

# Next Chapter in Network Connectivity

DIAMOND KEYNOTE



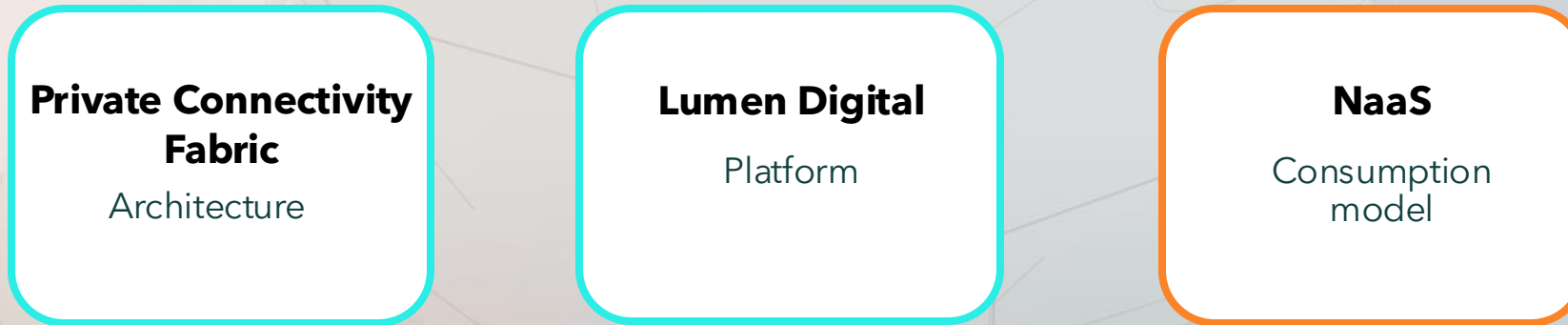
Global NaaS Event  
By MEF



**Dave Ward**

EVP Chief Technology  
and Product Officer,  
Lumen Technologies

# The **network** is critical in an enterprise AI strategy



Three critical elements of an **AI strategy**



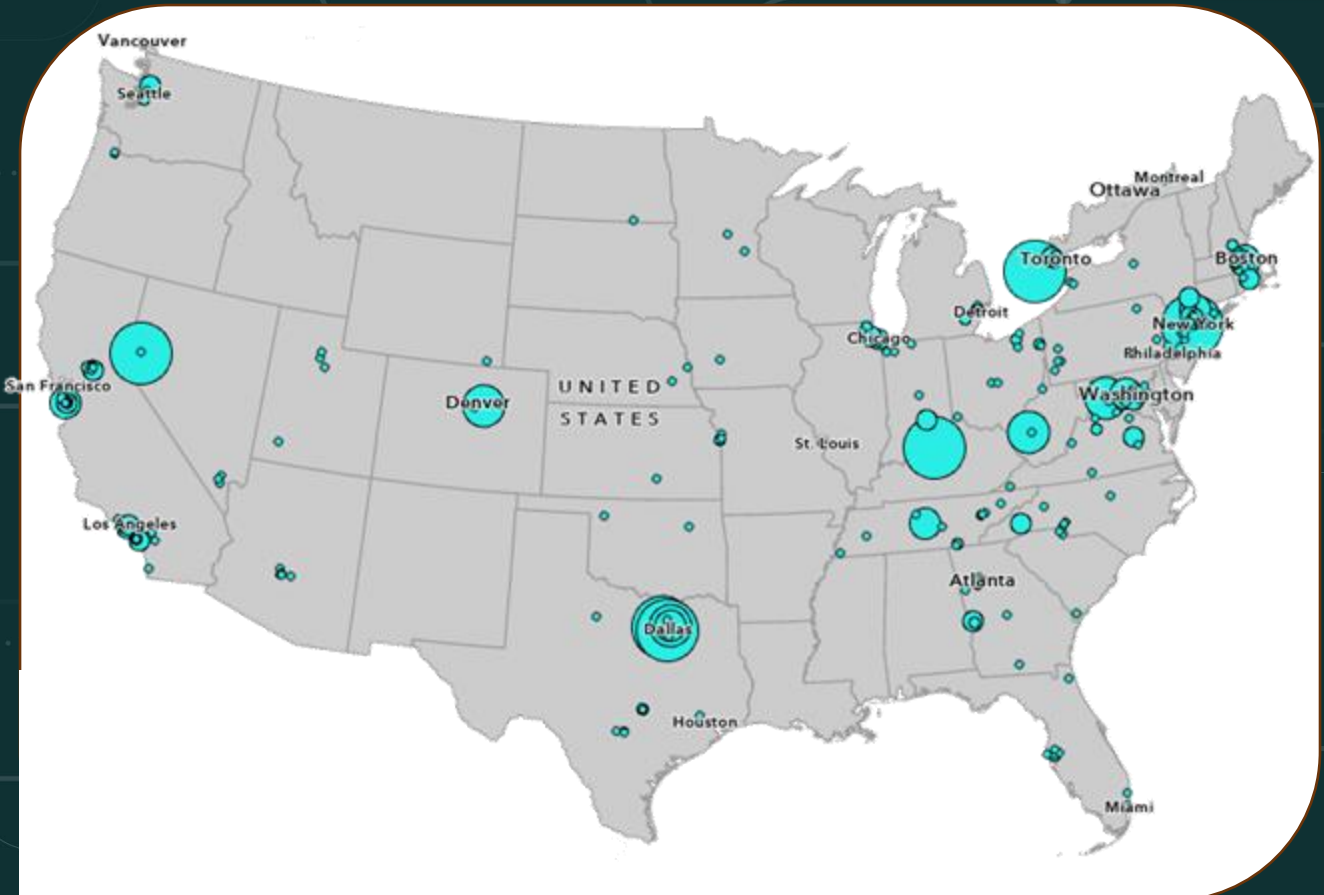
# Fiber and wave connectivity are essential components in delivering high-bandwidth, scalable network solutions

---

- The 400G market is booming, driven by AI and data needs
- 800, 1.6T can't get here fast enough
- Dark fiber, managed lit, and wave services are critical to handling AI's data demands
- 864 fiber cable: 45 000 Tbps or ~100 000 @ 400G waves

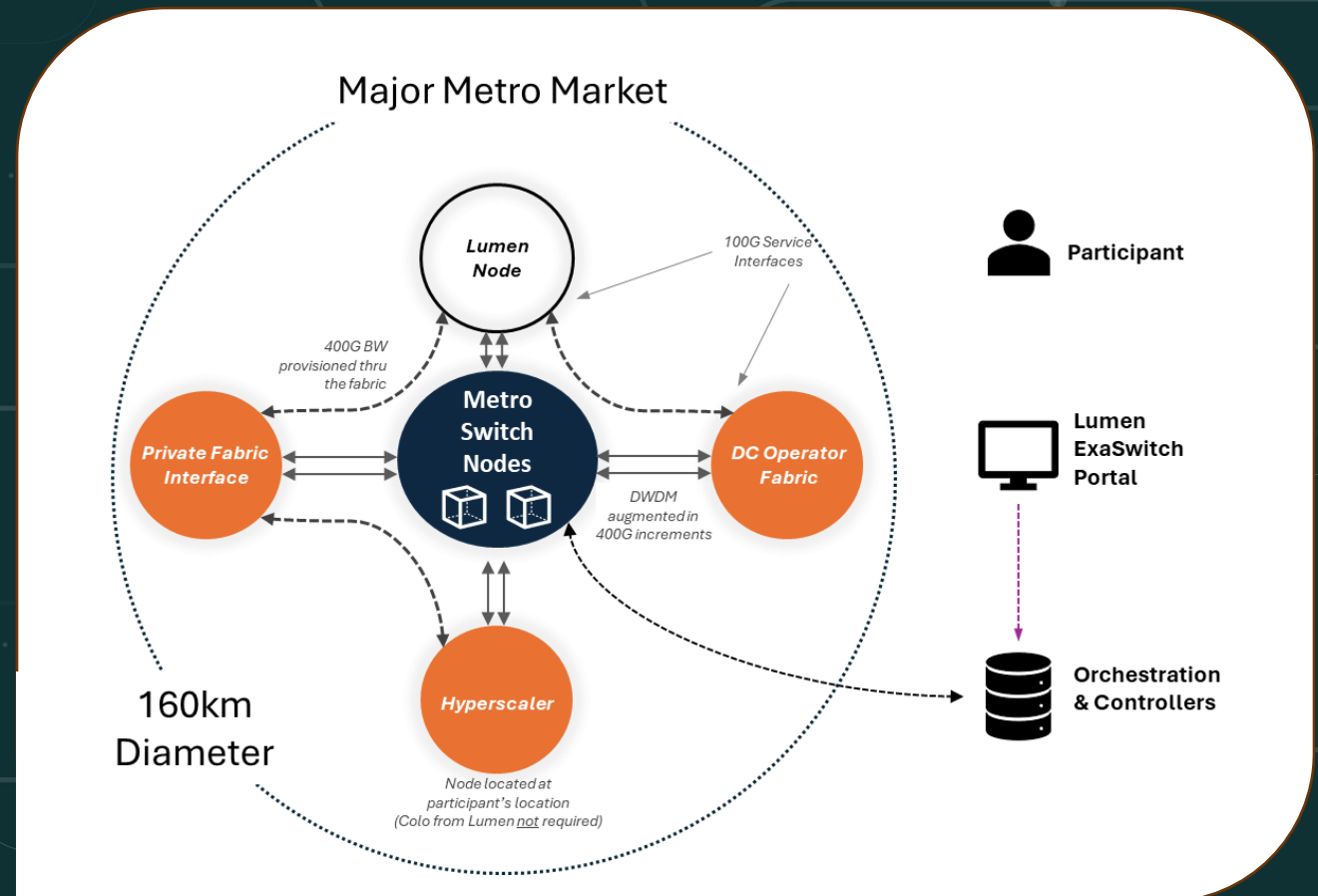
# Infrastructure is changing on a national level – the fiber ‘grid’ is stretching / morphing

- AI power requirements are leading DCOs, GPUaaS startups and hyperscalers further away from the established national fiber pathways:
  - Midwest, Central Pennsylvania, rural Virginia, Indiana, Wyoming, Nevada, Texas and Utah
  - ‘Metroplex’ sprawl
  - Regional AI COI
  - Hybrid AI, multi-cloud/DC AI architectures here



# The industry needs to rethink traditional interconnection architectures to meet the demands of next-gen connectivity

- 90's 00's architecture is maxed out
- Distributed 'Meet Me' rooms, and optical switching are the future
- PE hub and spoke are limiting factor to BW, cost
- Rings are for marriage not for network designs
- Routed Optical networks enable capacity, lower cost to deliver photons and bits, reduce latency
- Get Meshy - multi-cloud designs are driving BW



# Nothing shakin' on Shakedown Street

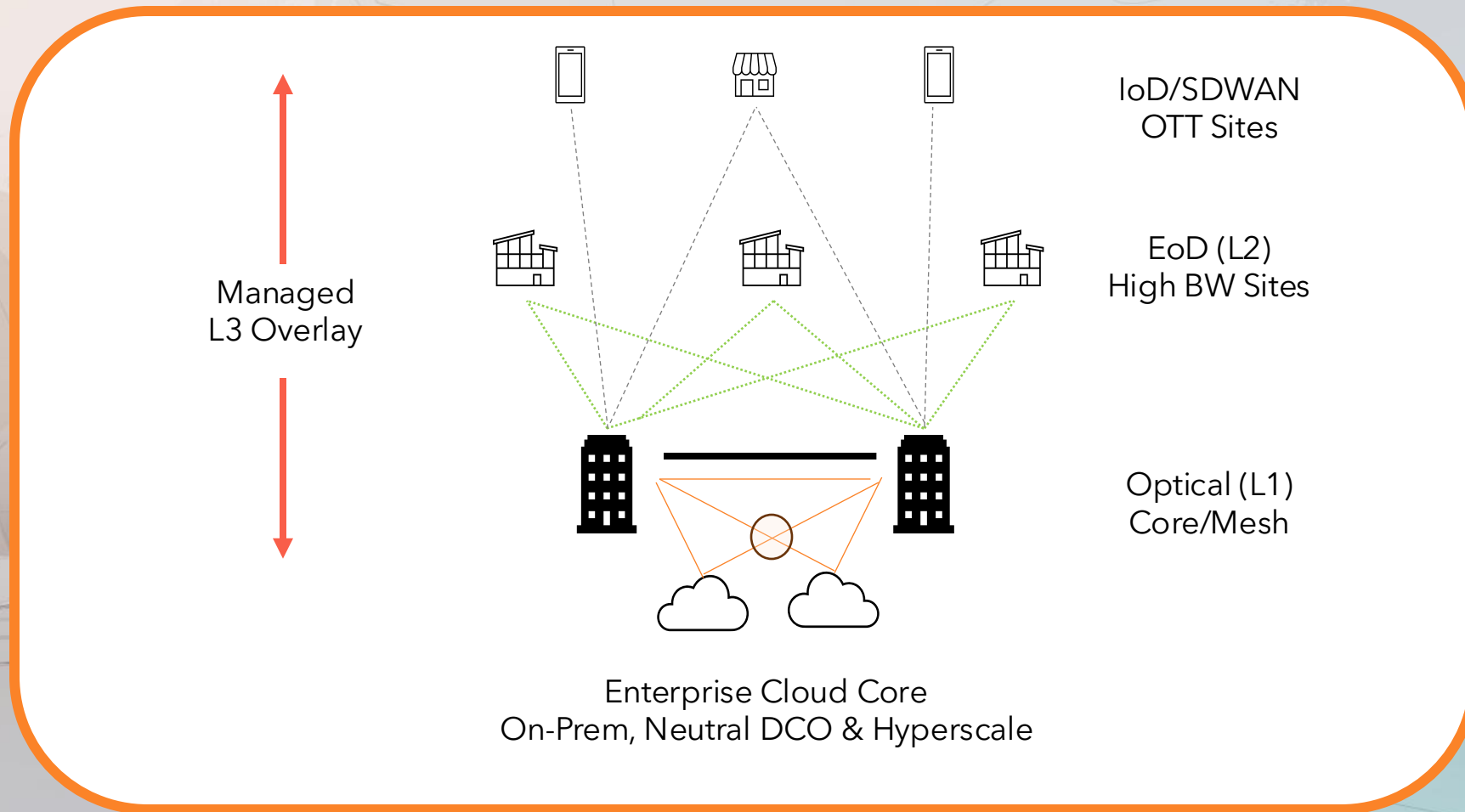
- “Too much too fast” – rapid adoption of overlays that aren't tied to underlays are not AI ready
  - May miss transition or limit deployment
- Great user experience – yes! Easy. Addictive.
- Trombone of traffic != delighting customers
- Tie SDWAN/SASE to underlay to retain value



**Platforms & APIs: Automation  
and self-service are essential  
to scalable, cloud-driven  
networks**



# API-driven, platform-based delivery systems are the future of SP/telco ecosystems



**Composability and API integrations are key to building the future of connectivity**



# API Translation

---

- Digital platforms are multi-layered: internal representations, external representation/bindings and converters/translators
- Why are translators necessary? Providers can't be slowed down by standards (e.g. dark fiber and waves)
- Differences between internal, external and developer needs

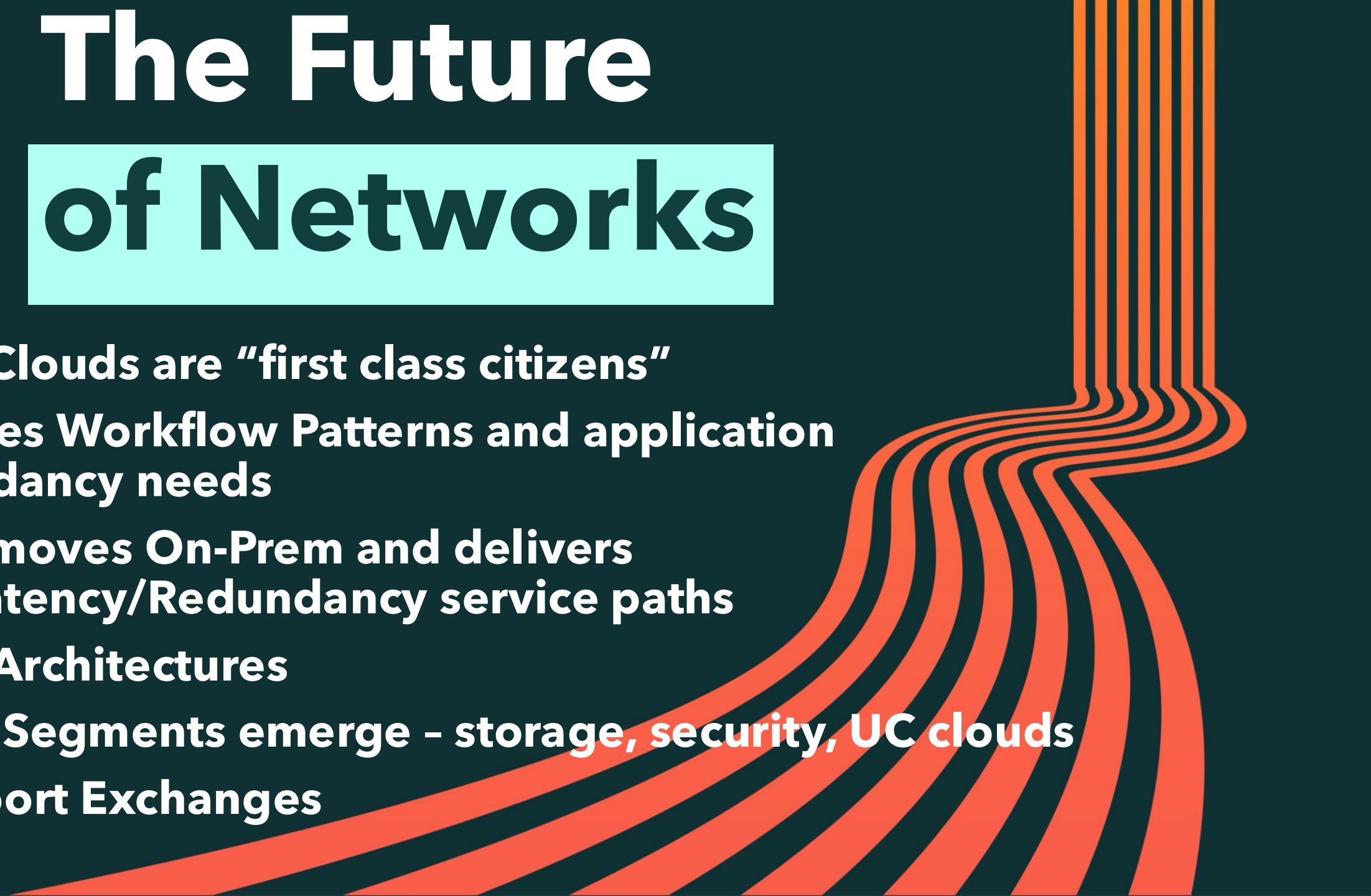
## **NaaS is a Consumption Model not a technology**

- **Wrapped in the flexibility and process transparency of Service Digitization**
- **The "push" behind NaaS is part of a greater "push" to transform telco/SP service**

# The Promise of Service Digitization

- Multiple consumption models
- Provider benefit - reduced cost of sales, new sales channel, integration with partners
- Consumer benefit - BSS process transparency - designing, quoting, consumption (including 'changing'), billing, SLA/telemetry (stream/poll)
- Shared benefit - OSS friction reduction - automated self-reporting, event-based alerts, and proactive management
- Shared benefit - composable, easily integrated solutions (via API)

# The Future of Networks

- **DC & Clouds are “first class citizens”**
  - **Matches Workflow Patterns and application redundancy needs**
  - **NaaS moves On-Prem and delivers BW/Latency/Redundancy service paths**
  - **Mesh Architectures**
  - **Cloud Segments emerge – storage, security, UC clouds**
  - **Transport Exchanges**
- 
- A decorative graphic on the right side of the slide consists of several vertical orange lines that curve and flow downwards, merging into a series of wavy, parallel lines in shades of orange and red. The background is a dark teal or blue color.



Global NaaS Event

By MEF