



SITTING ON THE EDGE

Cable Operator Access Network view



HELLO



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SITTING ON THE EDGE



LIBERTY GLOBAL BRAND

Virgin Media UK & IE, UPC Poland, UPC Slovakia, UPC Switzerland, Telenet

REVENUE

\$
\$11.4bn

HOMES PASSED


25.4m

MOBILE


6.1m

FIXED LINE CUSTOMERS


10.8m

subscribing
to a total of

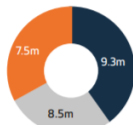
DIGITAL SERVICES (RGUs)



25.3m

which break
down into

RGU BREAKDOWN

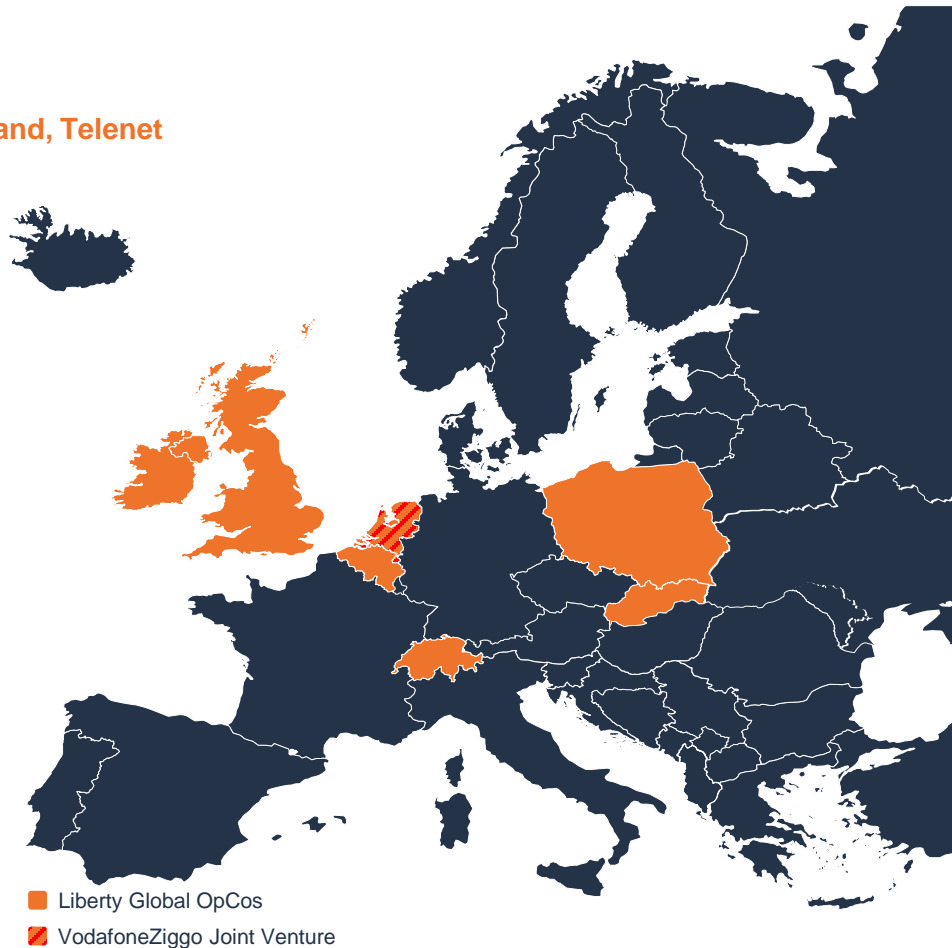
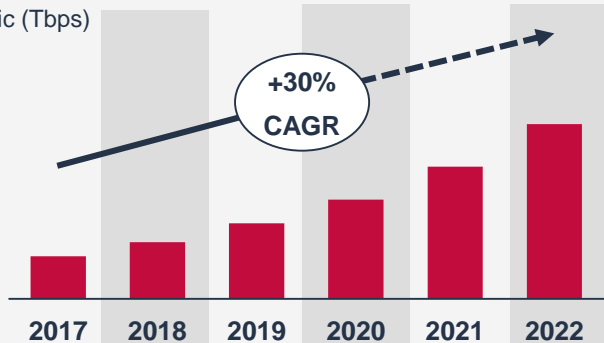


■ Broadband ■ Video ■ Telephony (not mobile)

As of June 30, for our continuing operations

Peak Traffic (Tbps)

Network traffic



TRANSFORMING OUR INFRASTRUCTURE TO MEET THE NEEDS OF TOMORROW

Focus Areas

DIGITIZE &
VIRTUALIZE
THE NETWORK

BEST IN CLASS
DATA CENTERS

SOFTWARE
NETWORKING
& AUTOMATION

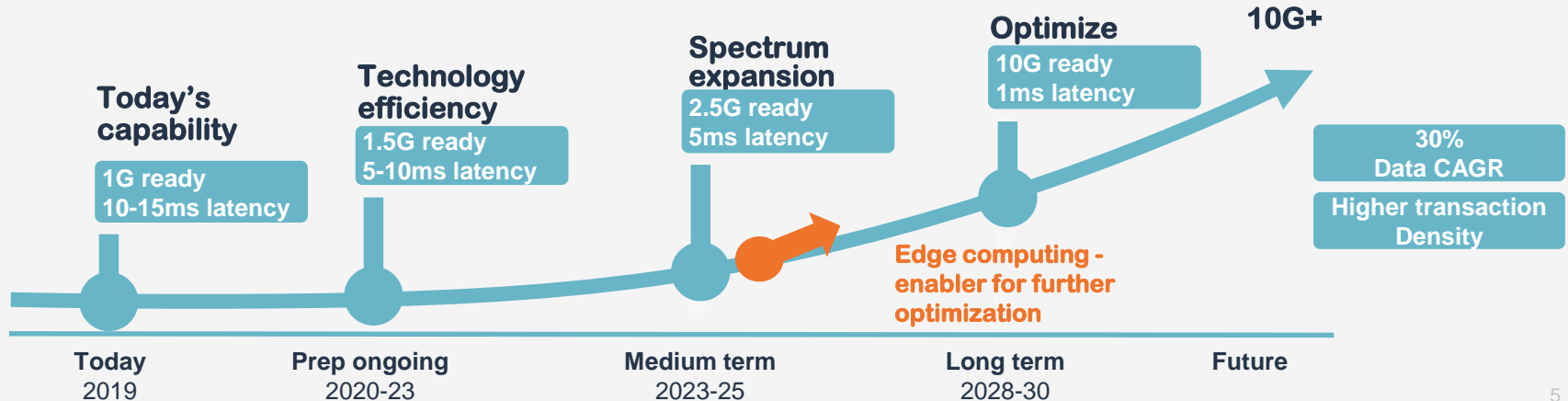
EDGE
COMPUTING
& CACHING

NETWORK
SCALING

STABLE
NETWORK

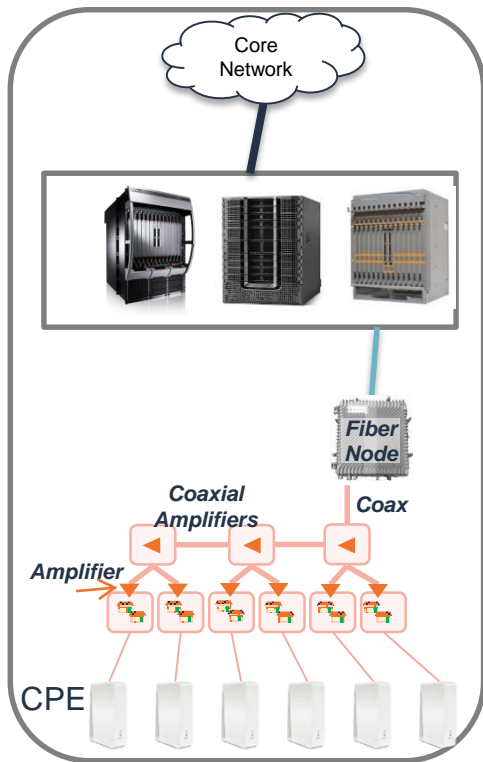
HFC Network evolution

Speed Roadmap



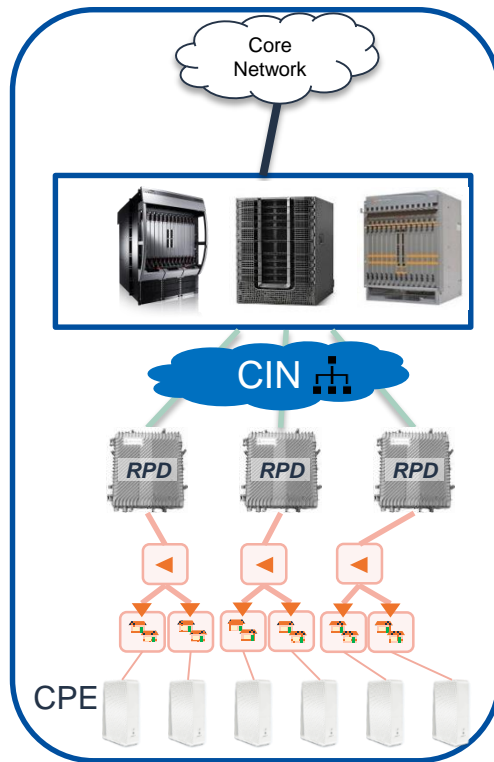
1

Integrated CMTS/CCAP



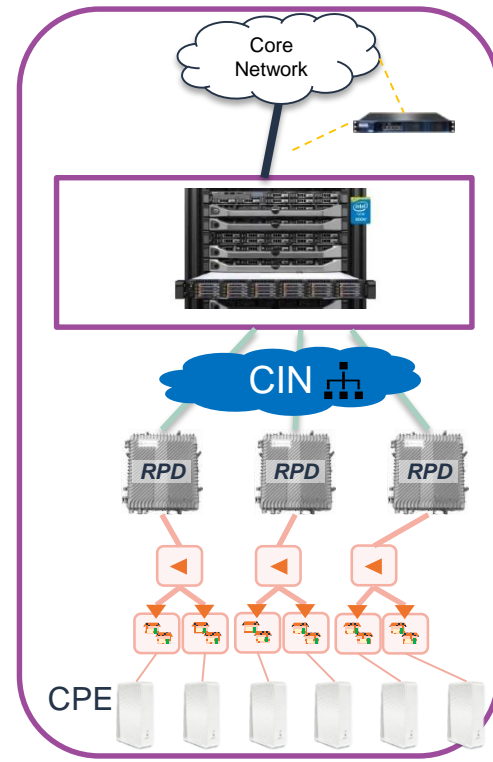
2

Distributed Architecture



3

Virtual CCAP

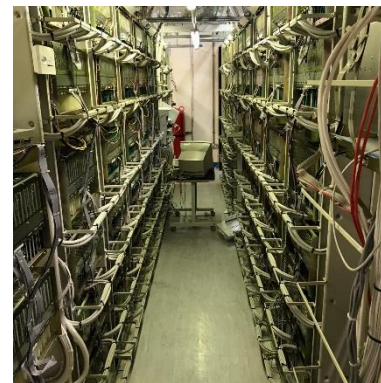


- Analog coax
- Analog optical link
- Digital optical link (CIN)

DIGITALIZATION & VIRTUALIZATION



- **Digitalization & virtualization:**
 - ✓ Reduce RF combining equipment footprint
 - ✓ Reduce optical combining equipment footprint
 - ✓ Optimize broadcast and VOD mod/demod equipment
 - ✓ Optimize space used to provide CMTS/CCAP capabilities
- **Up to 70% Reduction in Rack Space**
- **Up to 65% power saving**
- **Increase number of serving nodes by 6x times when compared to current systems**





Proprietary Hardware



Cloud Native



Lift & Shift



Autonomous Networks



THREE WAVES OF NFV

Edge enabler

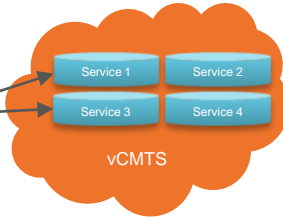
1

Lift & Shift
(Virtualization)



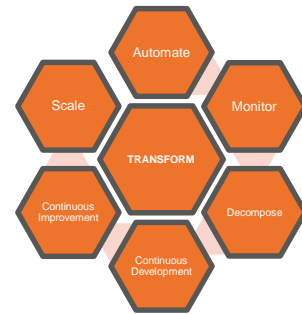
2

Cloud Native
(Containerization &
Decomposition)

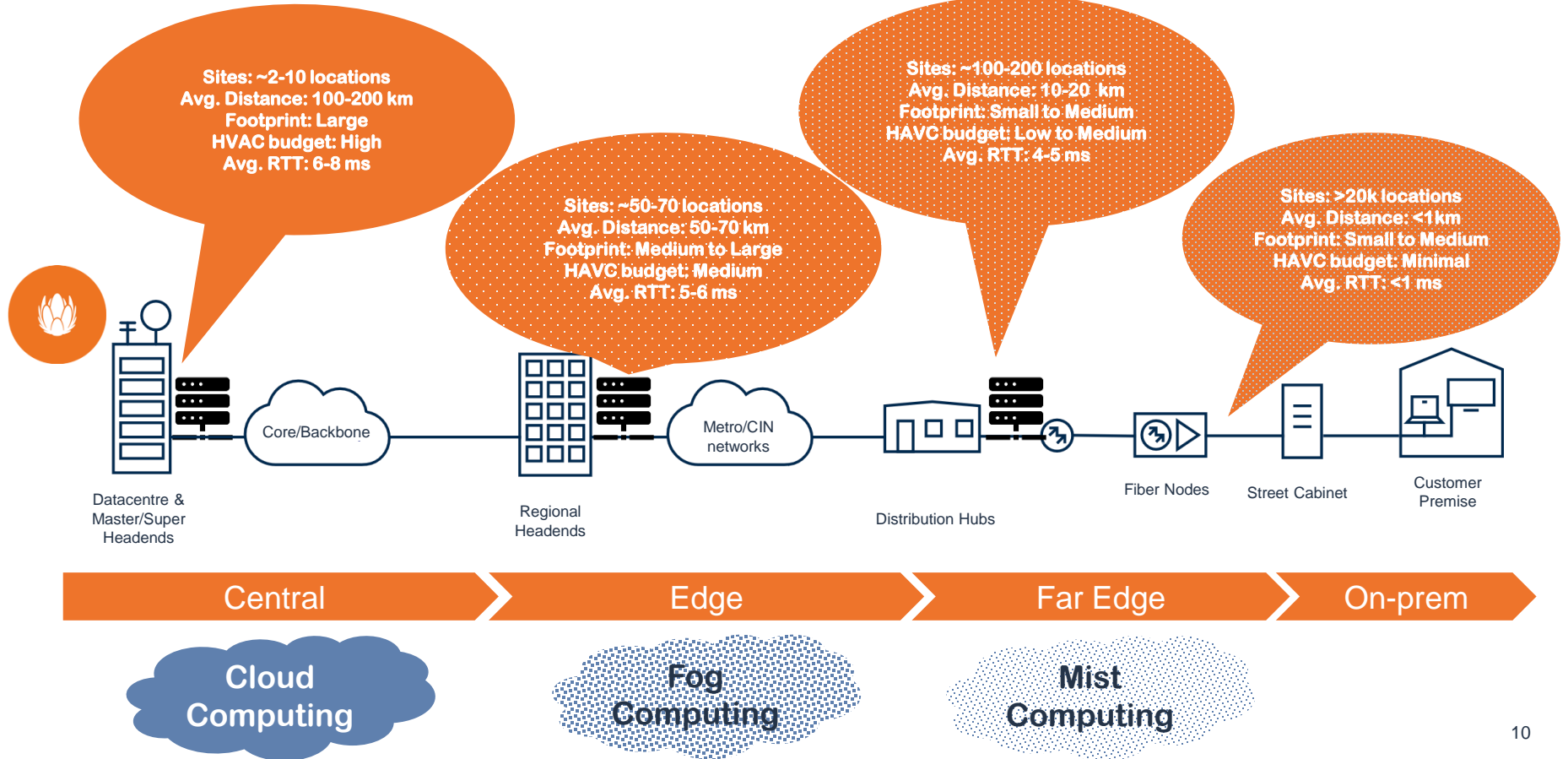


3

Autonomous
Networks
(Full Automation)

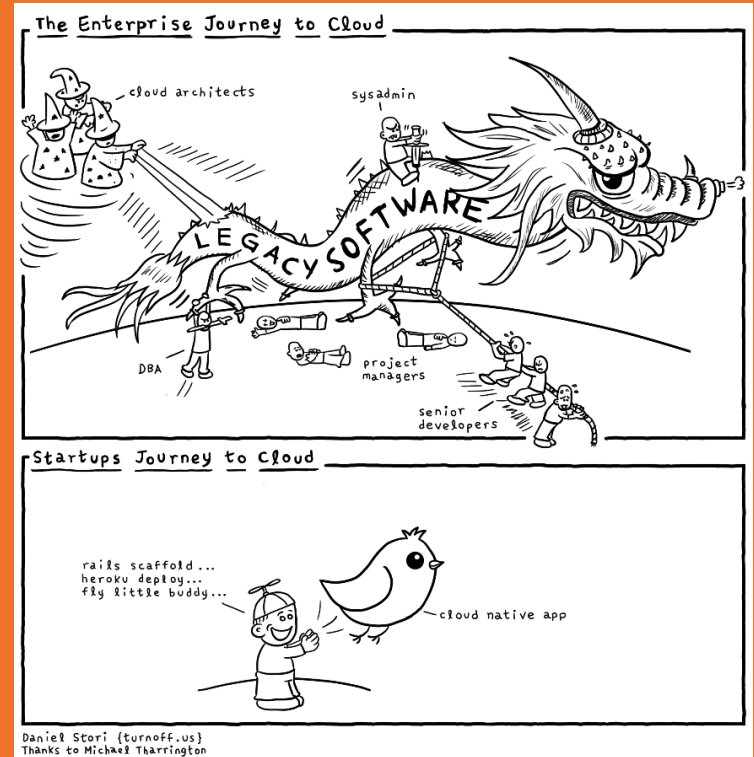


CABLE OPERATORS USE CASE - COUNTRY X



CABLE JOURNEY TO THE CLOUD... CAN BE BUMPY

- Market and solution fragmentation
- Increased solution and integration complexity
- Organizational and skillset challenges
- Solutions not consistently cloud native
- Vendors provide vertically integrated solutions
- Service design tied to specific hardware
- Infrastructure build for single service
- Operational challenges (maintenance, monitoring, etc.)





THANK
YOU