

The future of coax

May 2018

Jan Ariesen

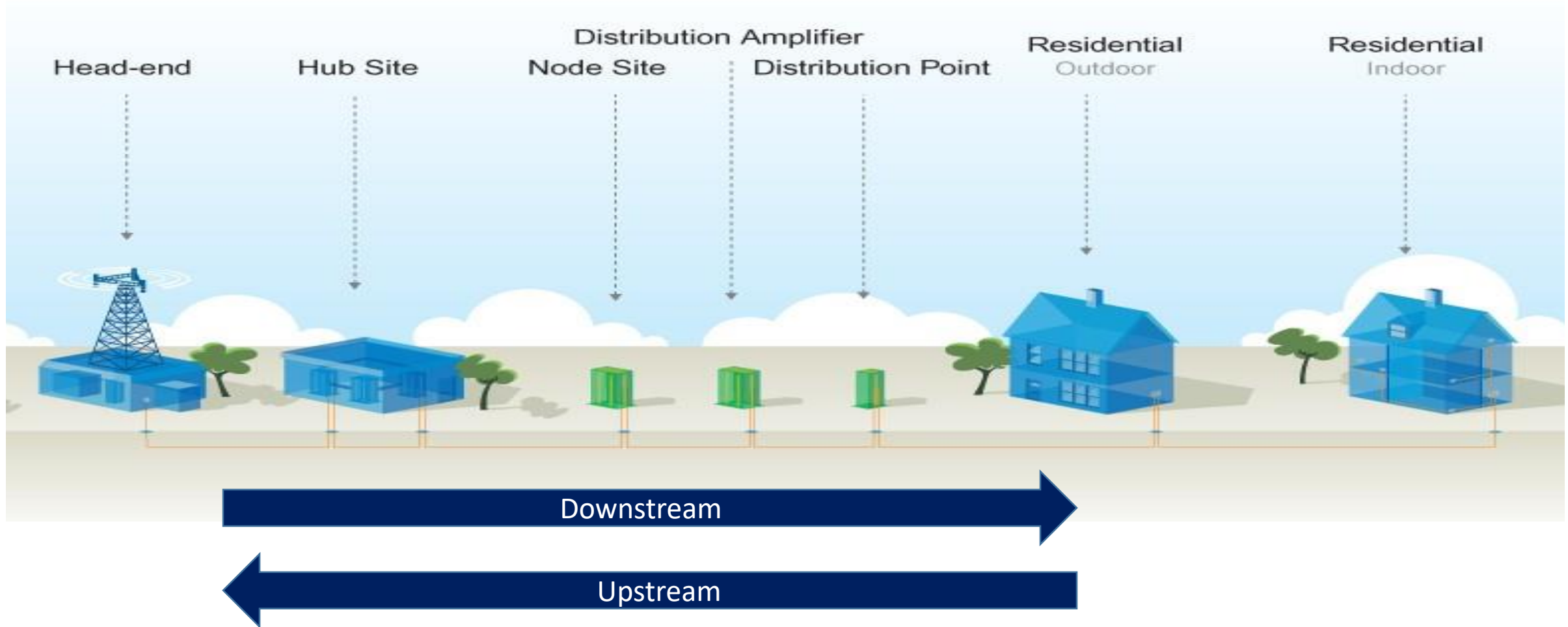
Chief Technology Officer

Agenda

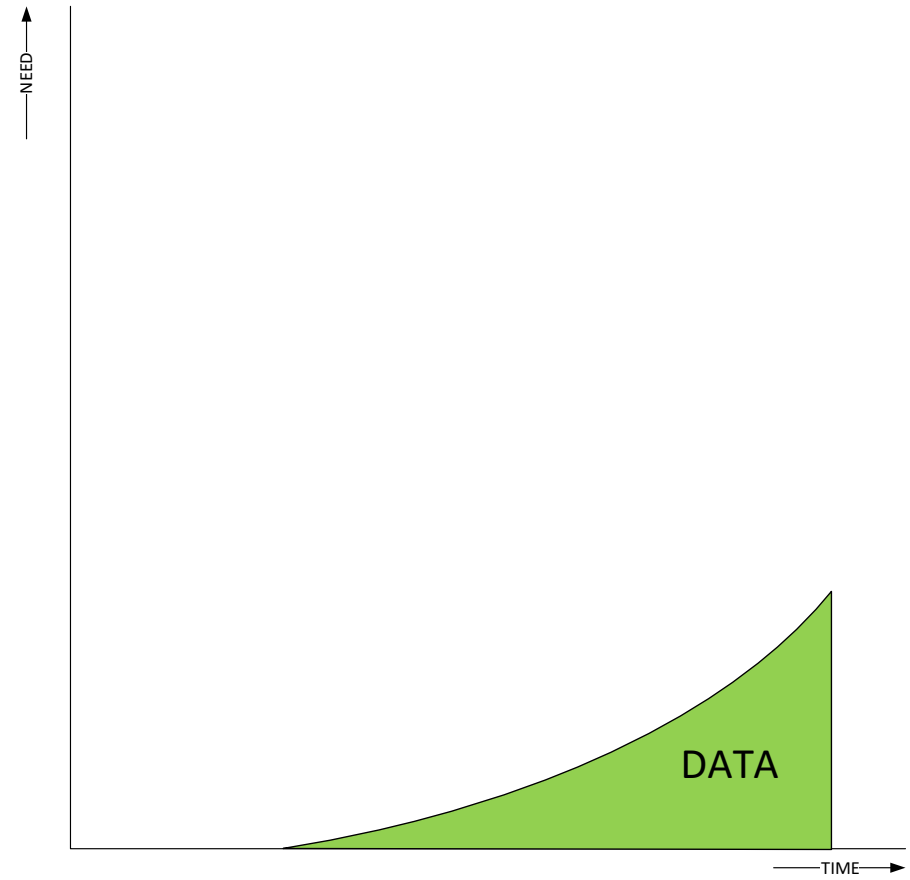
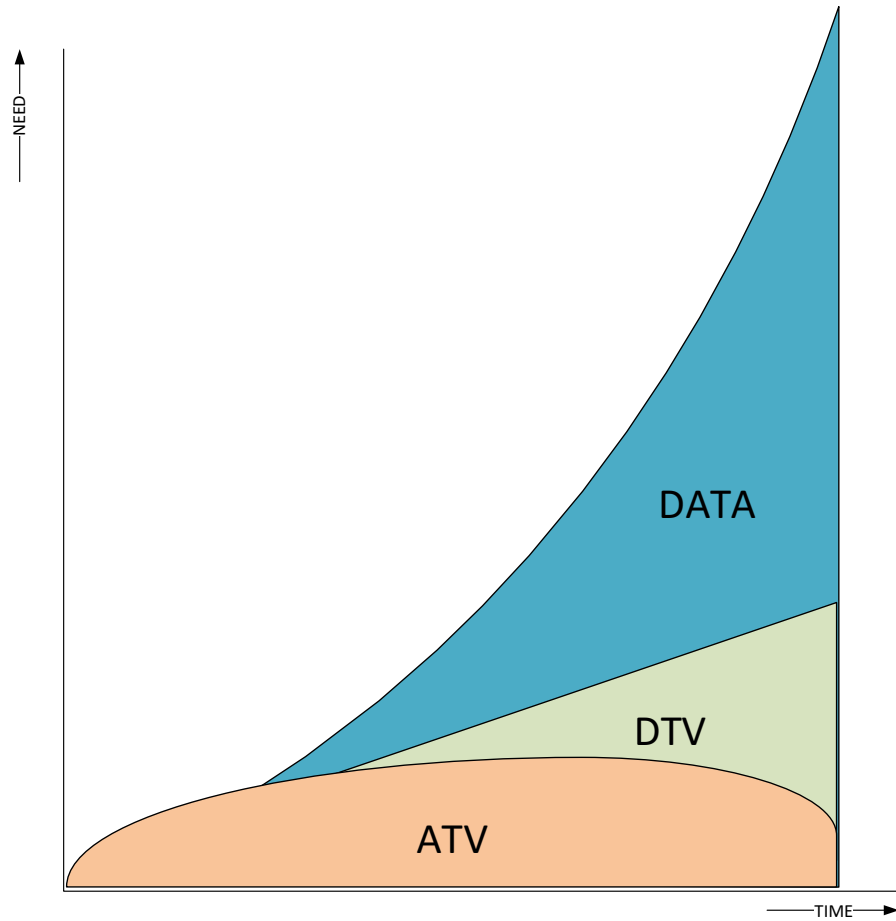


- History of CATV network
- Drivers of CATV networks
- New technologies
- Future of the CATV network

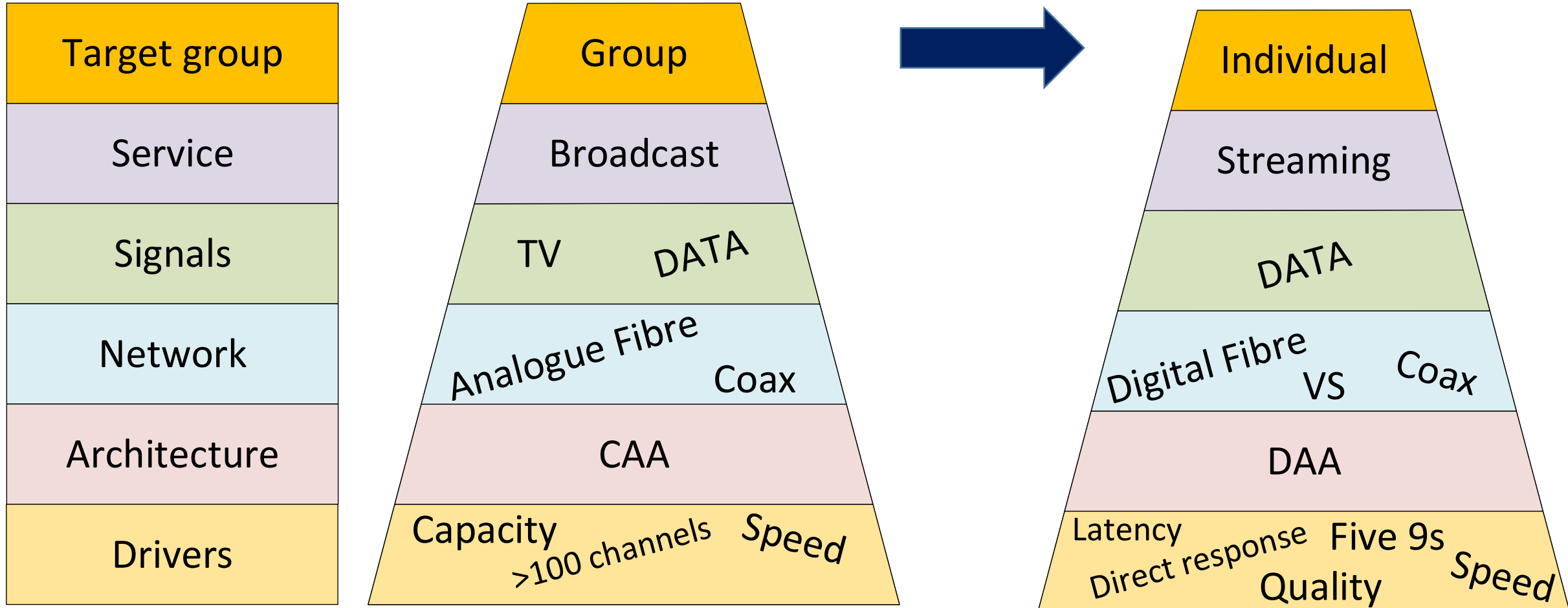
Cable network



Downstream and upstream services



Technology roadmap



Mission Critical Product Solutions



- Fiber optic transmission platform
- RF Services management (Docsis3.1/ CCAP ready)
- Network monitoring and Diagnostic management systems



- GAN 1.2GHz Docsis 3.1 ready access platform with Fiber Node and amplifier modules
- Full fiber node line 1x1 to 4x4
- RPD node



- Multi-Taps
- Line passives
- RFOG Micro-nodes



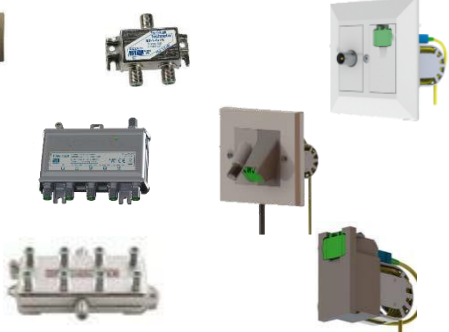
- MDU amplifiers
- MDU taps
- MDU lock box solutions
- Wi-Fi power passing multi-taps



- Self Install Kit Solutions
- In home RF amplifiers
- RF Splitters
- Conditioning filters



- CPE Accessories (CPE power supplies, HDMI leads, RF jumpers, AV leads)
- Galvanic Isolators
- Wall Outlets



**There is nothing
permanent except
change.**

-Heraclitus-



The complete DBx family



DBC-1200

The Digital Broadband Compact (DBC) is a configurable one active output node/RF amplifier



DBC-1200S

The Digital Broadband Compact (DBC) is a configurable one active output node/RF amplifier



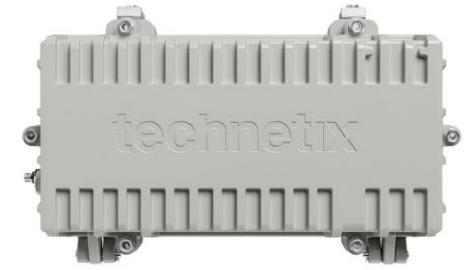
DBD-1200

The Digital Broadband Distribution (DBD) is a configurable two active output node/RF amplifier



DBE-1200

The Digital Broadband Edge (DBE) is a configurable four active output node/RF amplifier

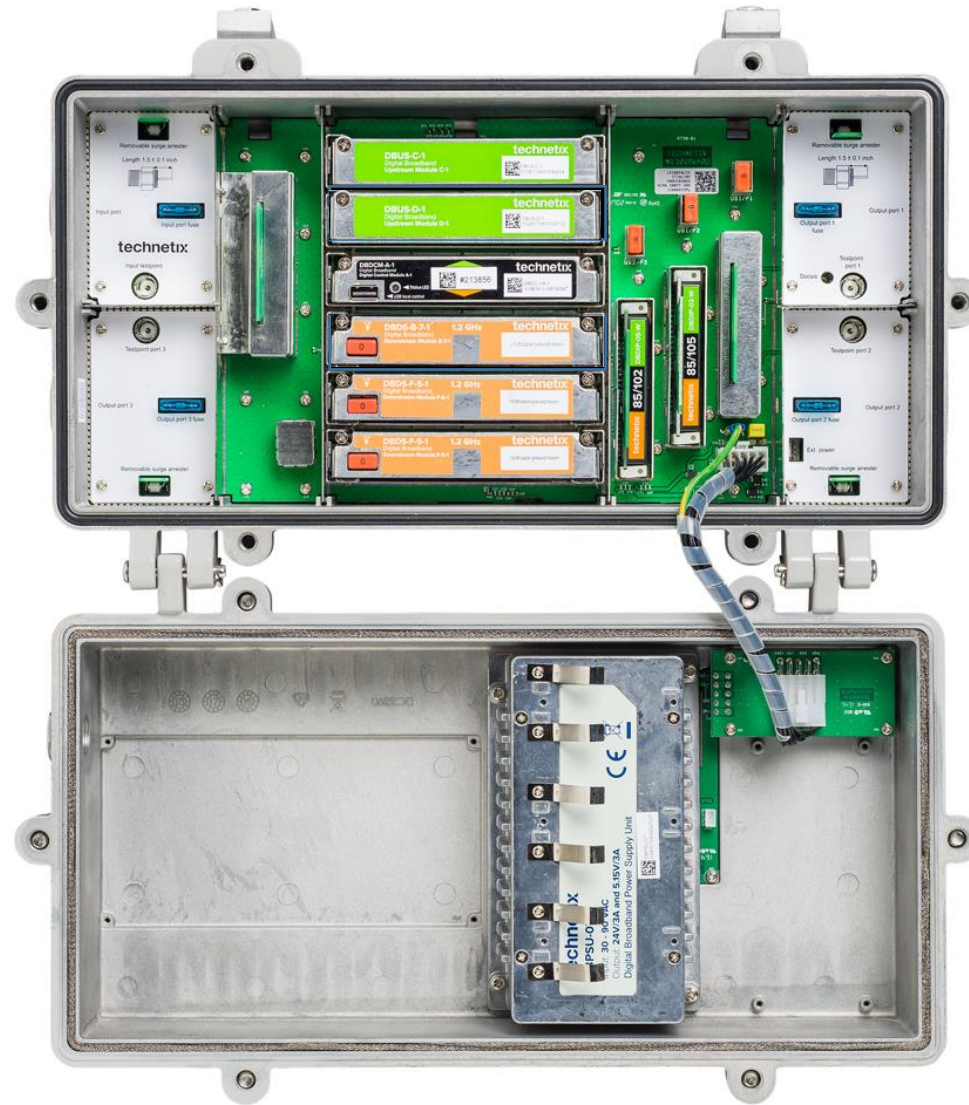
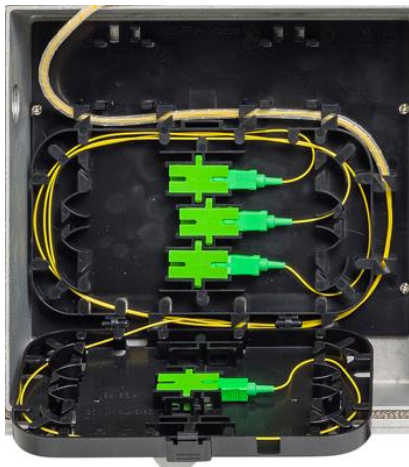


DBE-1200S

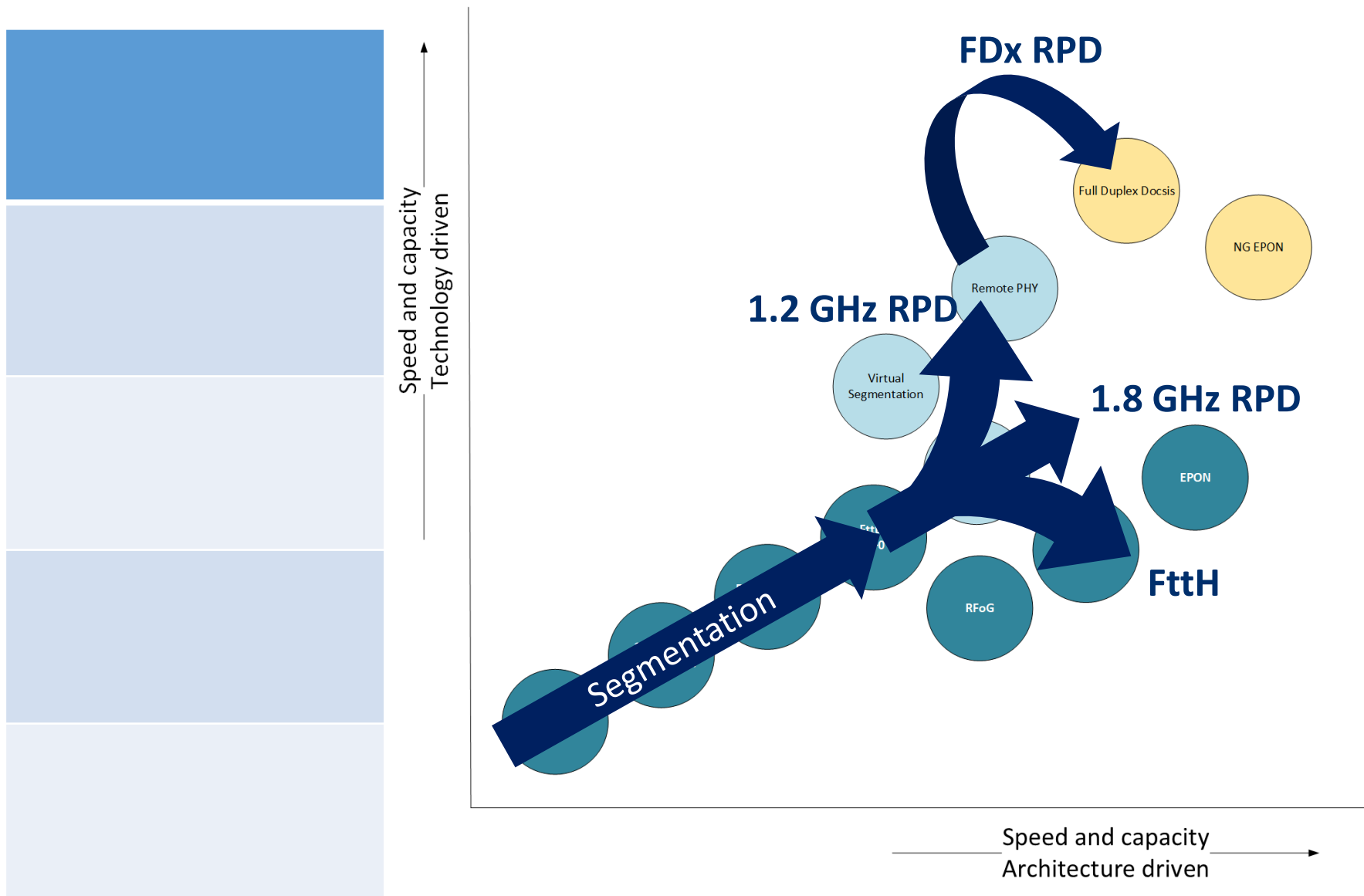
The Digital Broadband Edge (DBE) is a configurable three/four active output node/RF amplifier



Field upgradeable



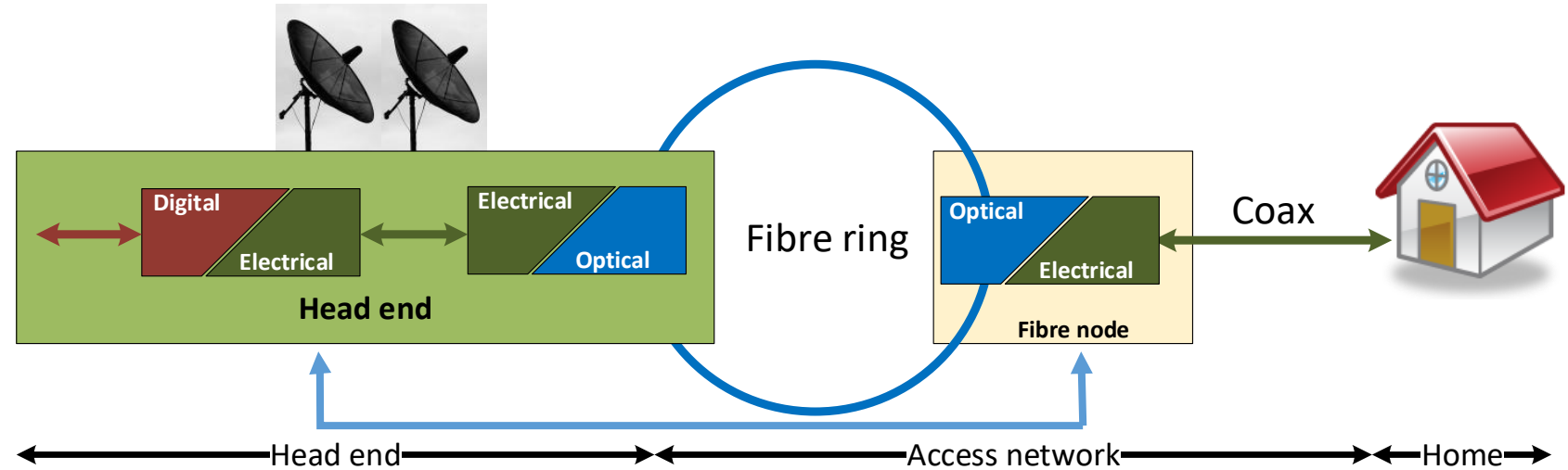
Technology Roadmap



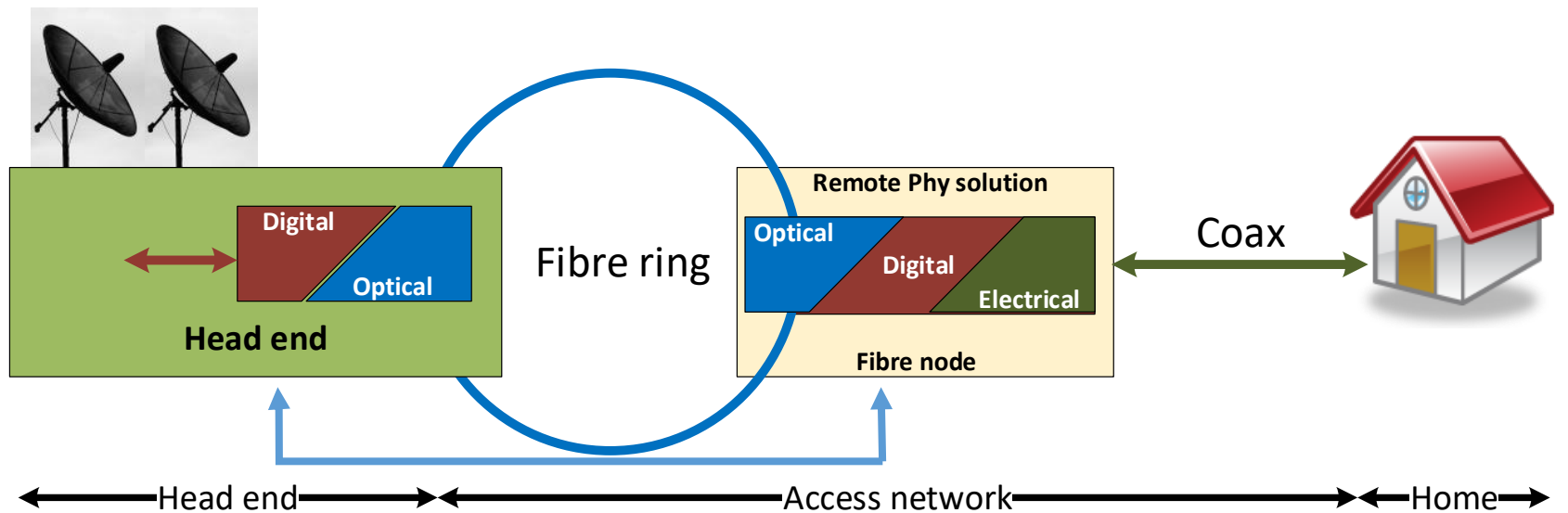
Two principal approaches to network architecture



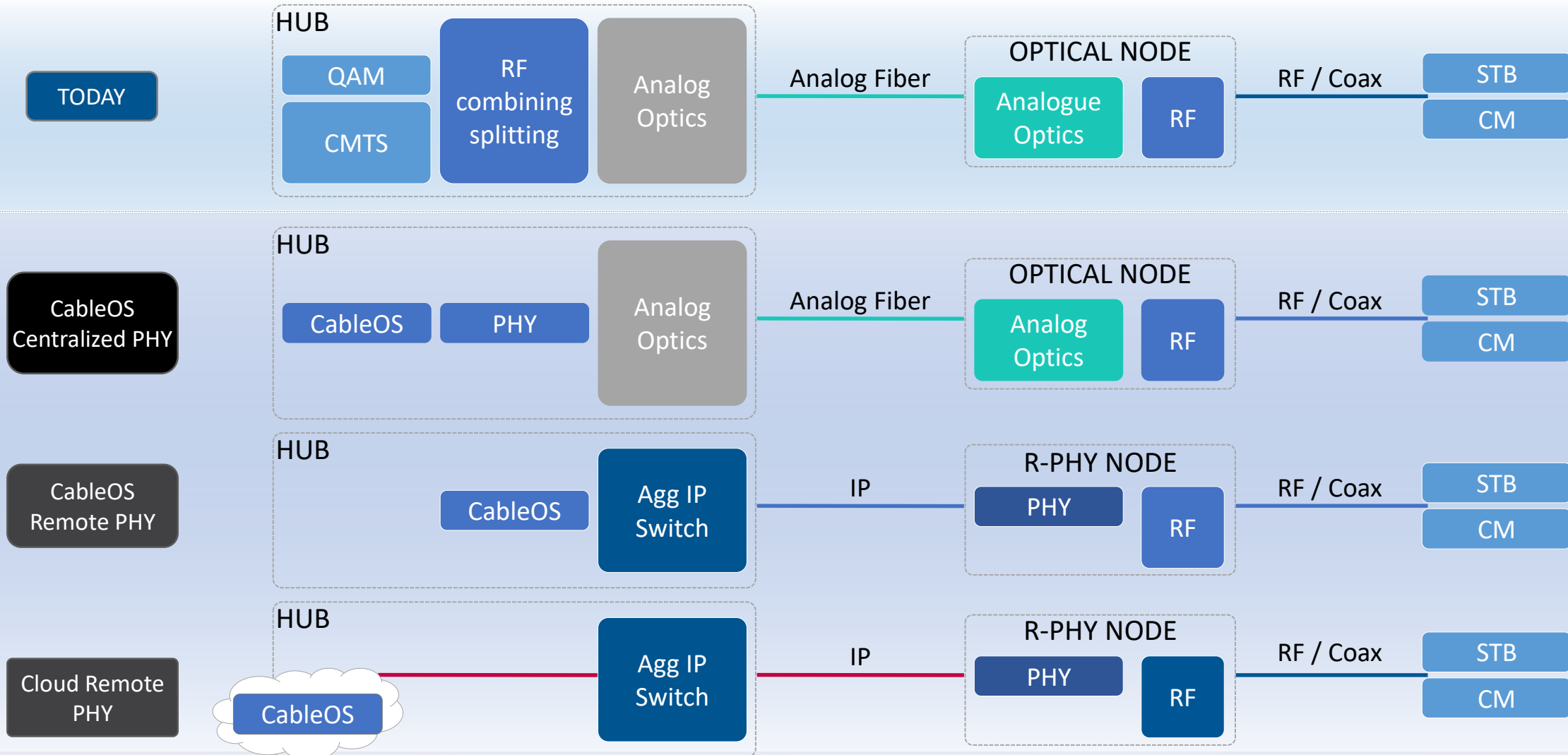
CAA
Centralized Access Architecture



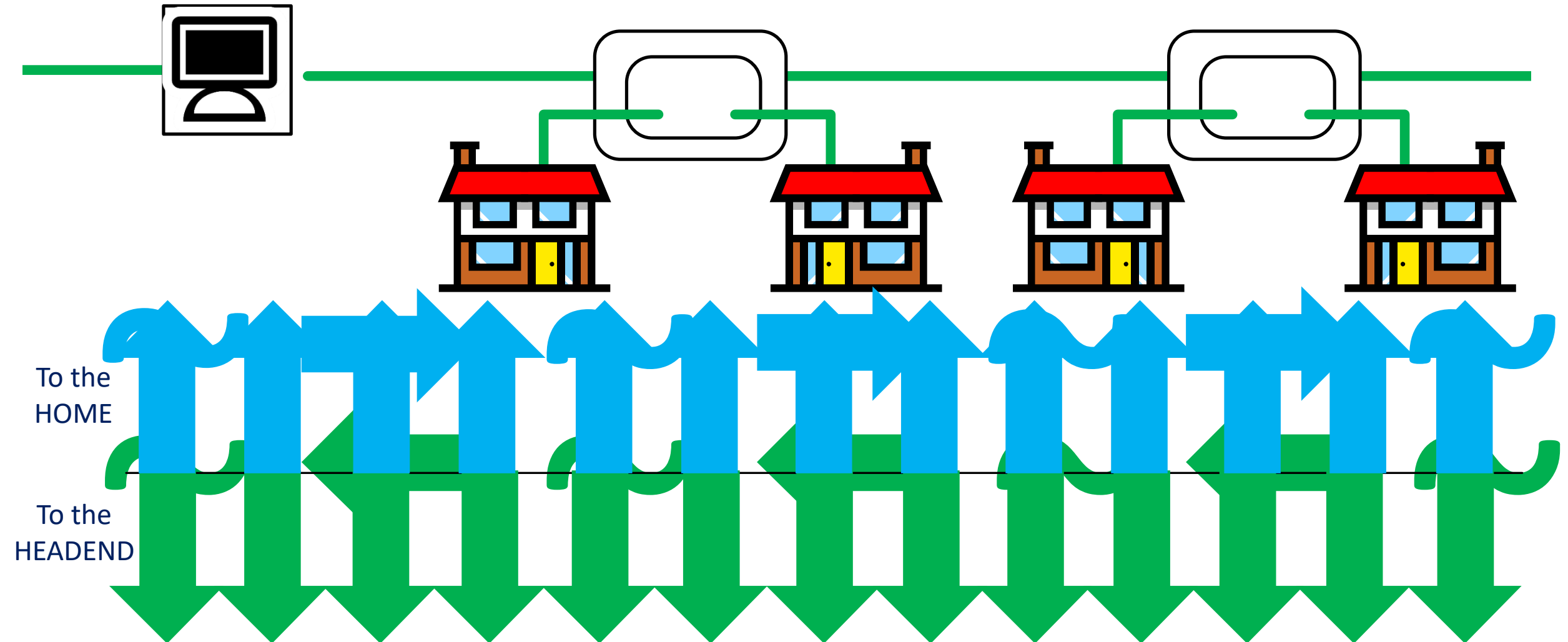
DAA
Distributed Access Architecture



Traditional CMTS/HFC vs remote PHY with CableOS



Full Duplex DOCSIS



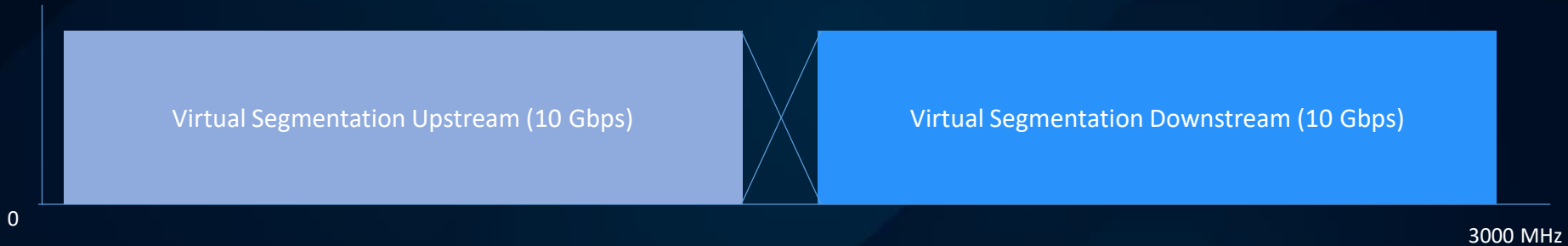
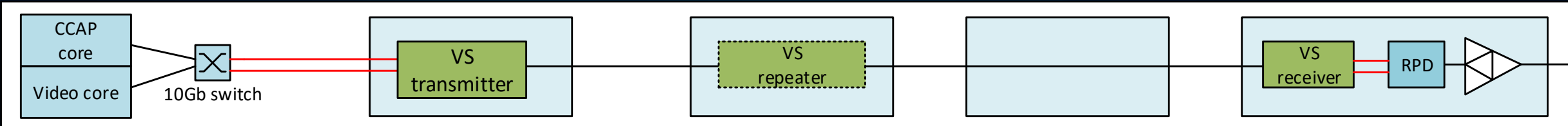
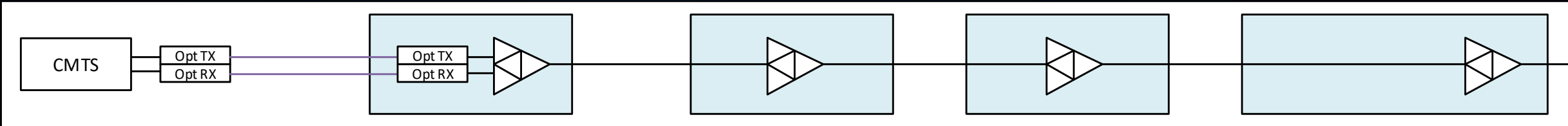
SOLUTION FOR TODAY

Fiber
Coax

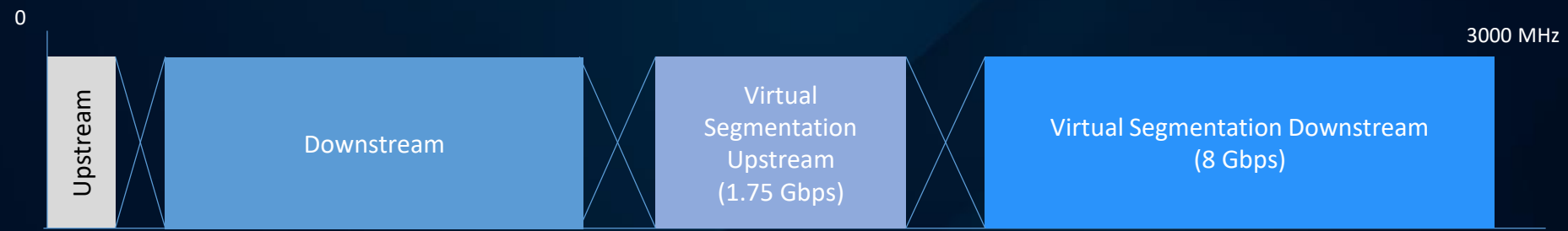
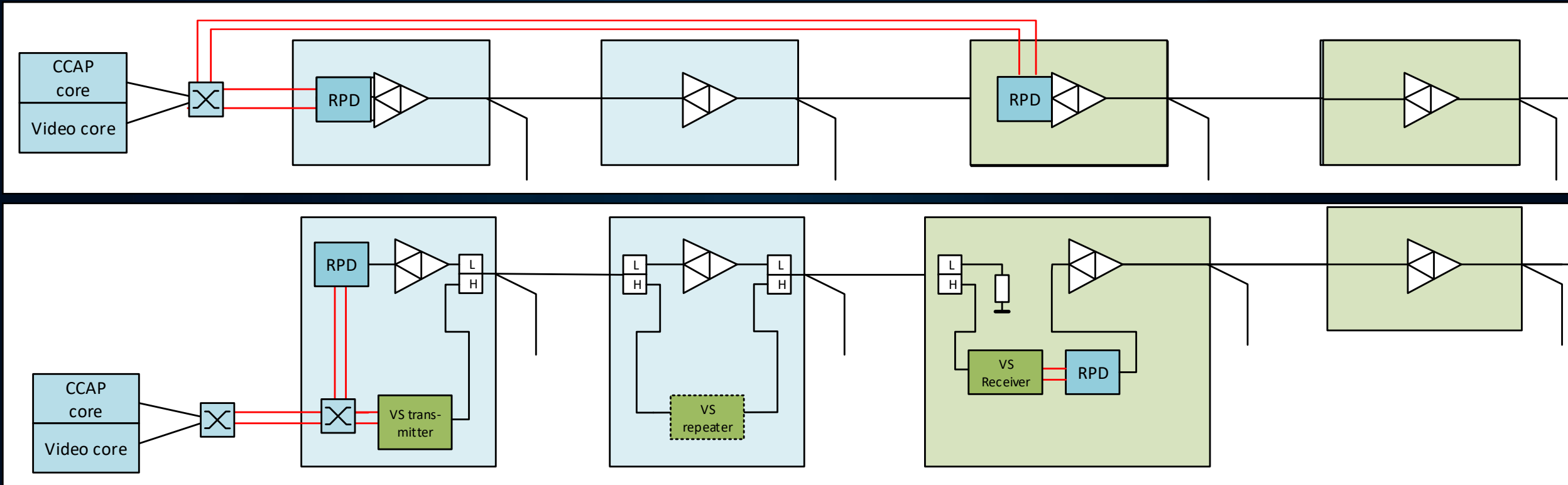
Fiber
Coax



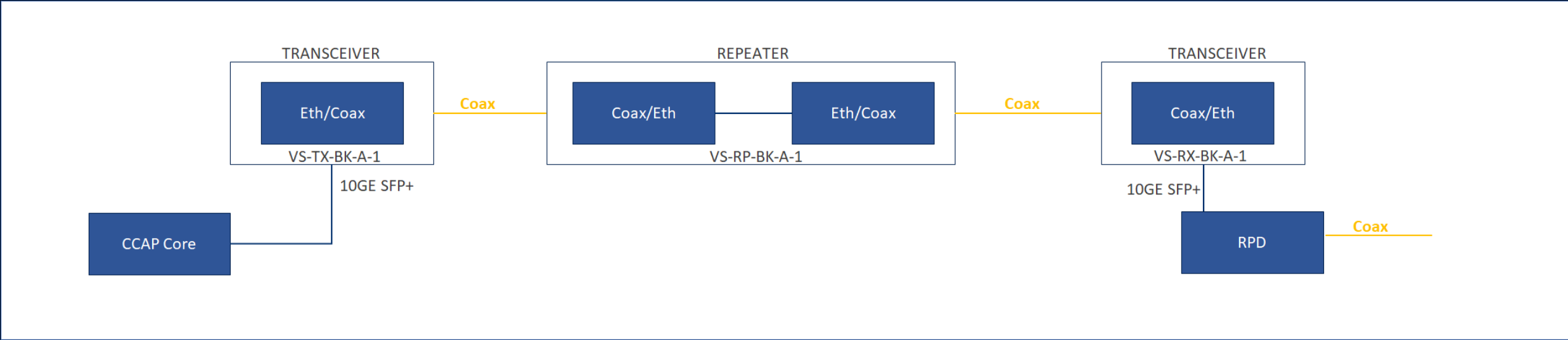
Same wires, new function



VS in combination with distribution

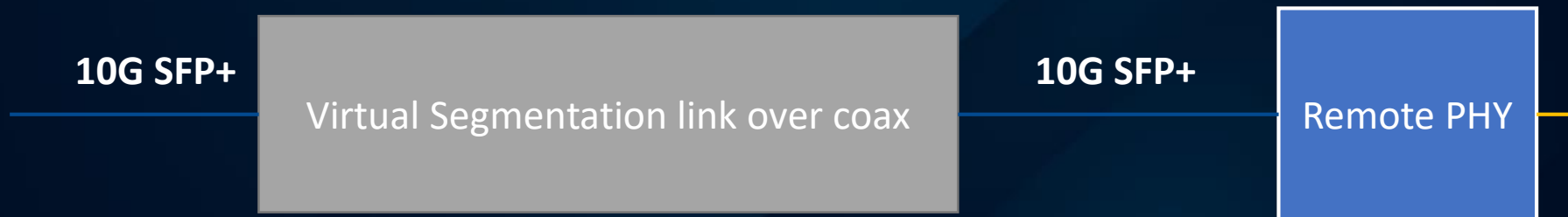


Virtual Segmentation - Architecture



Transparent pipe Headend to Remote PHY:

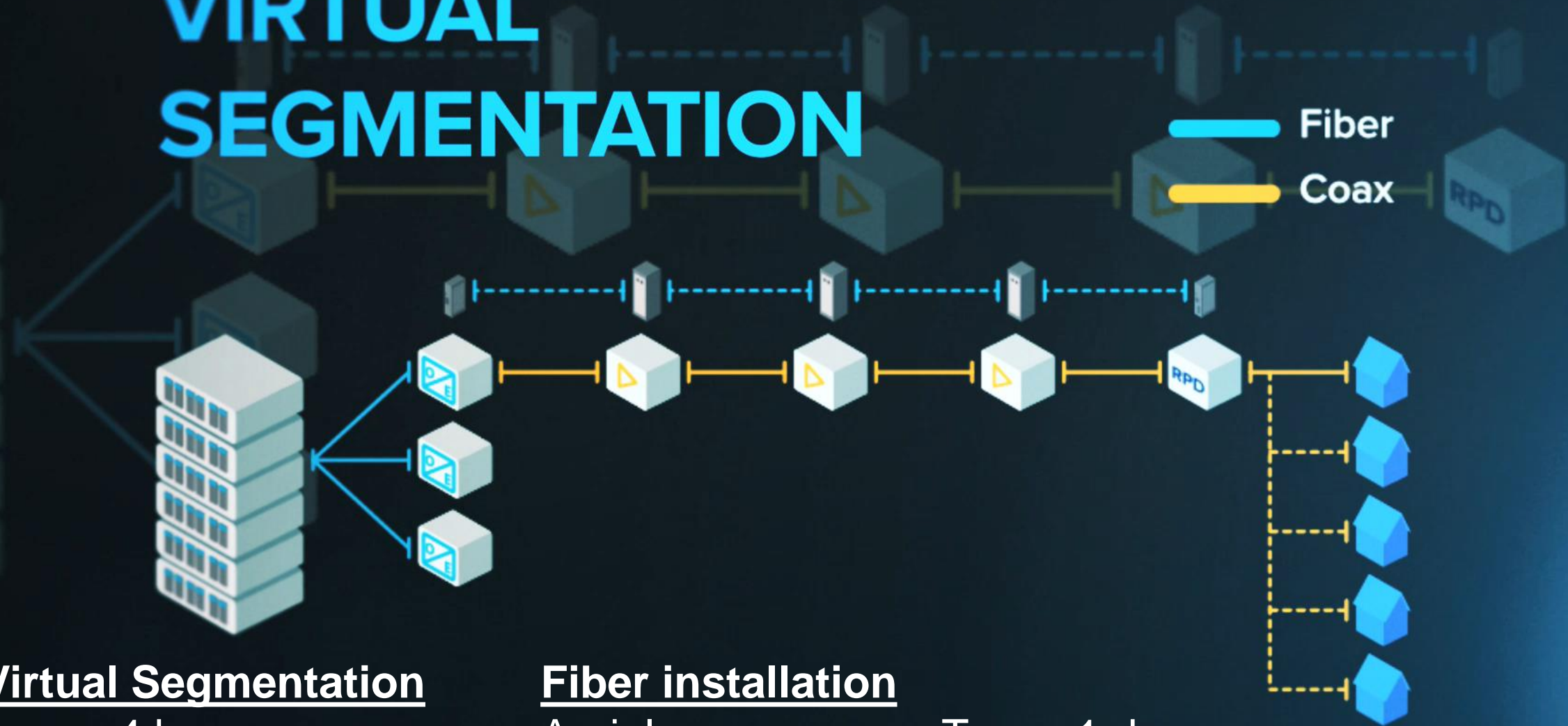
- Ethernet: SFP+ with 10 GE
- Passive direct copper connection using SFP+ Twinax cable (SFP+ & DAC)
- Low Latency with IEEE 1588v2 PtP



VIRTUAL SEGMENTATION



VIRTUAL SEGMENTATION



Virtual Segmentation

1 man 4 hours

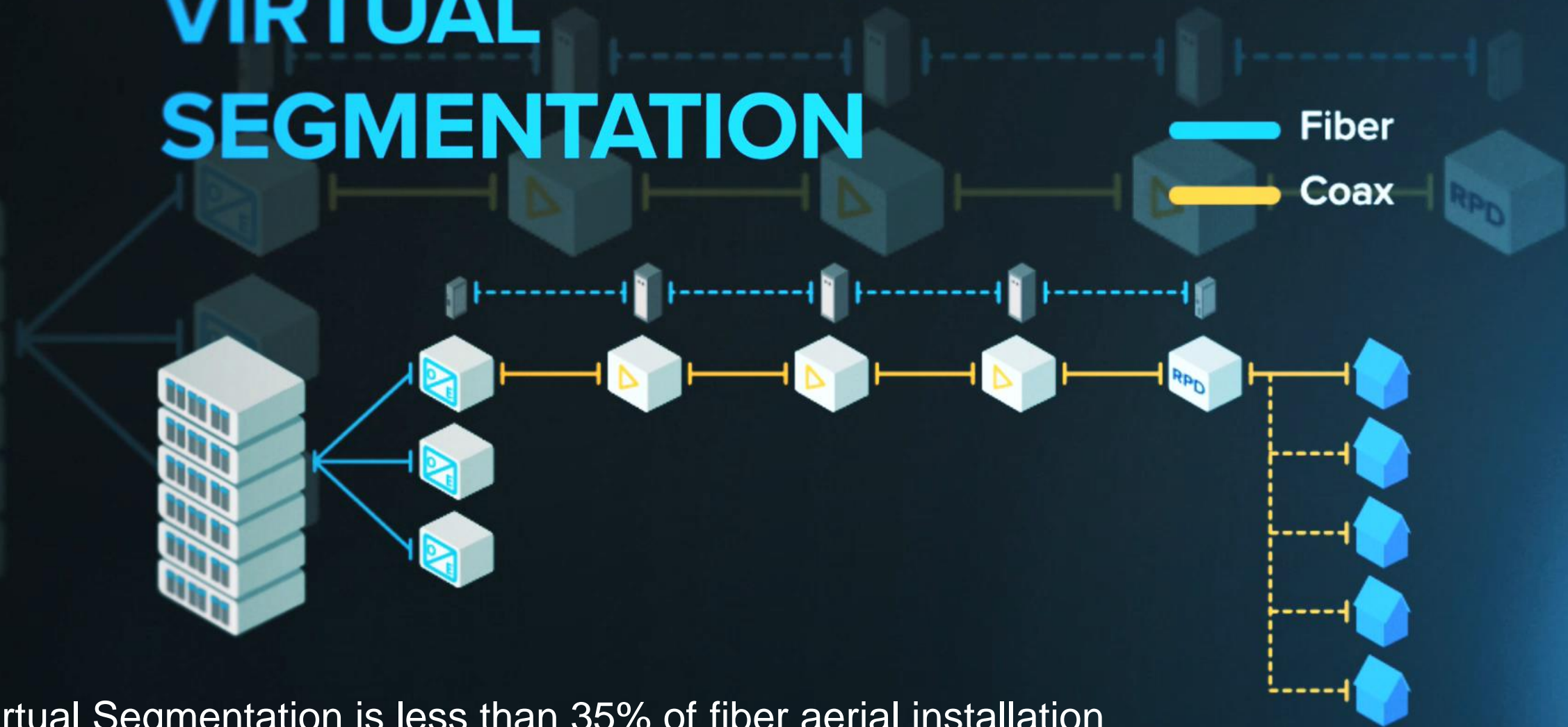
Fiber installation

Aerial
Underground

Team 1 day

Team several days

VIRTUAL SEGMENTATION



Virtual Segmentation is less than 35% of fiber aerial installation

Virtual Segmentation is less than 20% of fiber underground installation

**Same wires,
different
function.**

Converged Interconnect Networks



5G

Data

HFC network

Business customers

Mobile backhaul

Thank you