

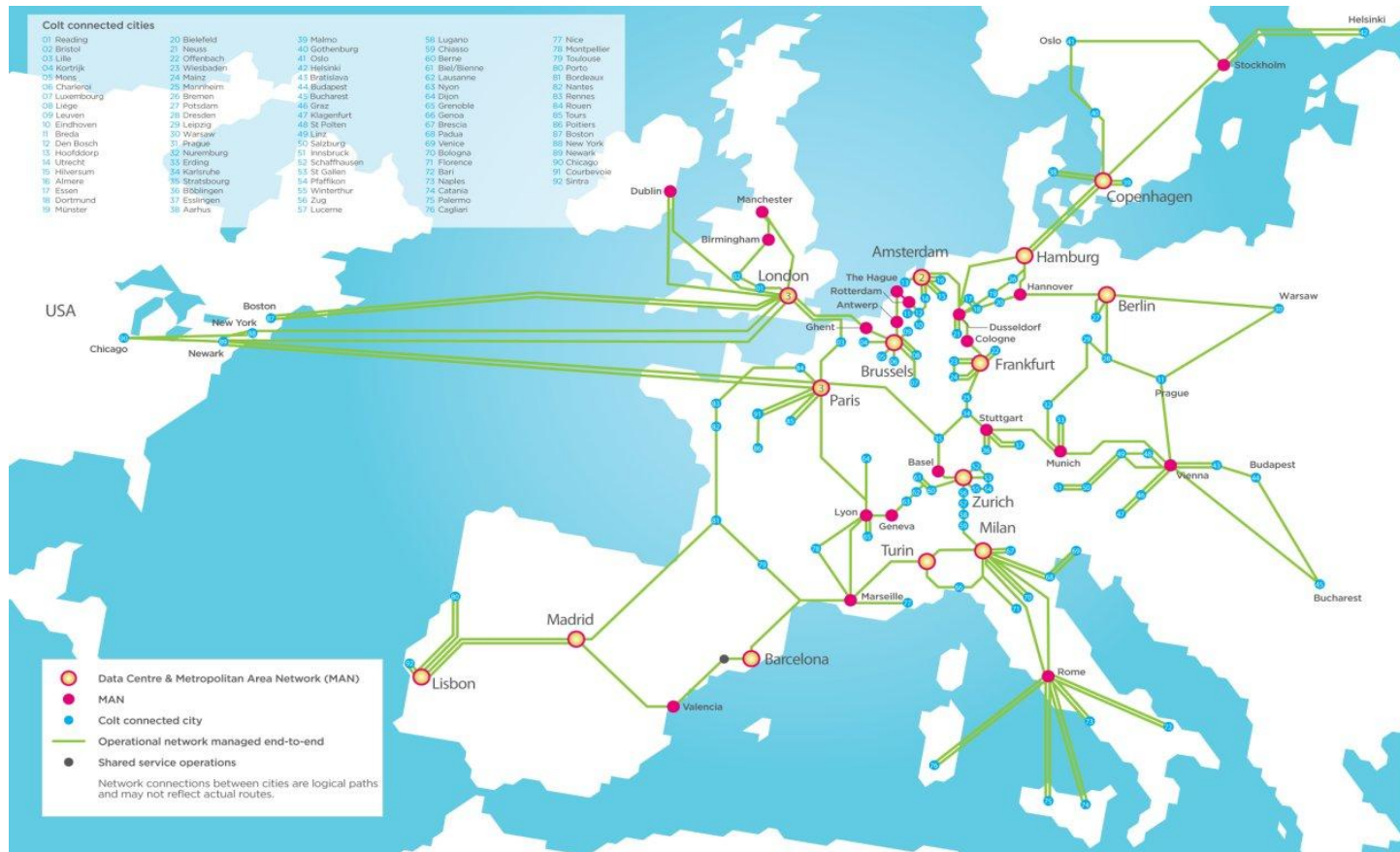
Leveraging your DC and Network Infrastructure for Cloud Services

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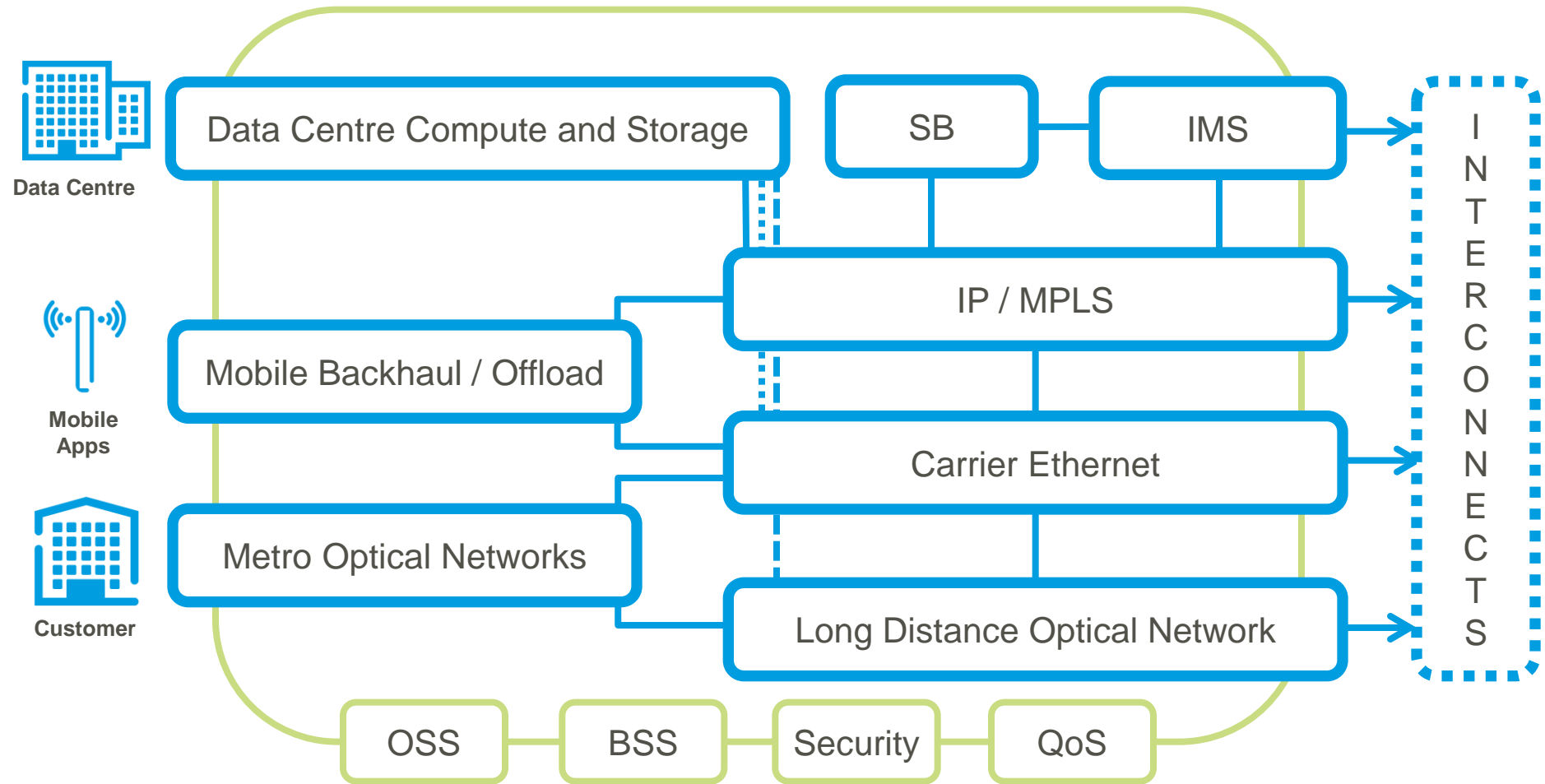


Colt – Europe’s Information Delivery Platform

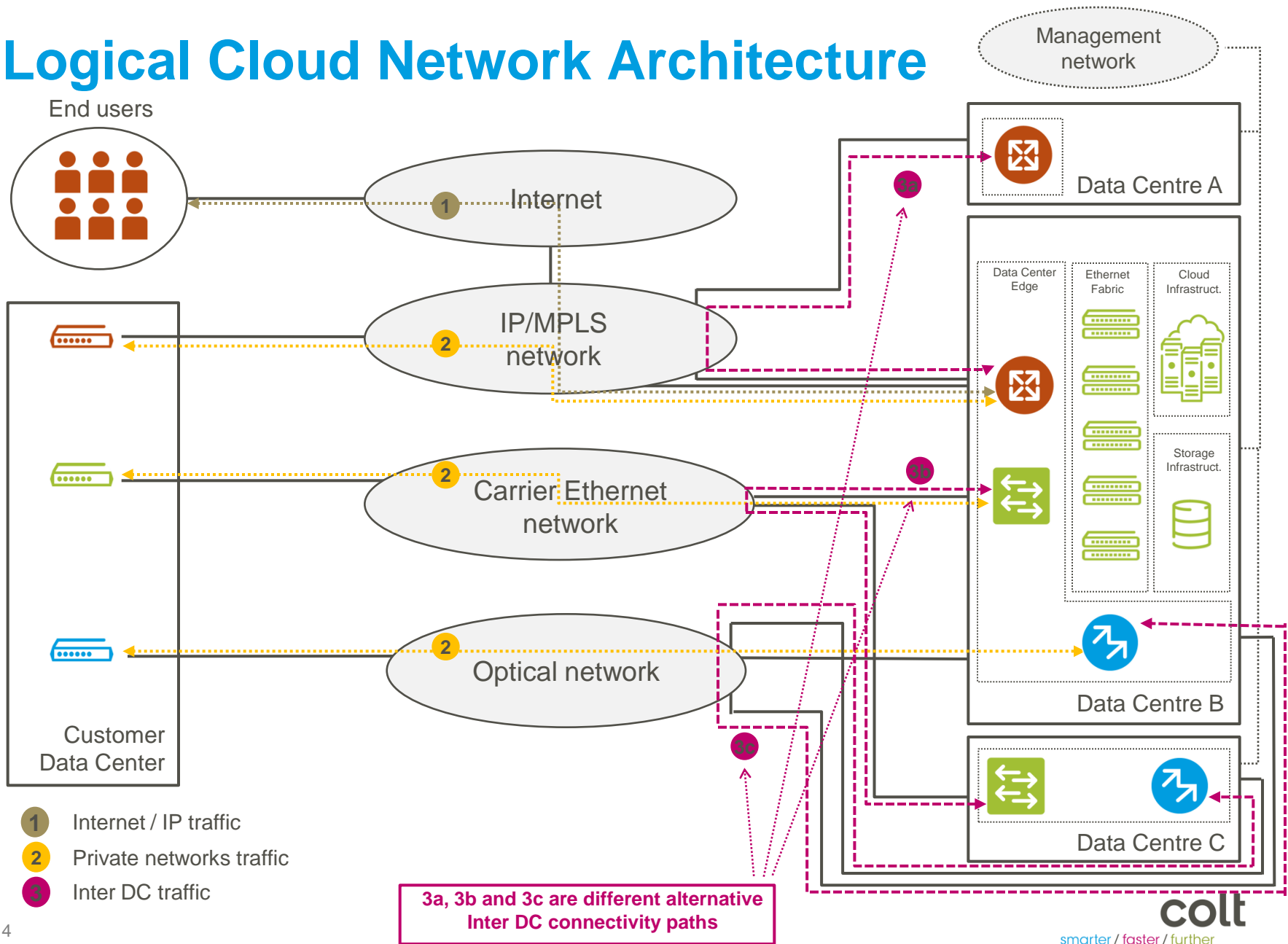


21-country 33000km network, 38 metro networks and 80+ connected cities
19 data centres – 17000 connected buildings – 35000+ customers

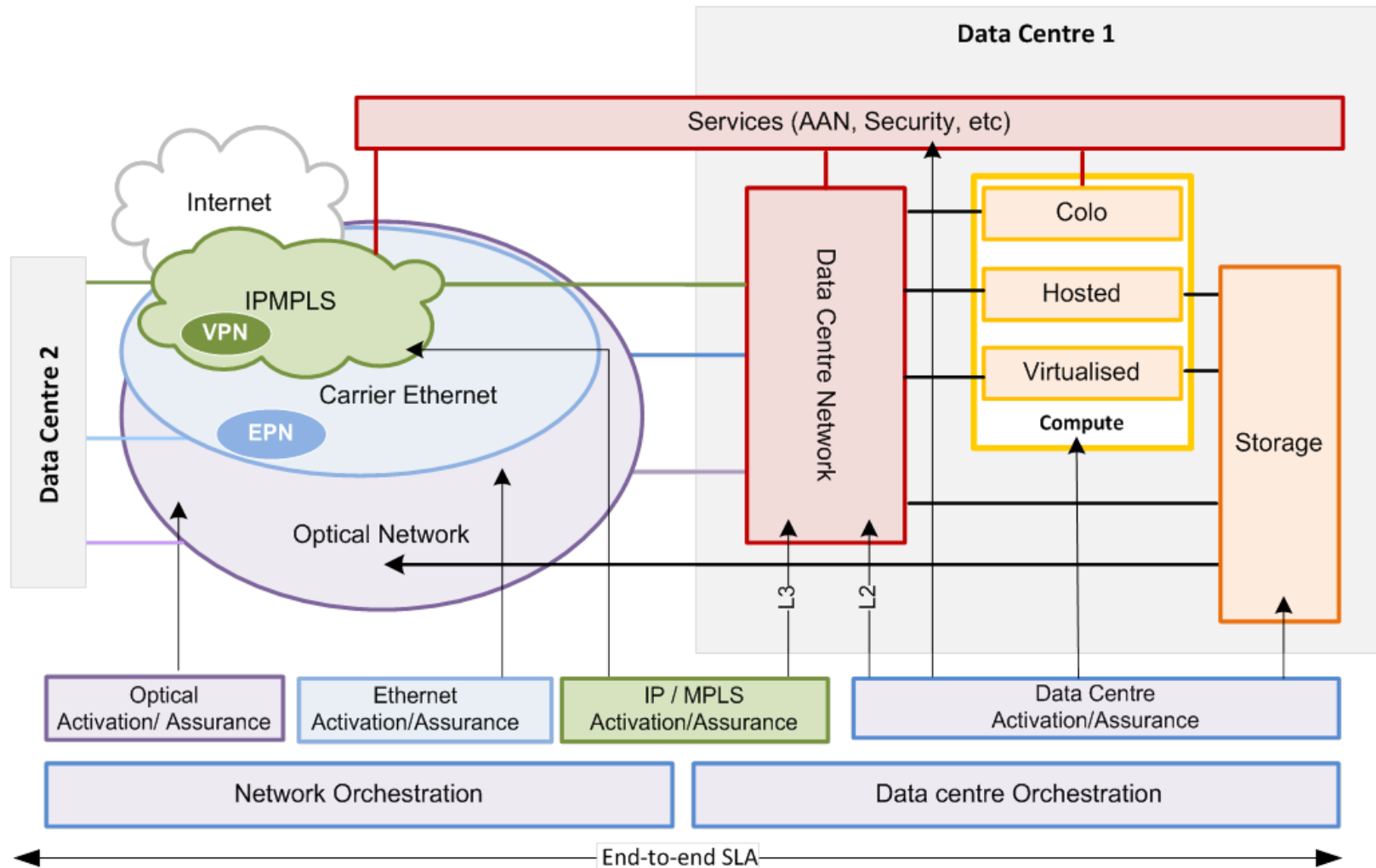
Logical Cloud Network Architecture



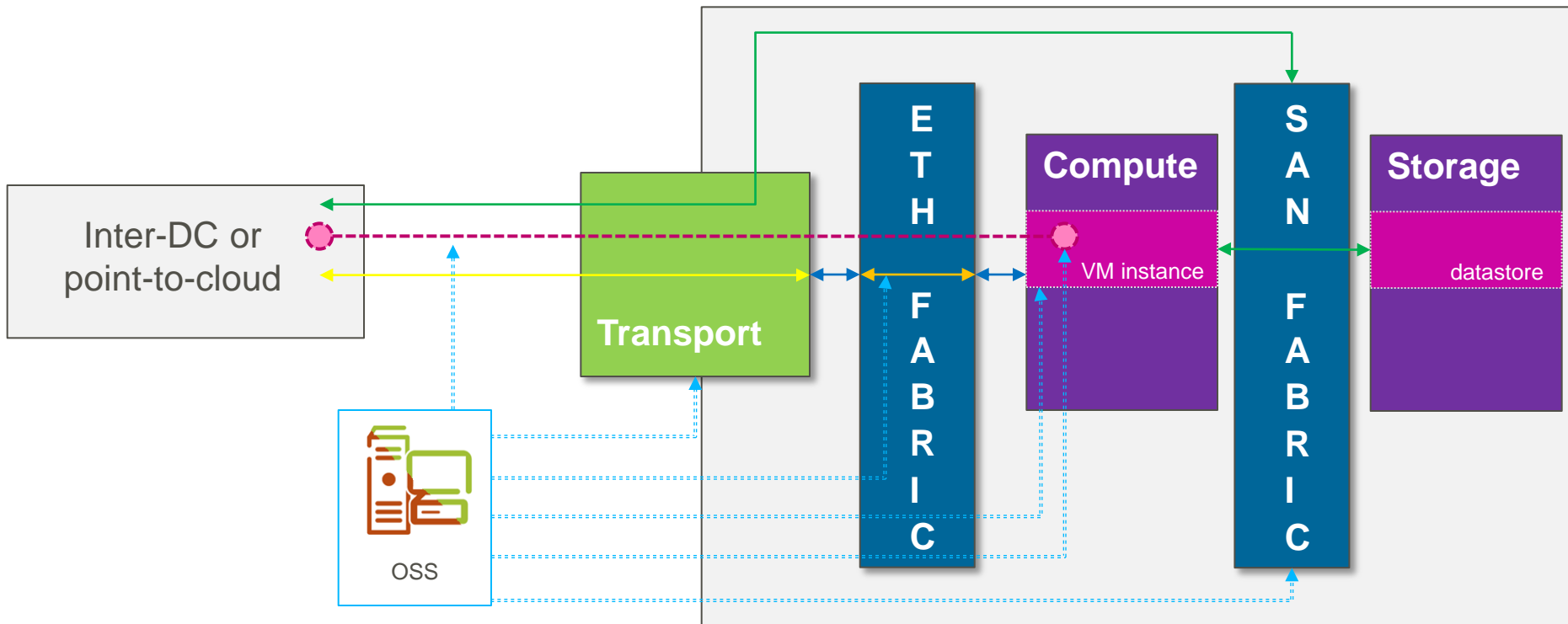
Logical Cloud Network Architecture



End-to-End Service Architecture



End-to-End Service Architecture



End-to-end connectivity vs the Internet

Cloud Centric Network	Internet
Pre-defined path (main/backup)	BGP route updates/instability
Low latency, Application Aware Networking	Best effort (jitter/QoS)
Guaranteed connectivity	Peering/Network Neutrality evolutions
On-demand bandwidth scaling	Transit bottlenecks
Keep state	Stateless
Layer 1/2 encryption, data location	IPsec/SSL, denial-of-service, route injection
End-to-end visibility	Limited measurement capabilities
Customer	Consumer

Public/Hybrid/Private Clouds

- Outsourcing of dev/test and basic batch jobs vs Core Business Apps
- Where is my data located, who has access to it ?
- Design and Operations
 - Can't be done in isolation (provider / customer)
 - Integration with the customer's IS (system, server, apps)
 - Failure scenarios, disaster recovery, business continuity
 - End-to-end SLA (service delivery, activation and assurance)
- Working with solution partners
 - Market and solution maturity
 - Lots of established players in the core business apps market (e.g. financial services)
 - Complexity of integrating components and managing the technology lifecycle

Architecture and Design Considerations

- How much system and network integration is really needed ?
- What's the right scope for elasticity, mobility, data replication ? How does it impact the IP, Ethernet and Optical network ?
- Design for today and for tomorrow ?
- Lots of players in the market, with very diverse and different propositions
- Extend the “on-net” proposition thru Ethernet Exchange and IPX NNIs (private cloud, mobility) ?
- Network needs as much focus as compute&storage
- Need to be very pragmatic

Thank you. Any questions?

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