Networks & Platforms: what's next ?

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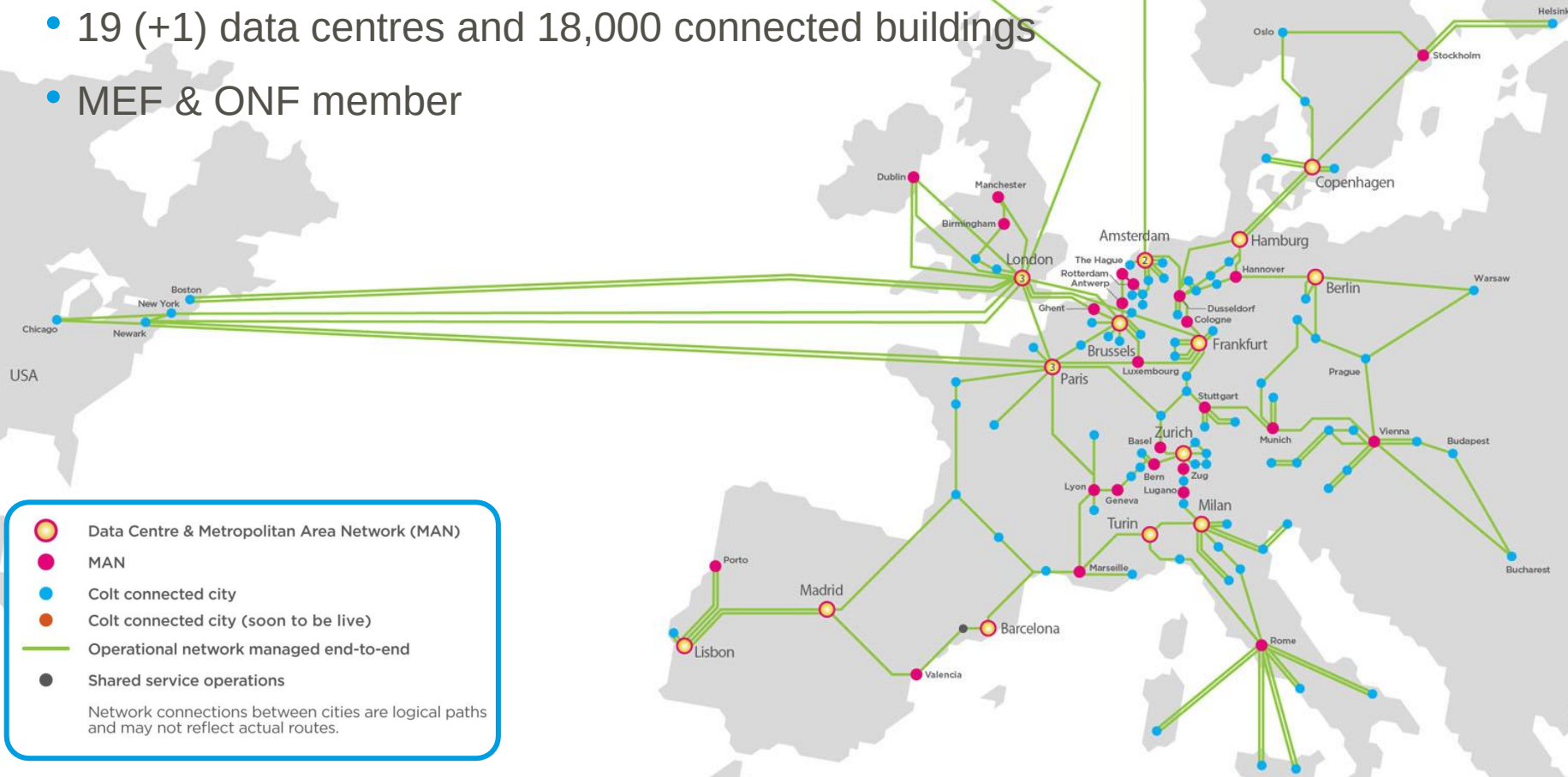
The information delivery platform for European business

A network of depth and breadth

- High capacity long distance network - 35,000km
- Connecting 22 countries, 39 metro networks and >100 cities
- 19 (+1) data centres and 18,000 connected buildings
- MEF & ONF member



Integrated Network and Managed IT services

Service and Commercial Wrap

ITIL Framework
- Service design
- Service operations
- Service transition
- Service reporting and measurement

End to end integrated capabilities and SLAs

End-user compute

Application Delivery and Management

VDI | Unified Comms | Apps Dev/Ops | Vertical COI

Infrastructure Foundation

Cloud management | IT management

Compute/Storage/LAN/WAN

Modular Data Centres

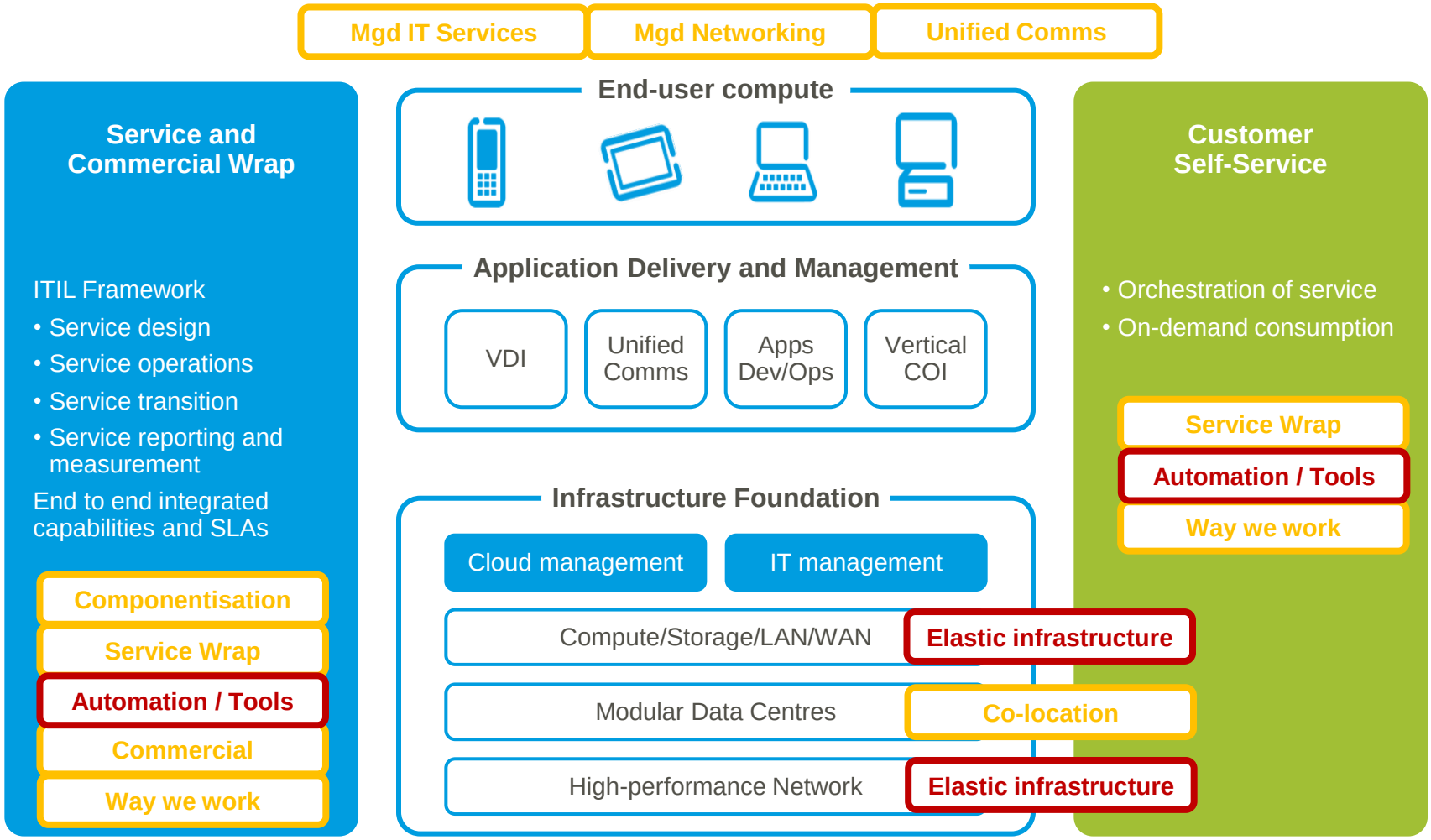
High-performance Network

Customer Self-Service

- Orchestration of service
- On-demand consumption

Core capabilities

Integrated Network and Managed IT services



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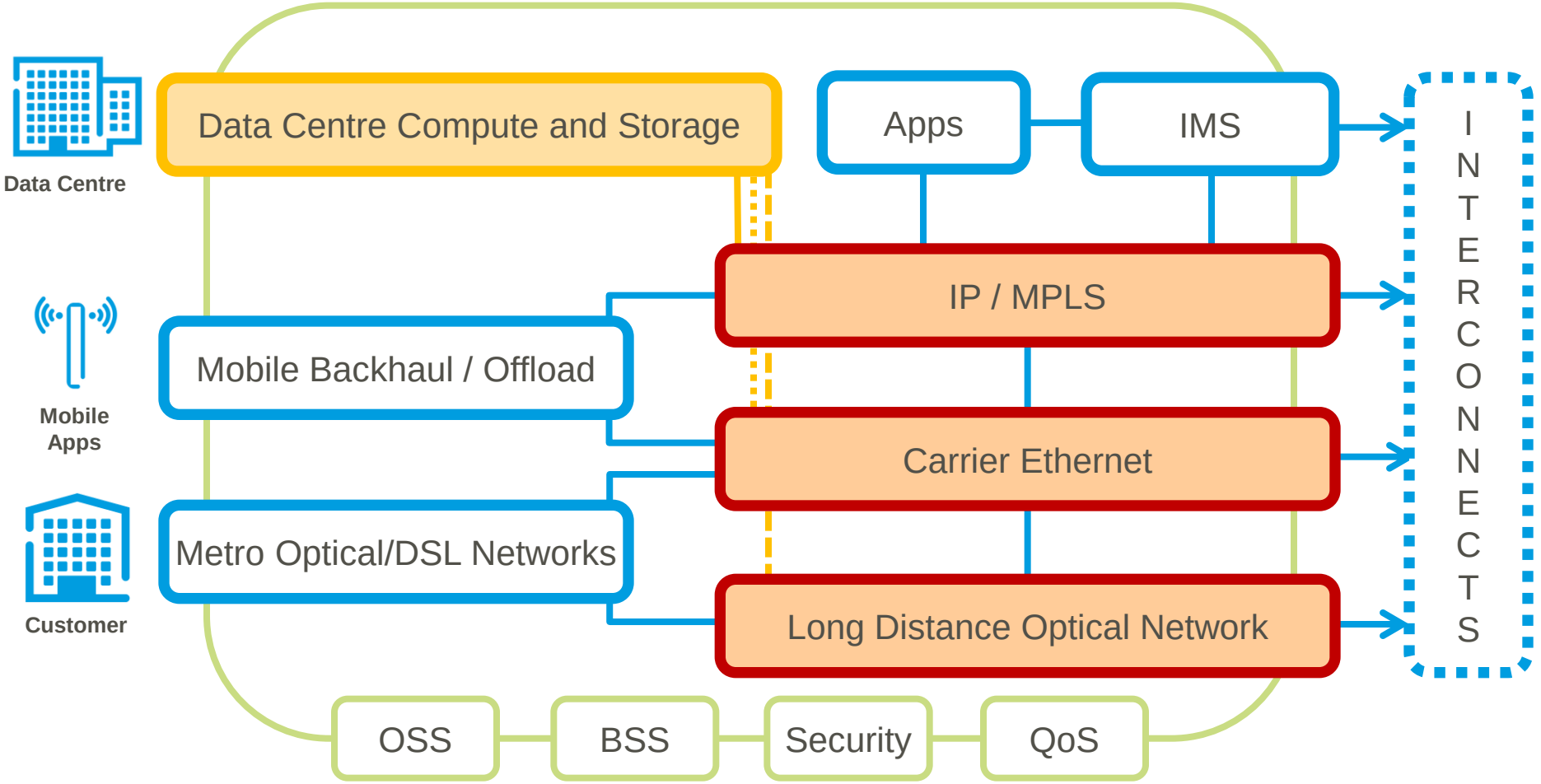
Colt Logical Network Architecture



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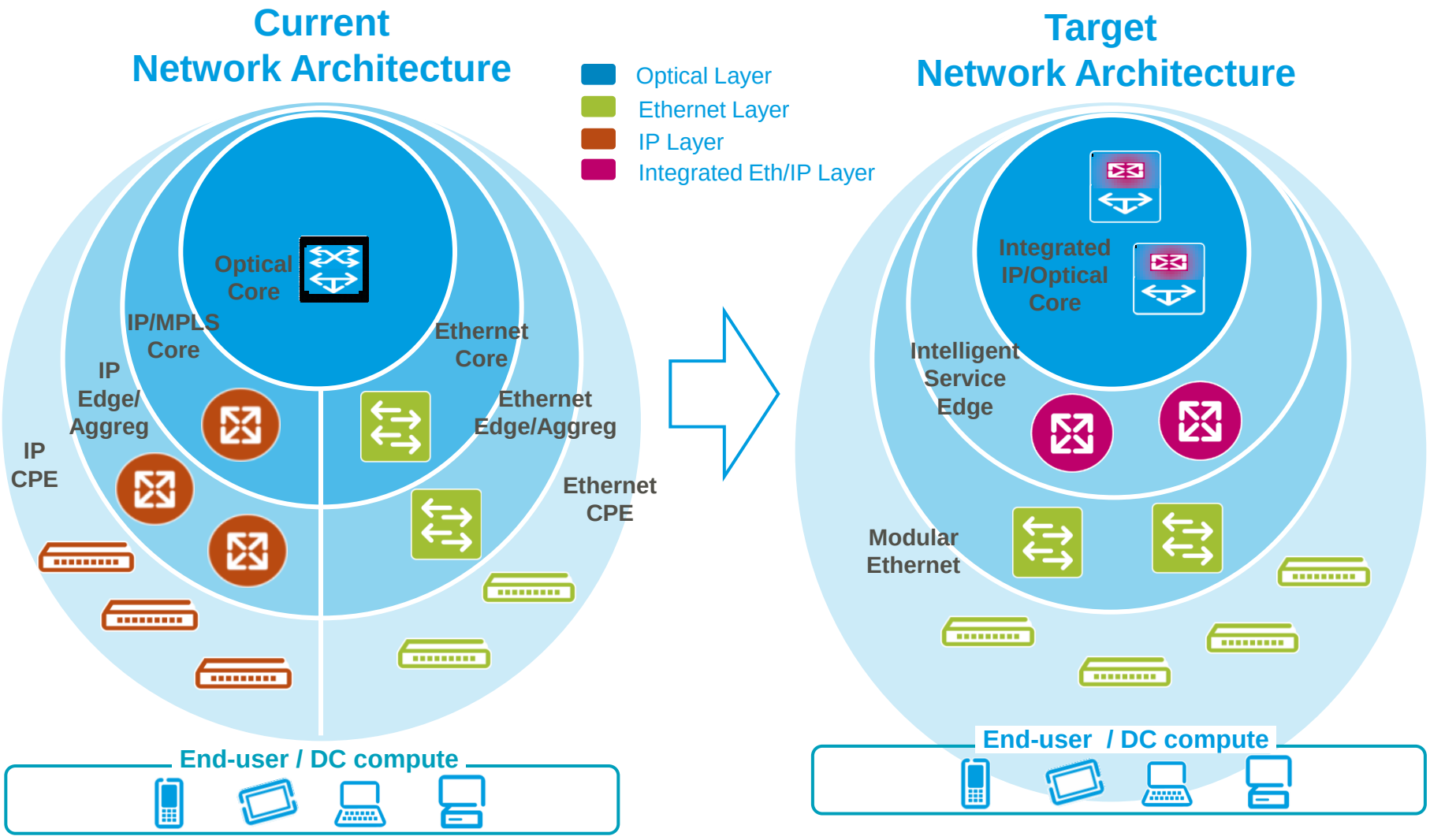
Colt Data Networks Strategy



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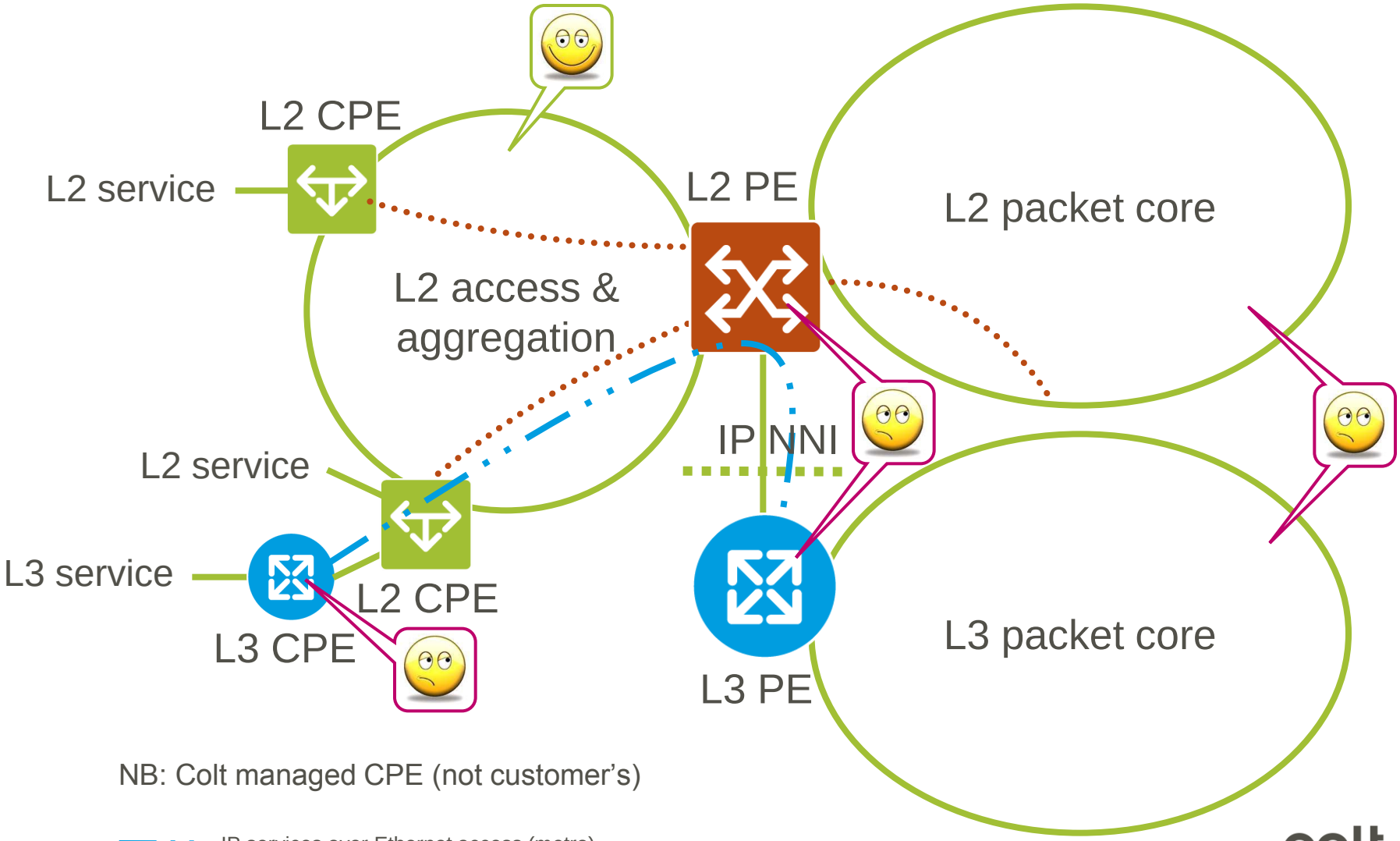
Network Layer Integration

Network layer integration – Historical situation



NB: Colt managed CPE (not customer's)

IP services over Ethernet access (metro)

Ethernet services (metro & inter-metro)

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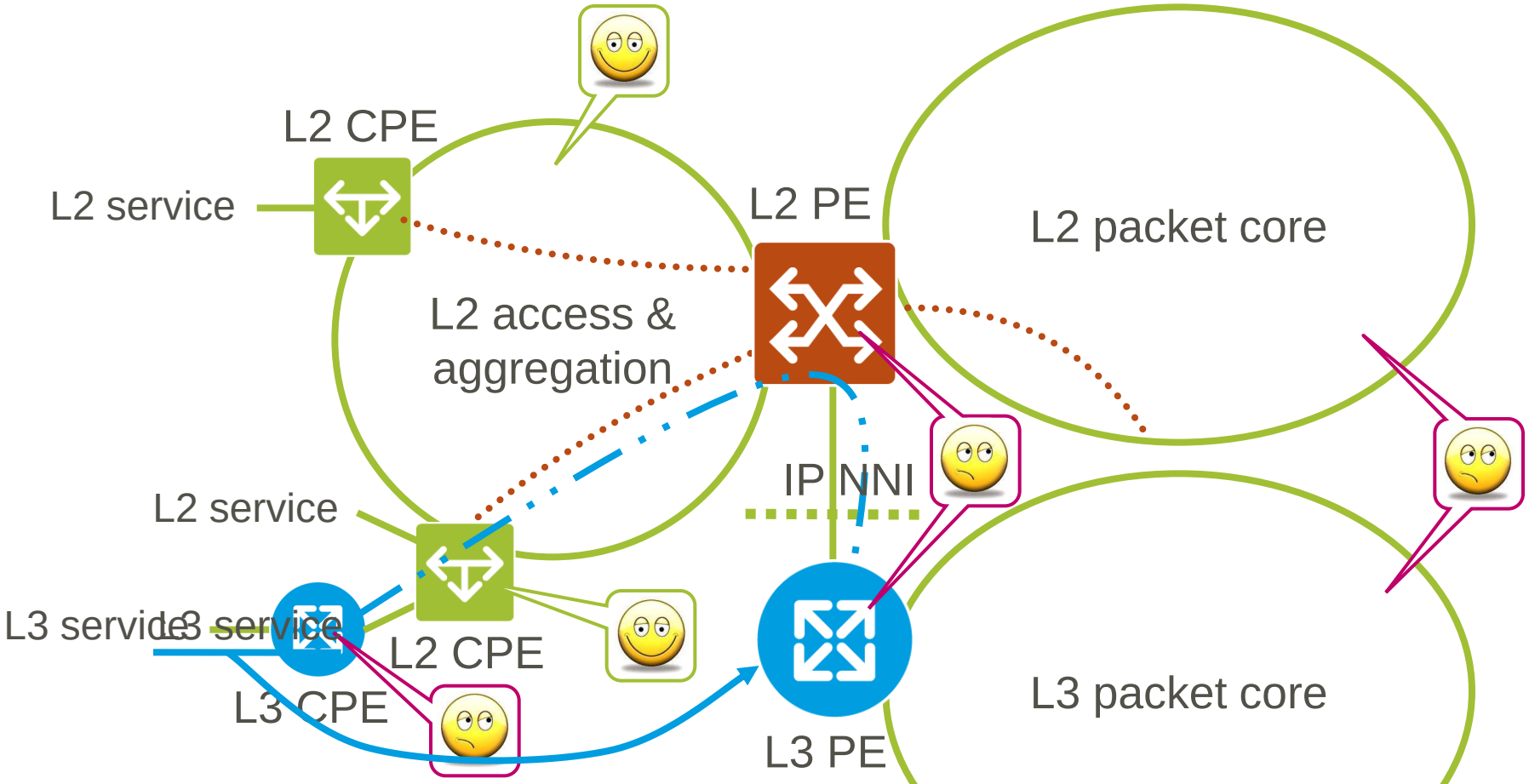
Network layer integration – L2/L3 CPE situation



L3 features moving to the PE layer

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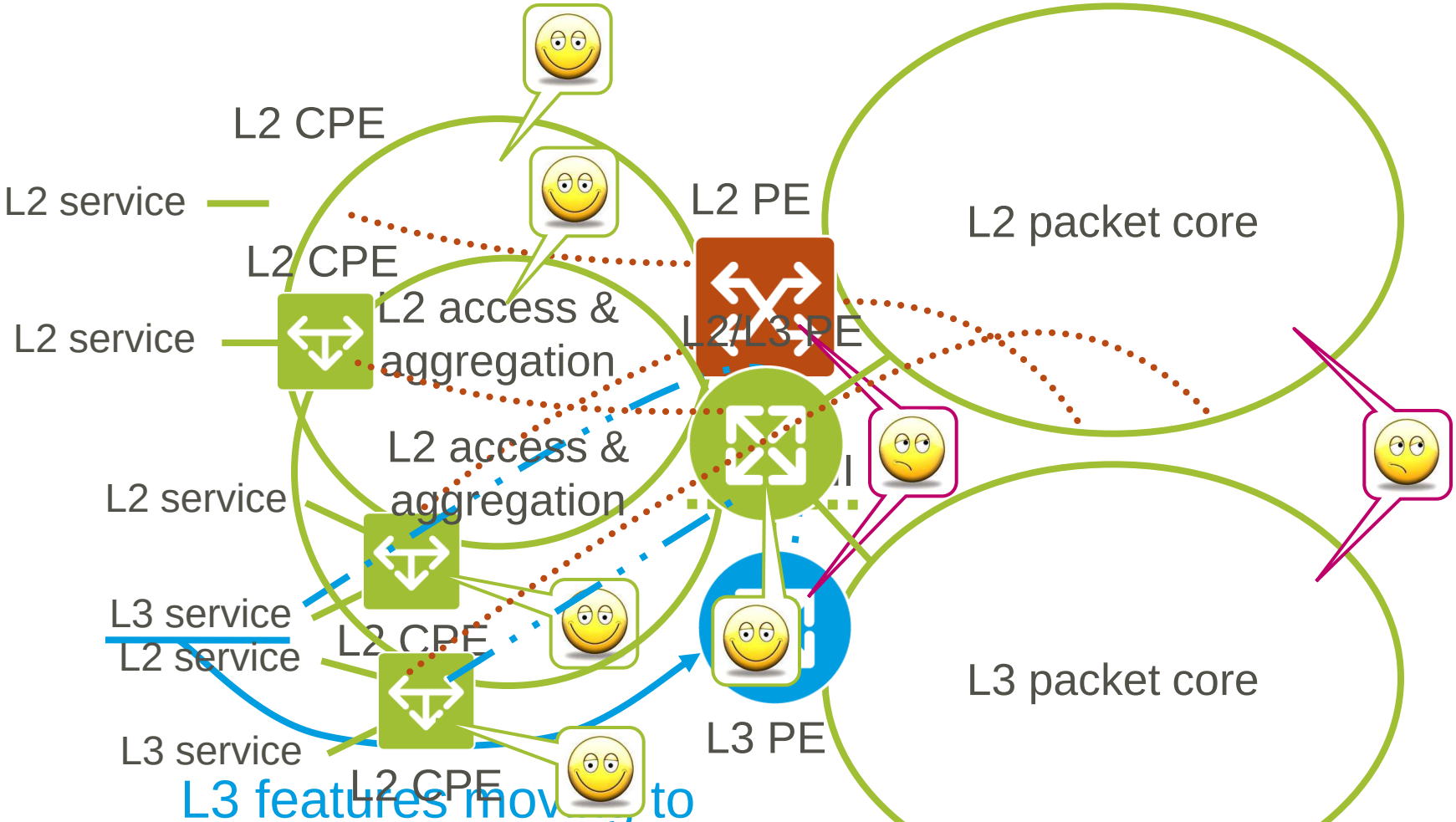
Network layer integration – L2/L3 edge



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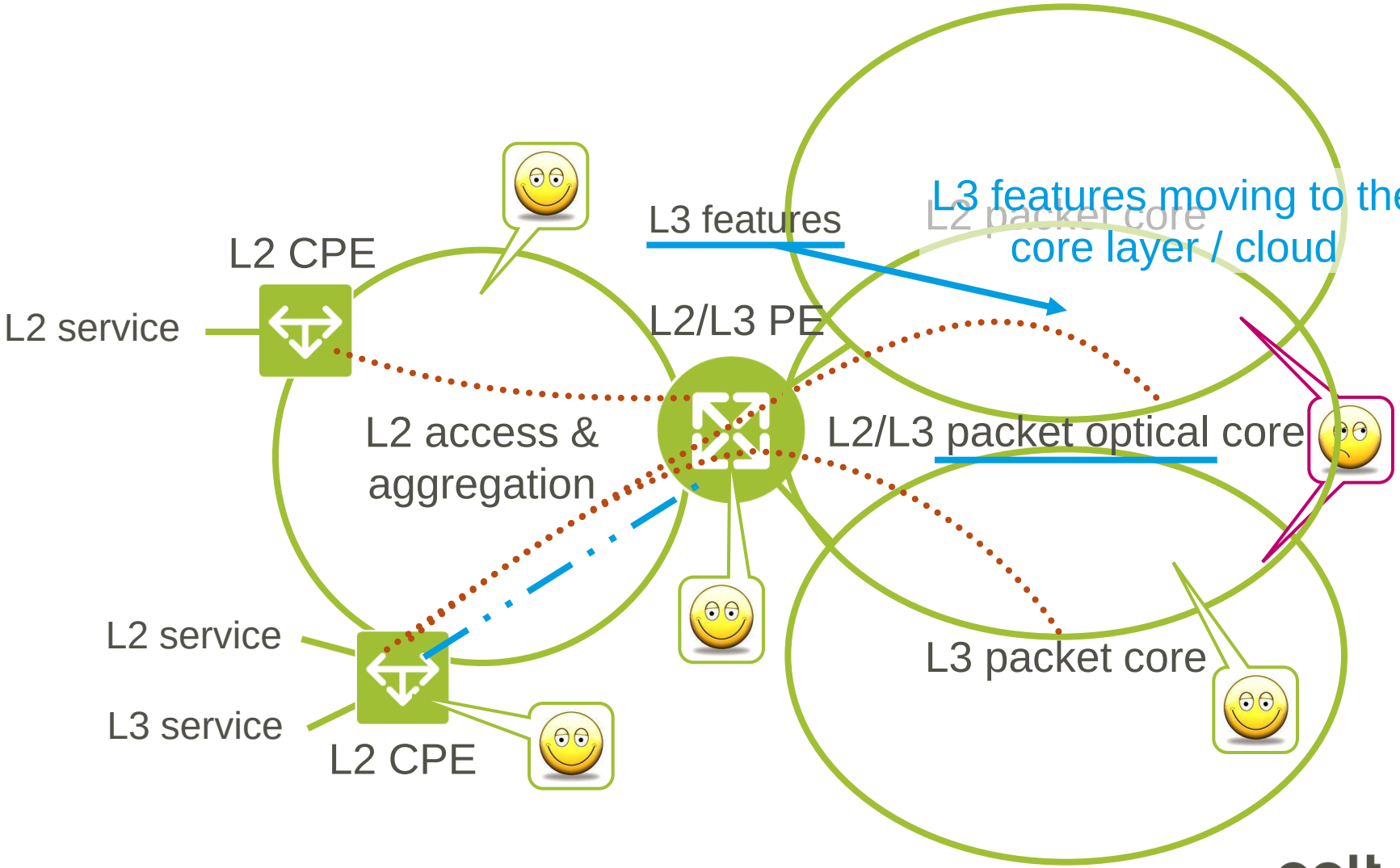
Network layer integration – L2/L3 packet optical core



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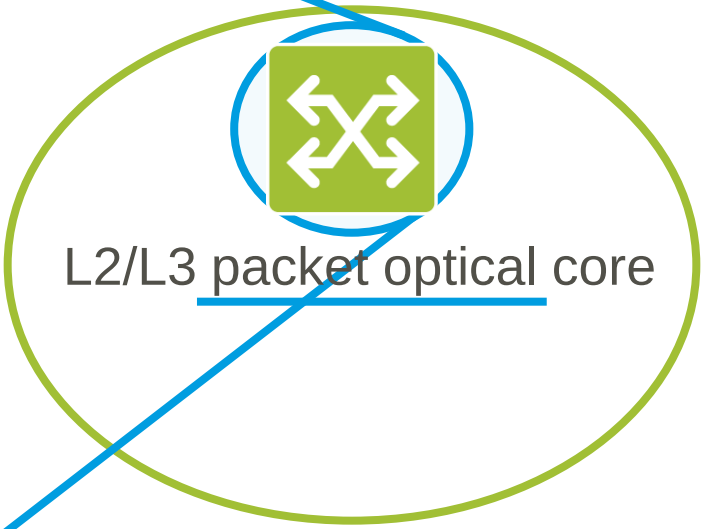
Vision on the best packet optical platform

- Multi-layer switching platform
  - WDM (colour-less, contention-less, etc.)
  - OTN
  - Packet
- OTN switching
  - Fill-in the high speed waves
- Packet switching
  - MPLS switching (LSR)
  - No LER (VPN, VPLS, GRE, MC), no BGP
  - CP protocols (IS-IS, OSPF, TE, LDP, RSVP)

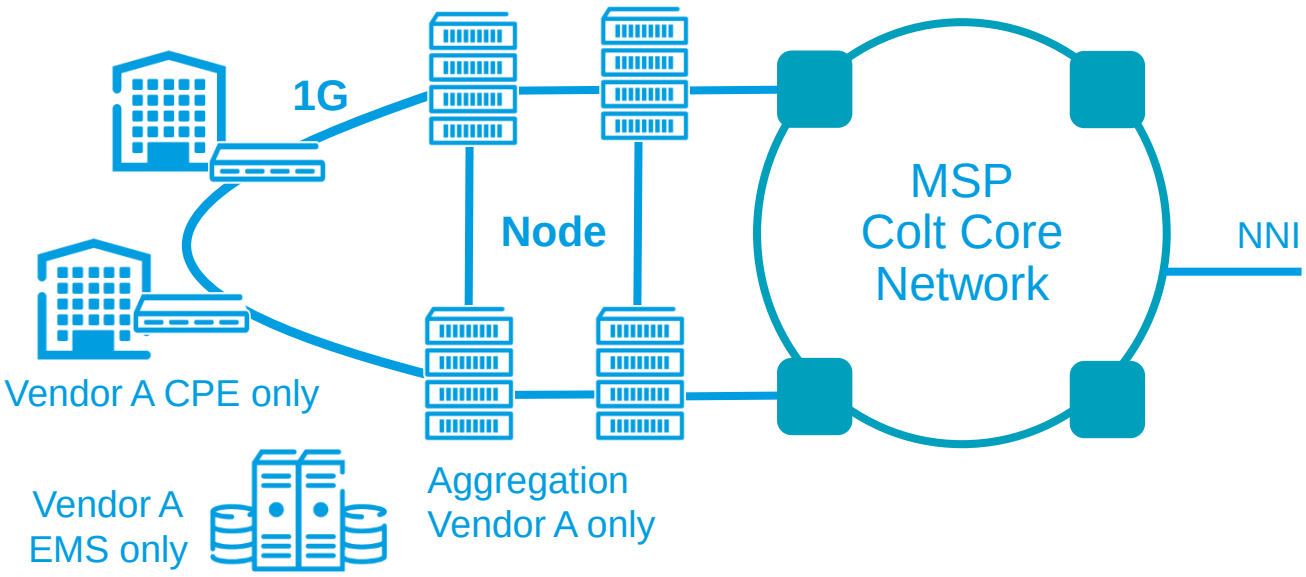


Modular Carrier Ethernet

Single vendor MSP platform

- Limited interworking needed
- Easy end-to-end management
- Proprietary options to fill gaps
- Offers most services today

- 2006 was too early for modular
- Missing standards to fuel concept
- Lacking right mix of component vendors



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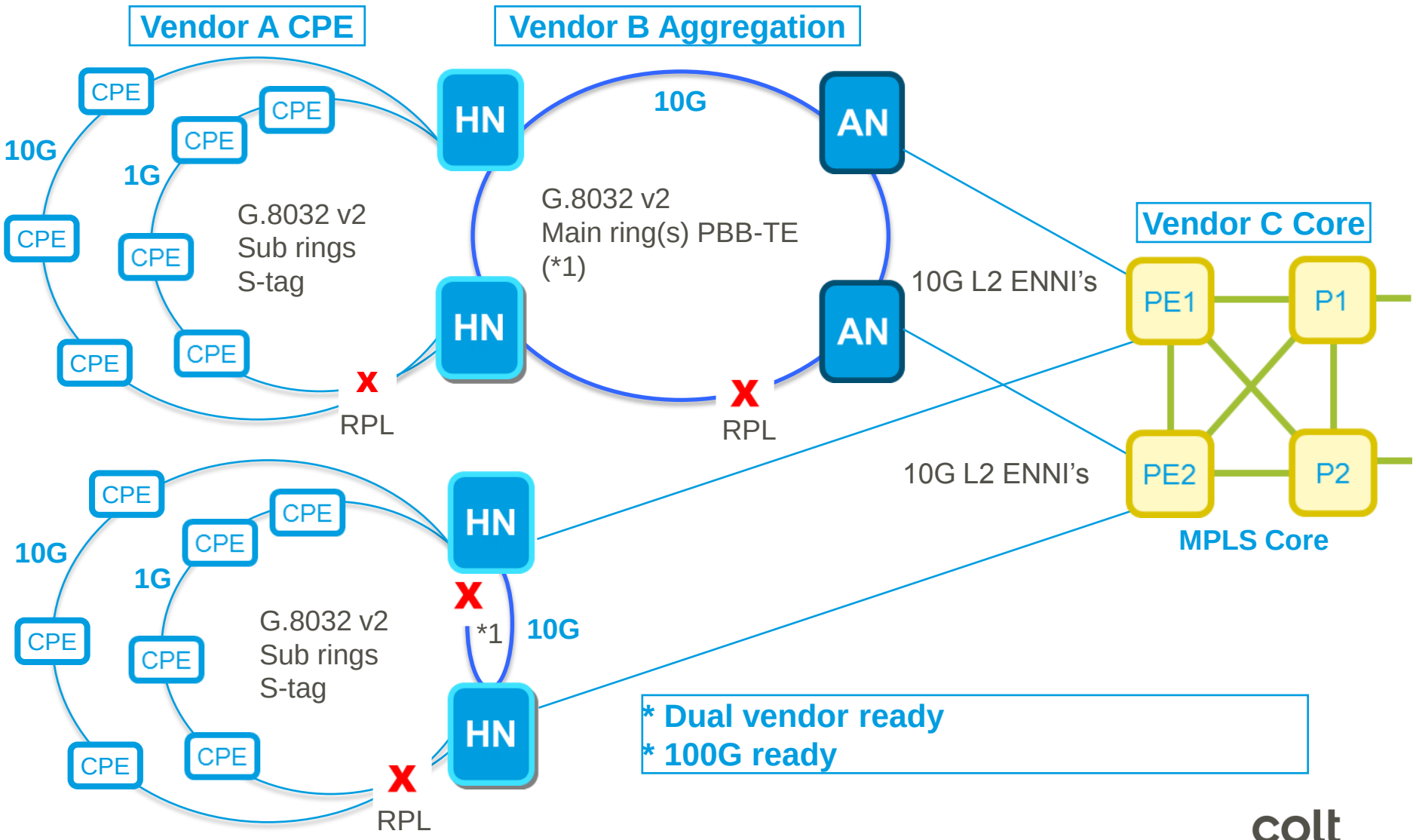
Modular MSP Architecture



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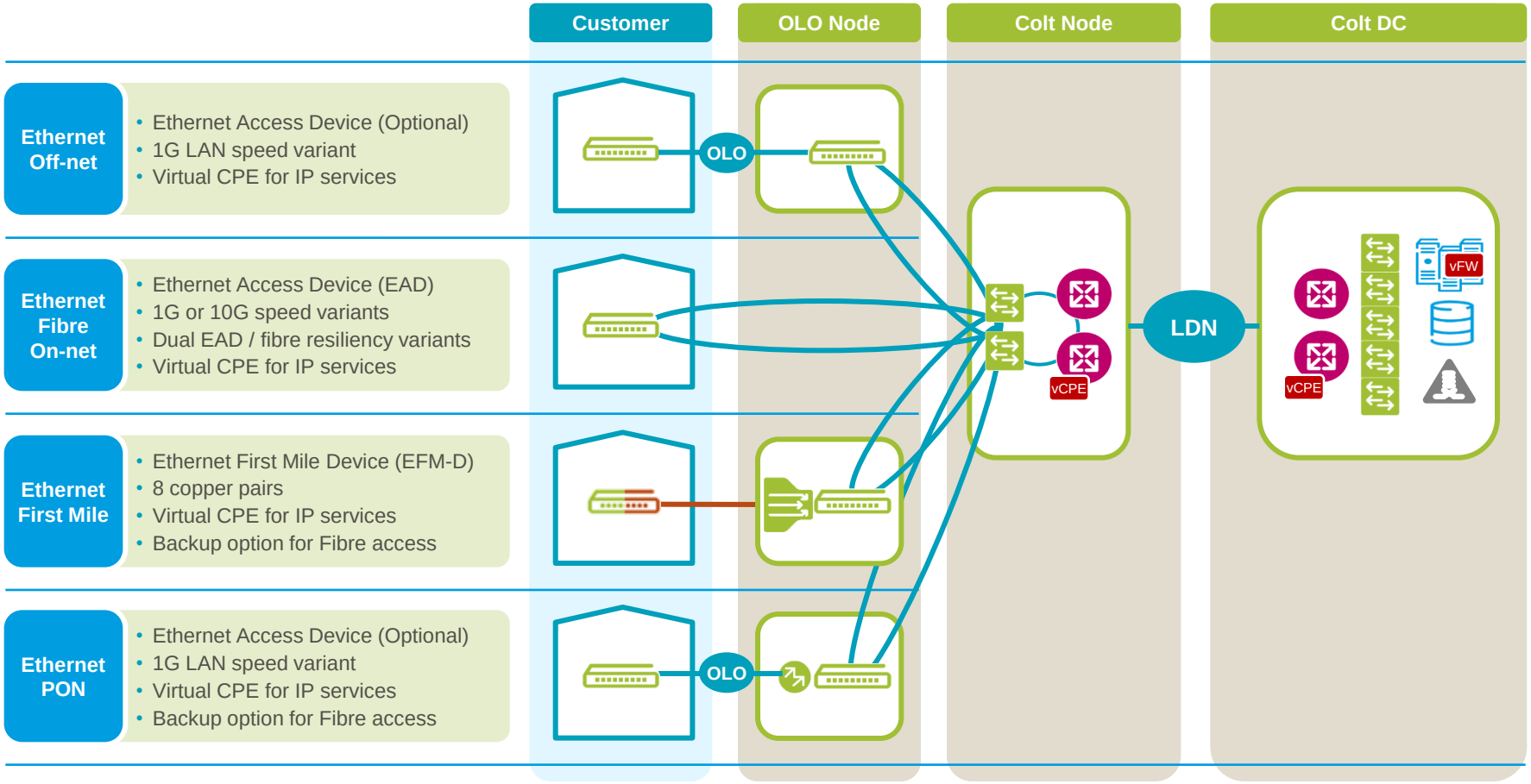
Next Generation Access



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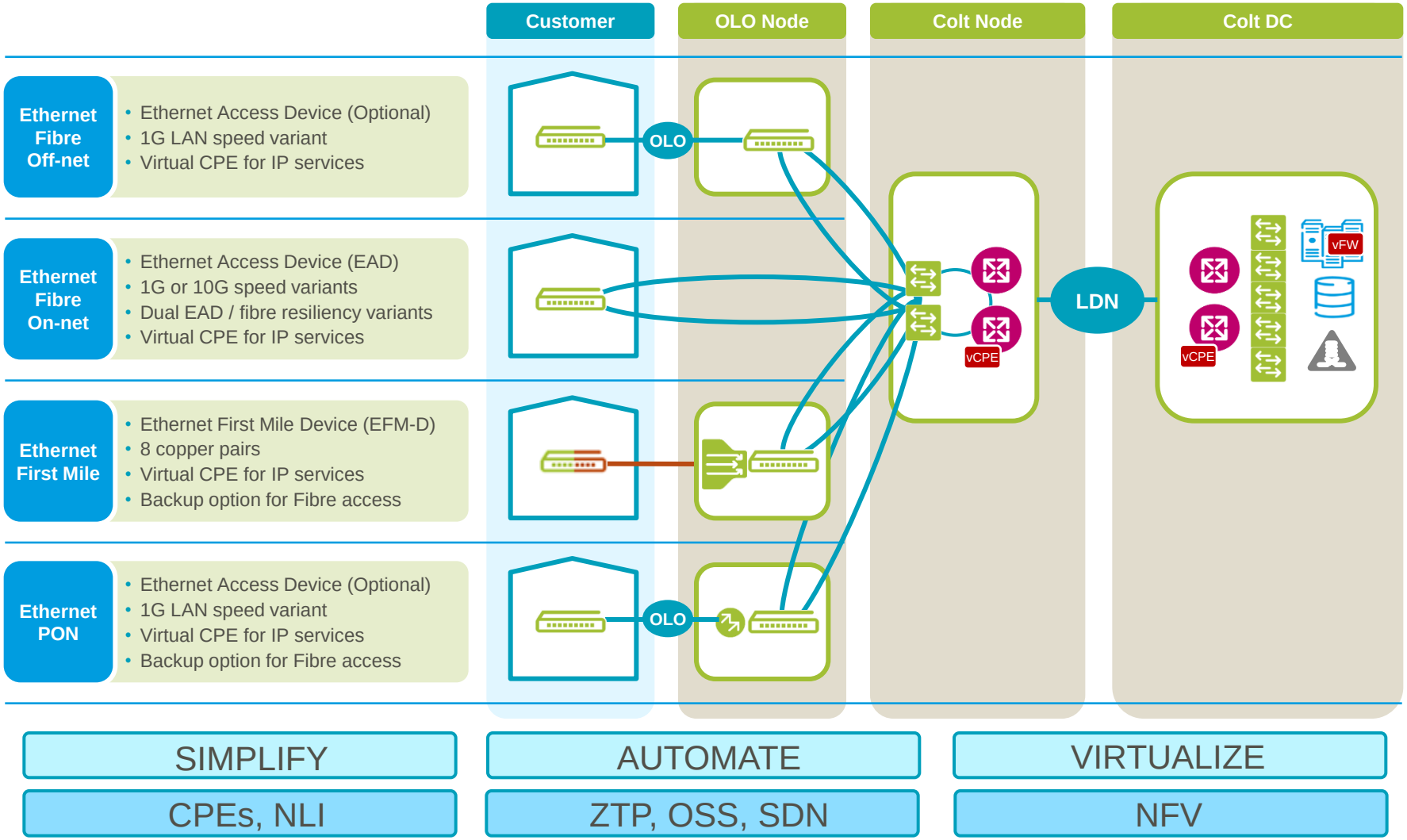

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Network Programmability

Network+Cloud (r)evolution: bridging the chasms

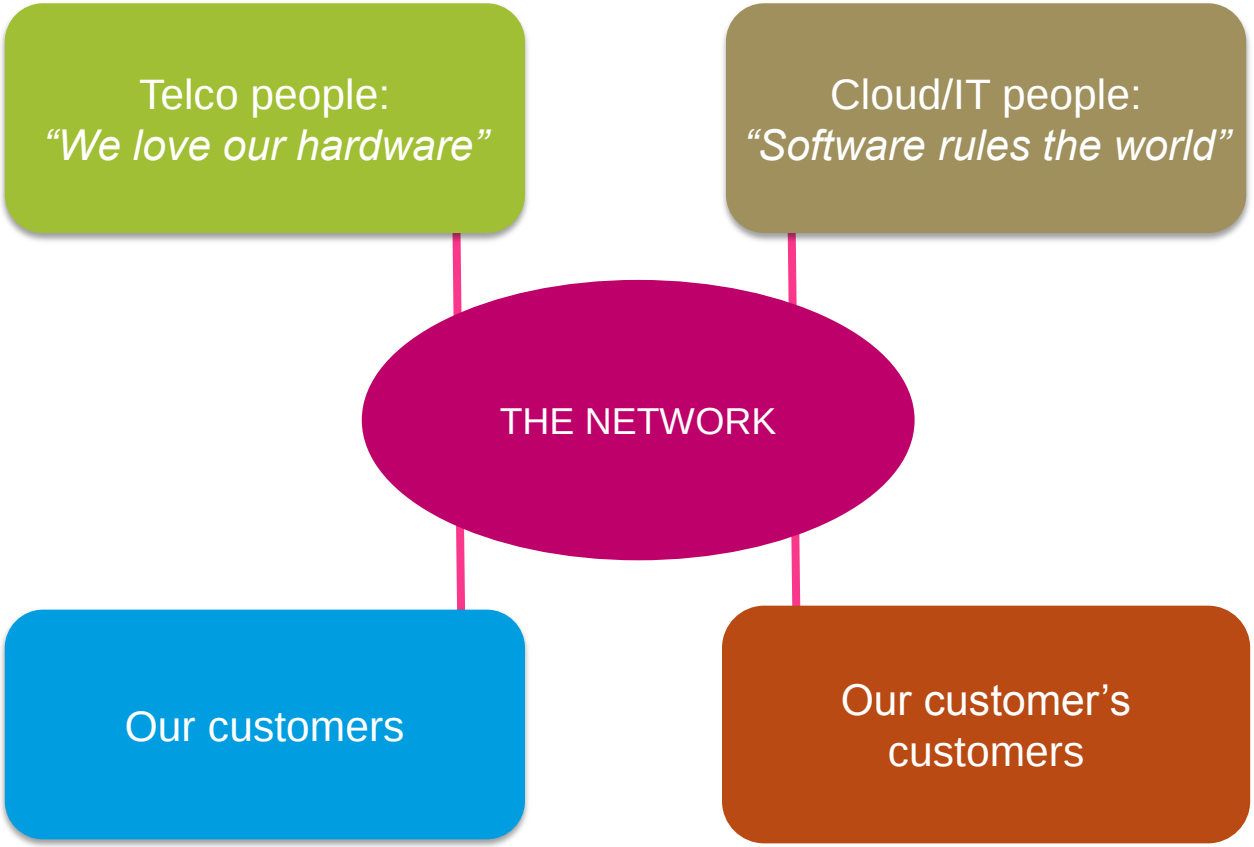
Telco people:
"We love our hardware"

Cloud/IT people:
"Software rules the world"

Our customers

Our customer's customers

Network+Cloud (r)evolution: bridging the chasms



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Op Model (r)evolution: bridging the chasms

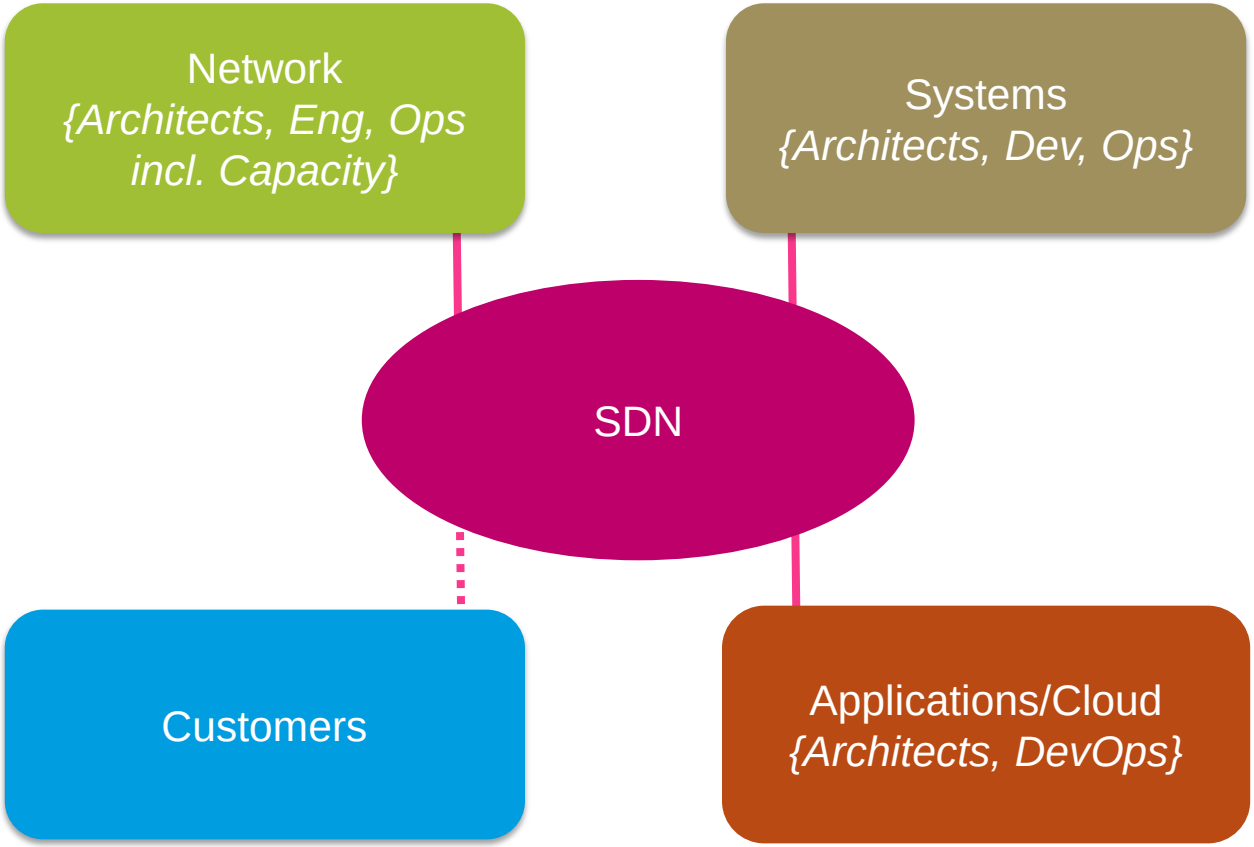
Network
{Architects, Eng, Ops incl. Capacity}

Systems
{Architects, Dev, Ops}

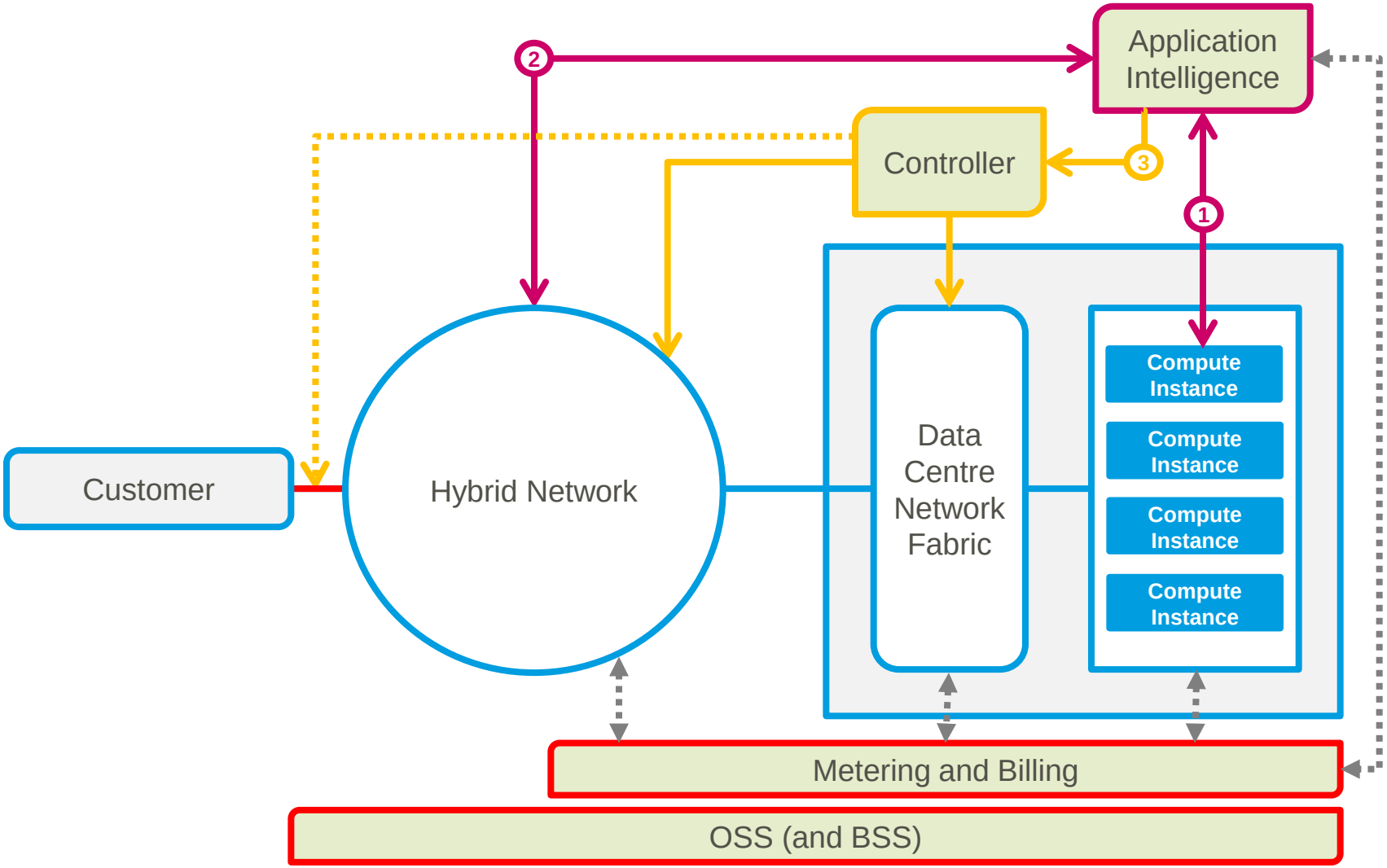
Customers

Applications/Cloud
{Architects, DevOps}

Op Model (r)evolution: bridging the chasms



Software Defined Networking: don't forget…



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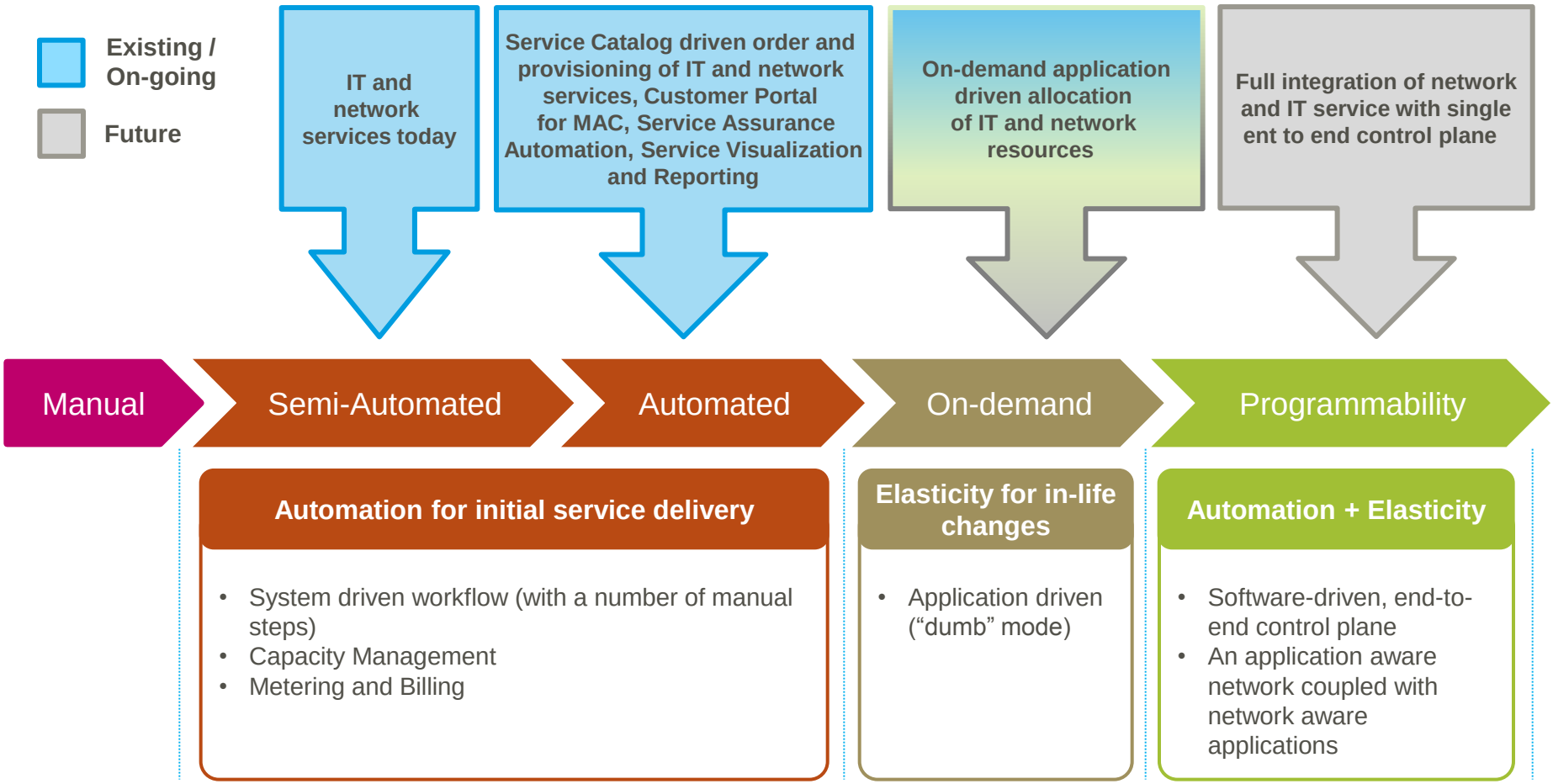
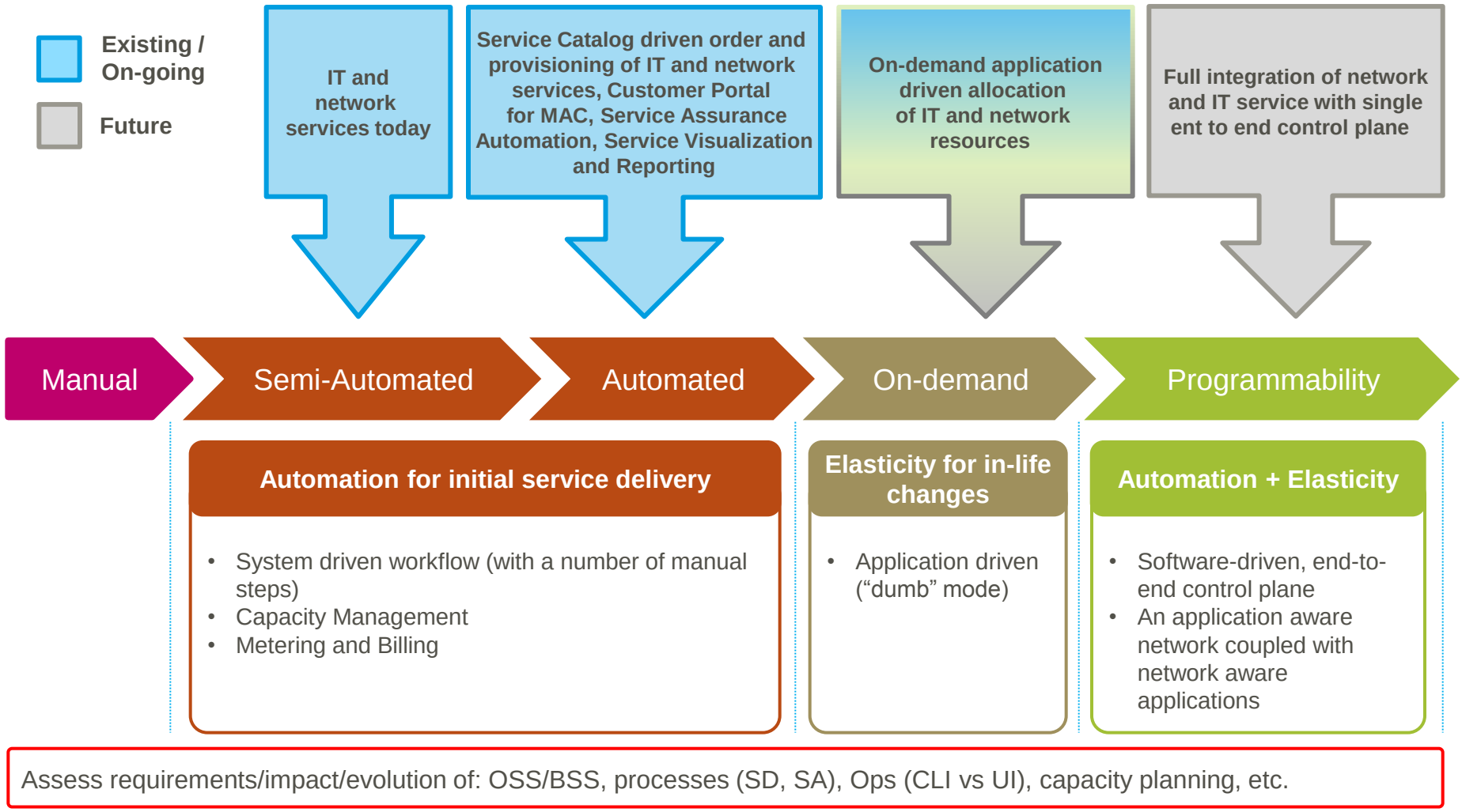
The path towards network and IT programmability



The path towards network and IT programmability



Assess requirements/impact/evolution of: OSS/BSS, processes (SD, SA), Ops (CLI vs UI), capacity planning, etc.

Target Network and Platform Architecture

- How much of this is real ?
- Incremental vs [color]field

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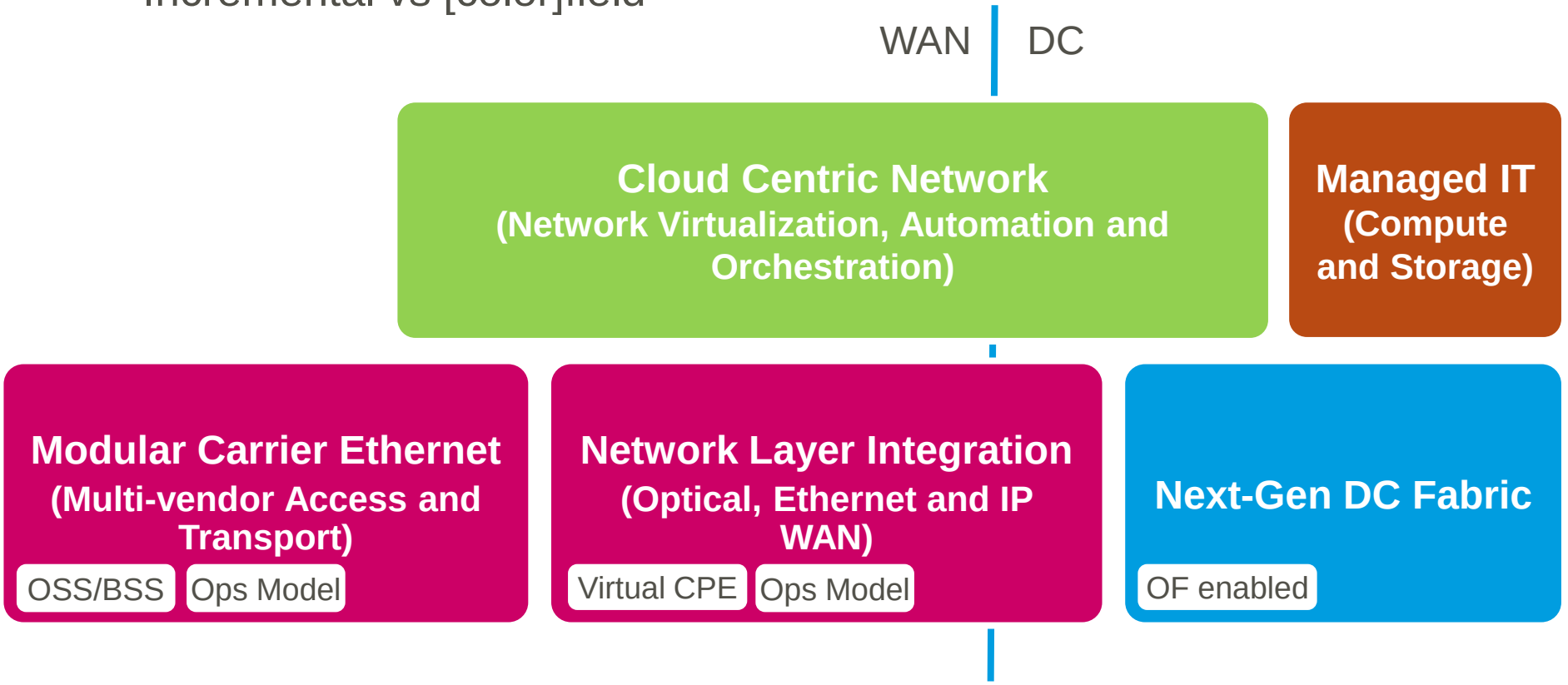

So what's the future like ?

- Ethernet is the de-facto access technology for WAN and DC LAN
- Monolithic MSP/CE solutions are going to be history soon: modular, multi-vendor (i.e. IP like) will be the new norm. As well as integrated networks
- Openness, APIs, programmability will prevail over hardware capabilities: need to re-invent OSS and introduce more network functions virtualizations
- Not just bandwidth/features will change in-life, also the service type
- Platform v2: managed IT solutions will include and abstract the network, compute&storage changes and multiple markets propositions
- New operating models for well established carriers and people

Thank you. Questions?

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