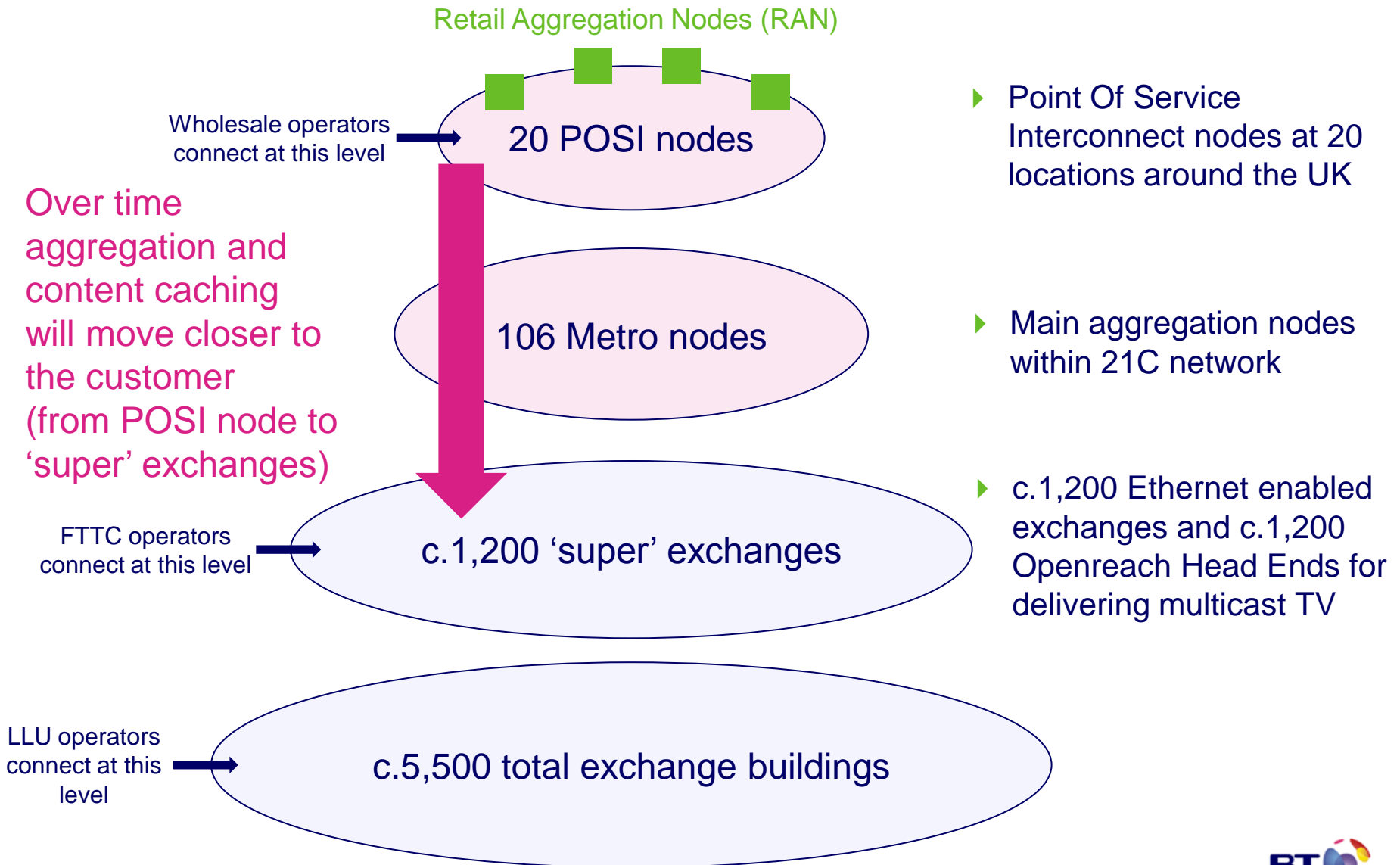
BT's UK Network structure



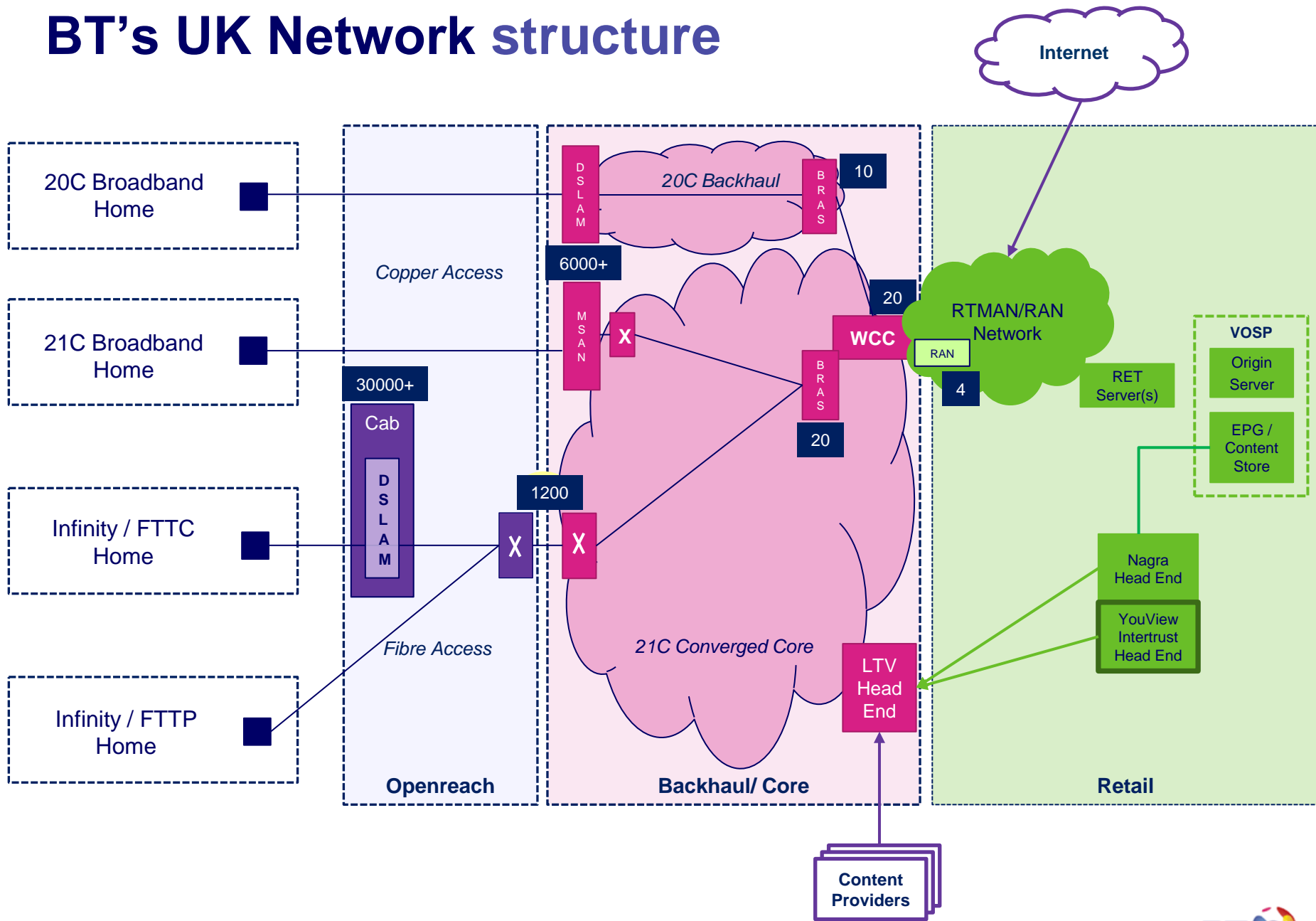
- ▶ 21C core scaled for broadband and Ethernet growth
- ▶ Enhanced by the addition of content caches (WCC) and IP Multicast
- ▶ Programme in place to replace 20C Backhaul (ATM)
- ▶ Opportunity to re-architect 21C core

BT's UK Network structure

(as drawn on flip chart)

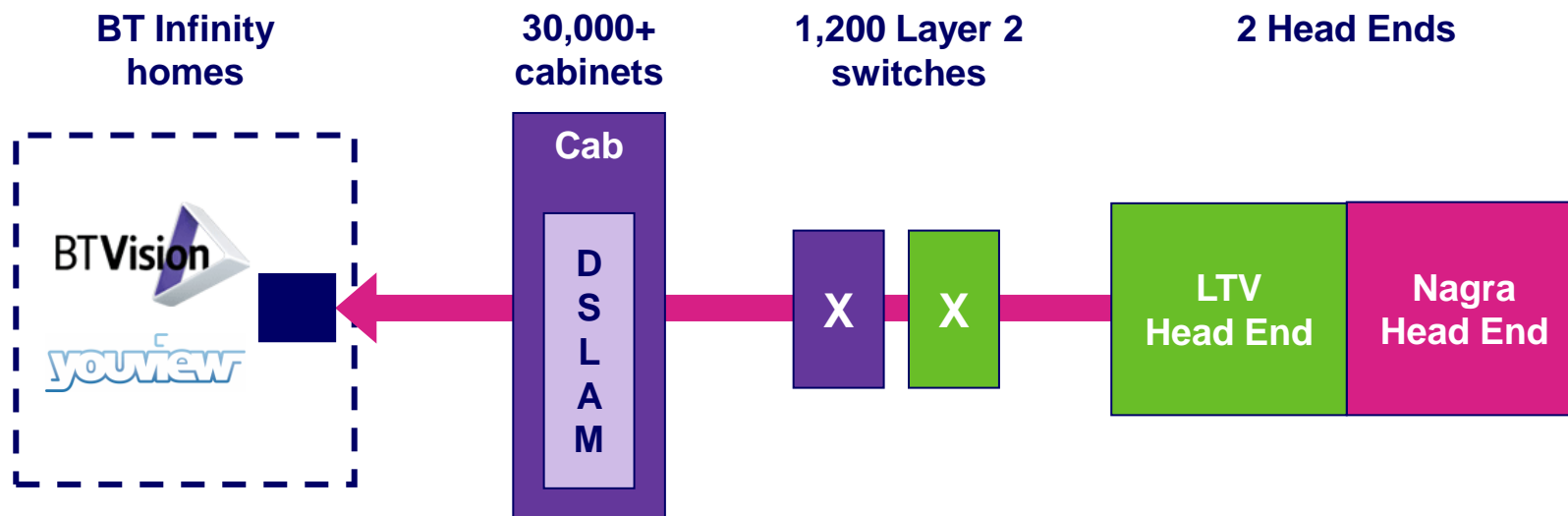


BT's UK Network structure



BT TV multicast network

- ▶ Soft launched in January 2013
- ▶ End-to-end delivery of linear TV



BT TV multicast network

- ▶ Currently 18 SD plus 4 HD channels
 - 150 Mbps to each fibre cabinet to deliver channels



- ▶ Enhancing the proposition later this year
 - upgrading to 500 Mbps to each fibre cabinet to deliver additional channels

BT TV multicast network

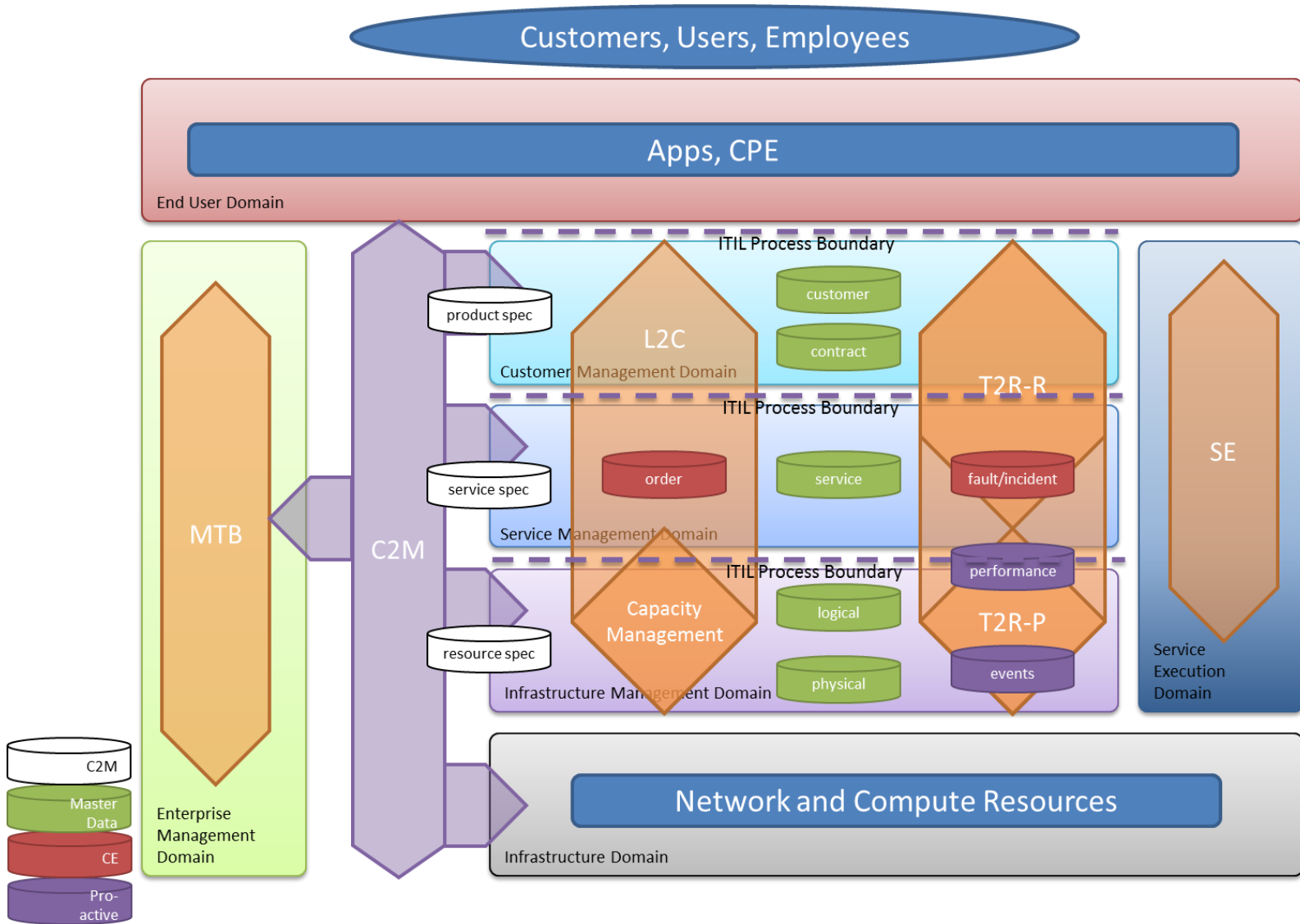
- ▶ Multicast on YouView requires a different encryption than delivery on legacy Vision platform
- ▶ Simulcrypt allows BT to transmit channels once but encrypt with two keys
 - avoids cost of retransmitting channels twice



IT Platforms summary

- ▶ Matrix portfolio architecture used
 - applications aligned into functional platforms
 - functionality grouped into stacks for each customer-facing unit
- ▶ Mixed use of off-the-shelf products (e.g. Oracle) and in-house
- ▶ Opportunity for further improvements
 - simplify application estate
 - reduce number of UK data centres
 - significant virtualisation opportunity

IT Platforms new architecture



Summary

- ▶ End-to-end structure allows TSO to improve customer delivery
- ▶ Significant network investment has driven improvements with more to come
- ▶ Robust linear TV delivery network in place
- ▶ Opportunity for further IT platform improvements

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Q&A

Appendix glossary

BRAS	Broadband Remote Access Server - routes traffic to and from broadband remote access devices
C2M	Concept to Market – the process of creating and delivering new or improved products or processes
DSLAM	Digital Subscriber Line Access Multiplexer - a network device, often located in a telephone exchange or cabinet which connects multiple customer digital subscriber line (DSL) interfaces to a high-speed digital communications channel using multiplexing techniques
Head End	The originating point in a communications system. In TV delivery, the head end is where the programming originates in the network
ITIL	Information Technology Infrastructure Library – a set of practices for IT service management adopted by many thousands of organisations
L2C	Lead to Cash – a set of business processes that begin with a lead and end with the company receiving cash
LTV	Linear Television – channels delivered via IP Multicast
MSAN	Multi-Service Access Node - a device typically installed in a telephone exchange or street cabinet which connects customers' telephone lines to the core network, to provide telephone, ISDN, and broadband all from a single platform
MTB	Manage The Business – the set of applications used to run the business (e.g. HR and finance systems)

Appendix glossary

RET Server	Retransmission server – used with IP Multicast services to increase quality of delivery by supplying lost packets on request
RTMAN	Retail Traffic Management Node - used to stream the upstream and downstream broadband traffic through the traffic management equipment to manage the service for the customer
RAN	Retail Access Node – the Points of Service Interconnect between the BT Wholesale and BT Retail networks
SE	Service Execution – specific IT applications associated with service delivery to customers (e.g. voice and TV IT applications)
T2R	Trouble to Resolve – process that begins when a customer has told us they are not happy with either our product or service and ends when that problem has been resolved to the customer’s satisfaction
UKMN	BT UK Media Network - provides live-to-air quality real-time video connectivity between television, film and other content producers, and broadcasters
WCC	Wholesale Content Connect – BT Wholesale product that delivers on demand content efficiently by caching content deep in the broadband network