



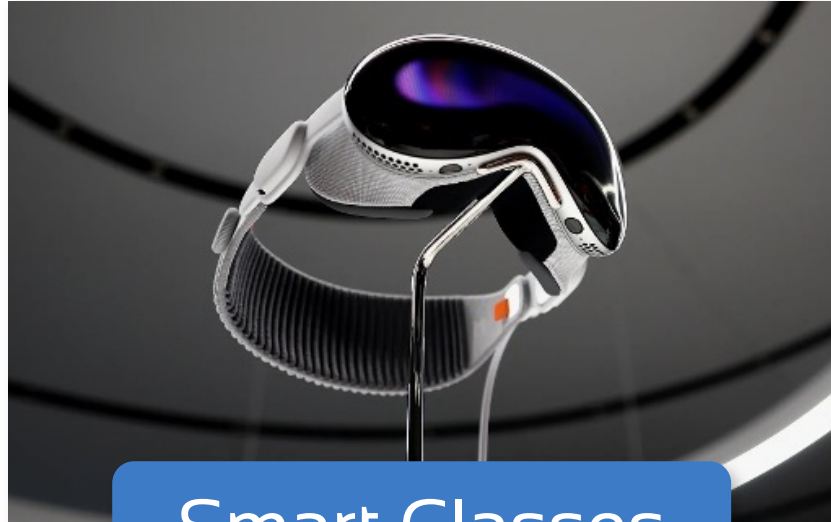
# Realizing the Power & Promise of NaaS

Pascal Menezes - CTO MEF



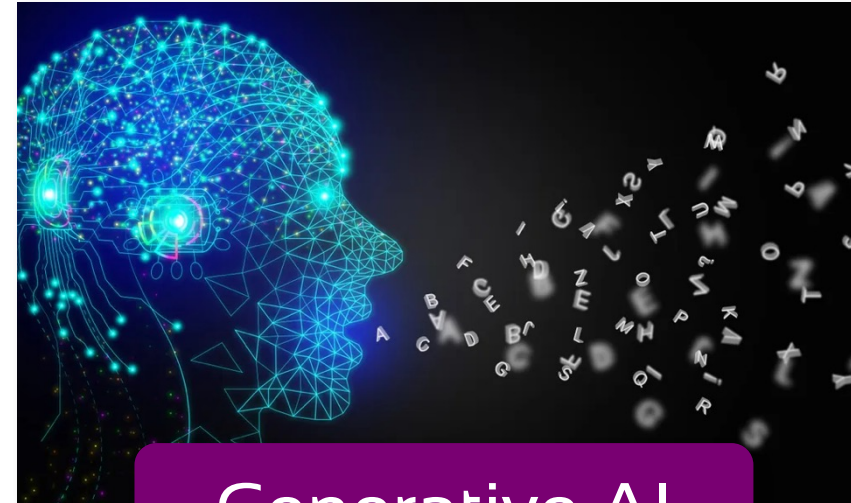
Global NaaS Event  
By MEF

## Many Industries Will Be Disrupted



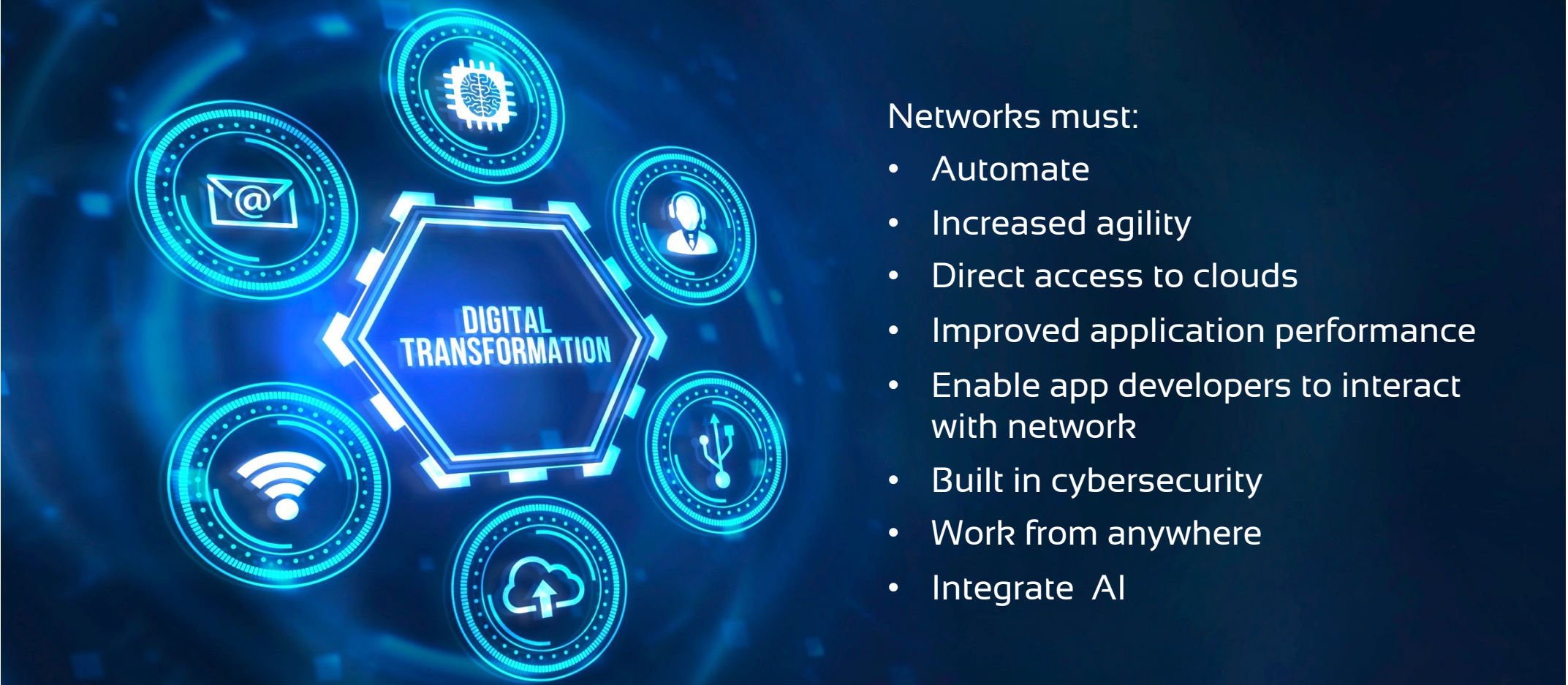
### Smart Glasses

- Design and Modeling
- Interior Design & Construction
- Advertising
- Smart Shopping
- Educational Training
- Gaming
- Business Aid
- Repair and Maintenance
- Logistics and Warehousing
- Healthcare
- Industrial Field Services
- Remote Collaboration



### Generative AI

- Code generation, documentation, and QA
- Product and app development
- Blog and social media content writing
- Inbound and outbound marketing communication workflows
- Graphic design and video marketing
- Entertainment media generation
- Performance management
- Business performance reporting
- Customer support and customer experience
- Optimized enterprise search and knowledge base
- Pharmaceutical drug discovery and design
- Medical diagnostics

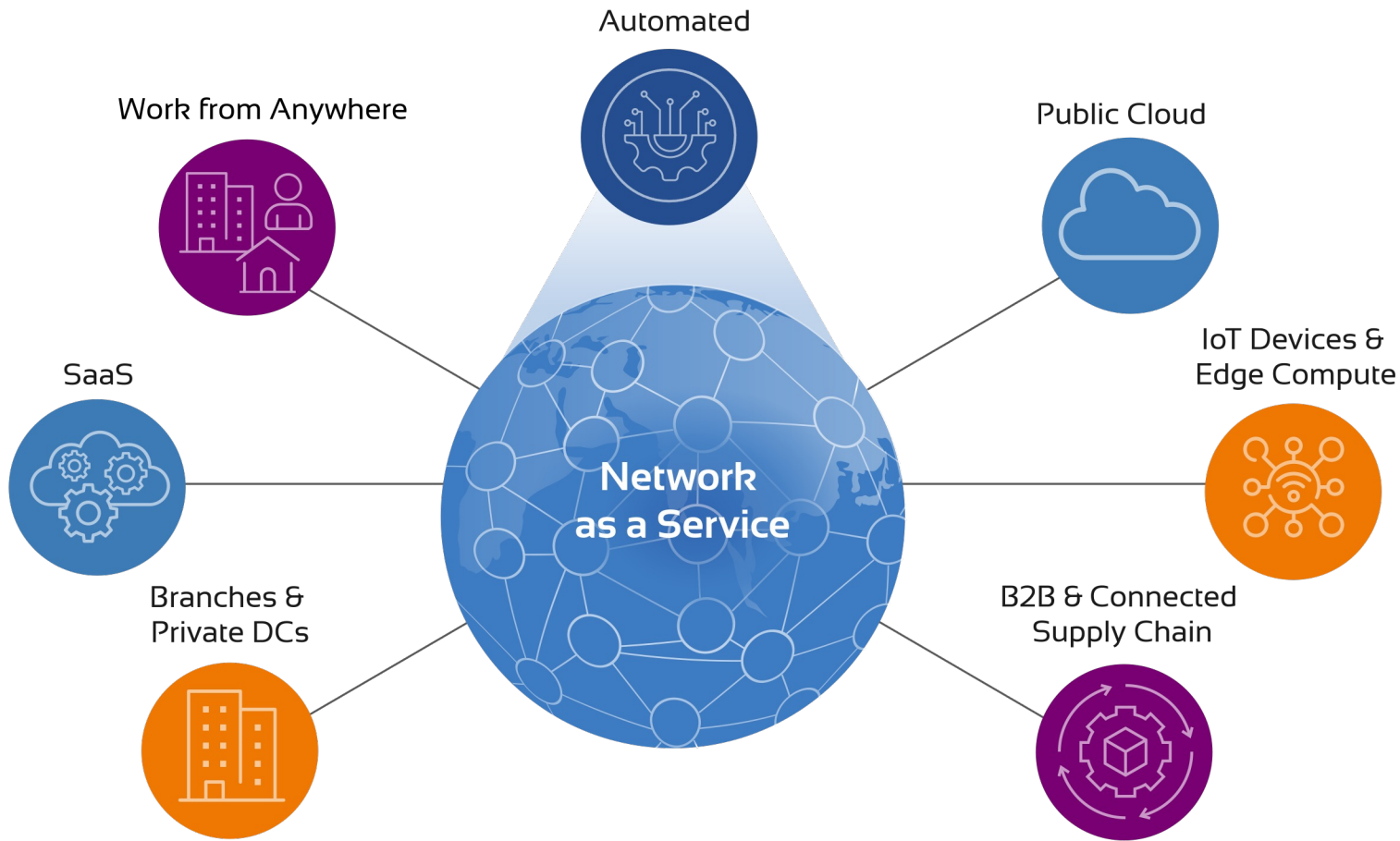


Networks must:

- Automate
- Increased agility
- Direct access to clouds
- Improved application performance
- Enable app developers to interact with network
- Built in cybersecurity
- Work from anywhere
- Integrate AI



# NaaS is a Change Accelerator



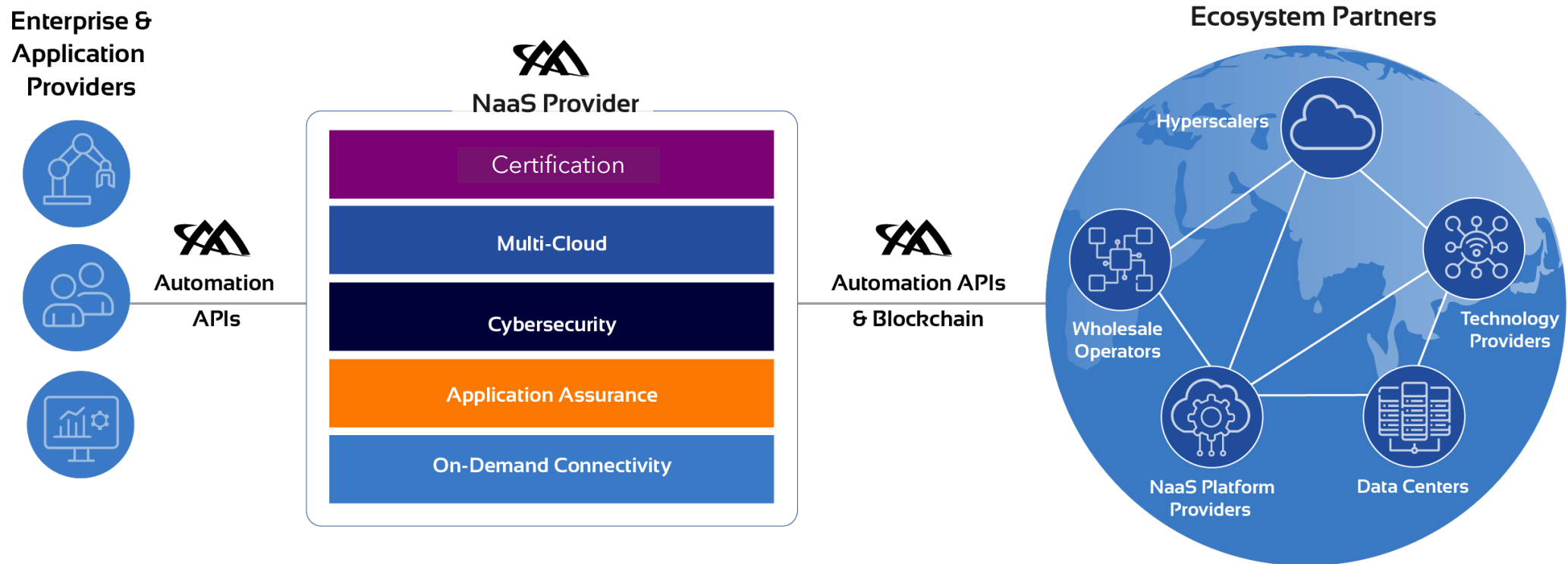
- ✓ As a Service Model
- ✓ Cloud Native
- ✓ Elastic
- ✓ Simplicity with Automation
- ✓ Access from Anywhere
- ✓ Enhanced Security
- ✓ Converged Access
- ✓ Visibility and Actionable Insights
- ✓ Improved Application Experience
- ✓ Flexibility
- ✓ Scalability



# MEF's NaaS Definition for the Global Ecosystem



MEF defines NaaS as the combination of on-demand connectivity, application assurance, cybersecurity, and multi-cloud-based services across a standards-based automated ecosystem.



**With NaaS, organizations can achieve business objectives without having to build and maintain their own infrastructure.**

# MEF Has Published More than 100+ Standards and More than 65 Active Projects to Support NaaS Implementations



## Network as a Service Components

### Ecosystem

Enterprises, Service Providers, NaaS Platforms, Data Centers, Hyperscalers, SaaS Clouds, Technology Providers

### Automation

Business & Operational APIs, Blockchain, Smart Contracts, Decentralized Identity

### Multi-Cloud

Edge Compute/IaaS, Multi-Cloud Networking

### Cybersecurity

SASE, ZTNA, SSE, Application Security, Managed Detection Response

### Application Assurance

SD-WAN, Network Slice

### On-Demand Connectivity

Subscriber & Operator Ethernet, Internet Access, IPVPN, L1CS, Wavelength, Dark Fiber, Satellite, 5G FWA

### Test & Certification

CE, SASE, SD-WAN, SSE, ZTNA, LSO APIS

## MEF Standards & Initiatives

Ecosystem players use MEF standards, participate in Accelerator, certification, and other programs

40+ published standards in effect and 11 SDKs  
48+ active projects & initiatives

1 active project

3 published standards  
4 active projects & initiatives

4 published standards  
4 active projects & initiatives

49 published standards in effect  
3 active projects & initiatives

5 published standards supporting test & certification  
6 active projects & initiatives

Service Bundles

# NaaS Bundle Blueprint Themes



## On-Demand Connectivity (Transport)

—  
Transport Connectivity  
—  
Automation  
—  
Test & Certification

## Application Assurance (SD-WAN)

—  
Overlay & App. Assurance  
—  
Transport Connectivity  
—  
Automation  
—  
Test & Certification

## Cybersecurity (SASE)

—  
Cybersecurity  
—  
Overlay & App. Assurance  
—  
Transport Connectivity  
—  
Automation  
—  
Test & Certification

## Multi-Cloud (Connectivity)

—  
Direct high quality automated connectivity to clouds  
—  
Automation  
—  
Test & Certification



# MEF is Providing the Blueprint to NaaS for the Industry

MEF offers foundational building blocks and related support tools for vendors and SPs to develop, market and deliver a new generation of NaaS offerings

Building Blocks

## Service Standards

(Underlay, Overlay, Security & Edge) Definitions & Vocabulary

## Automation SDKs

LSO APIs, LSO Blockchain

## Ecosystem

Automation-ready for Many Service Delivery Partners

Support

## Development Support

LSO Marketplace, Developer Community

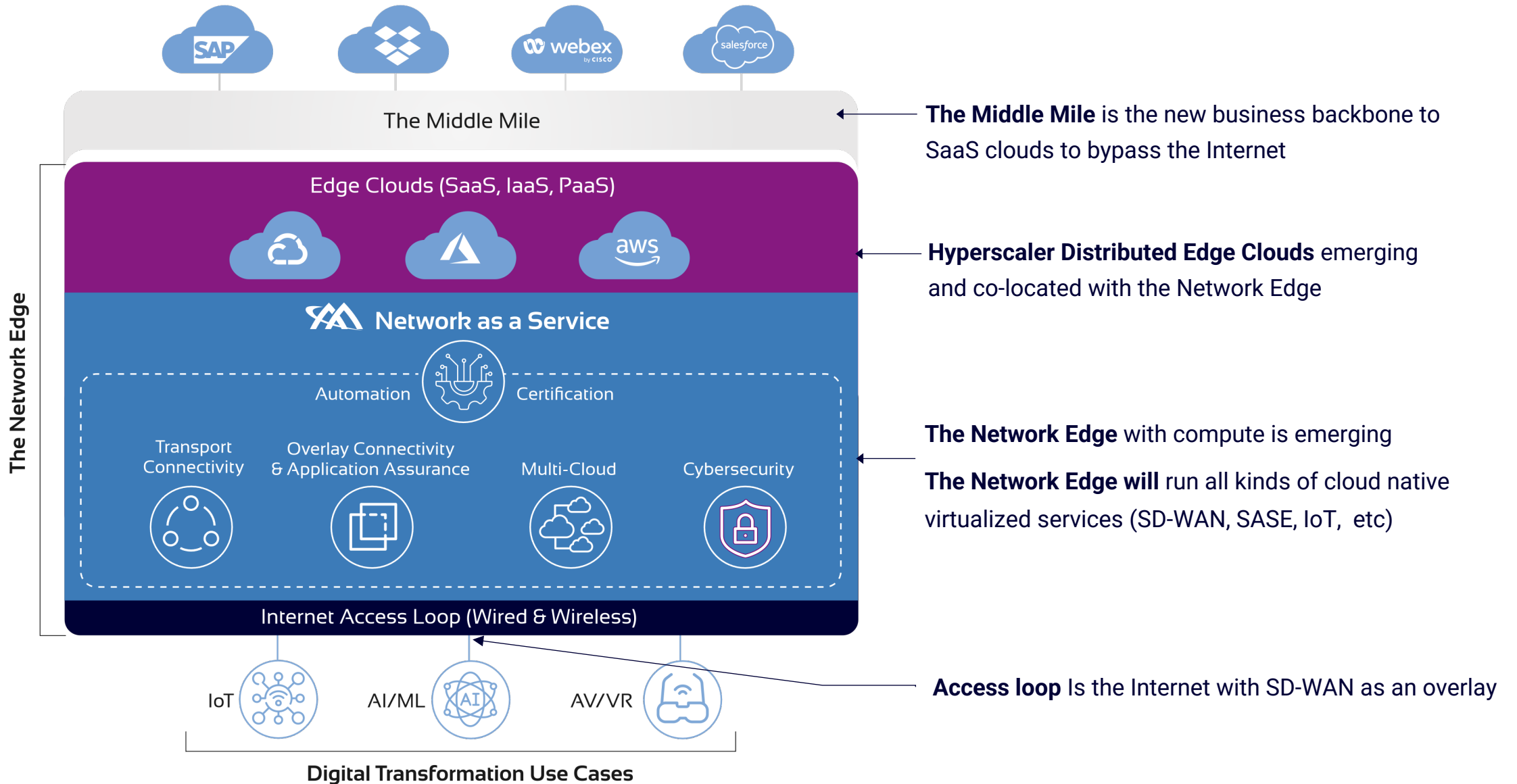
## Certification & Testing

Services, APIs & Professionals

## Go-to-Market Support

Sales Tools, Case Studies, Showcase, GNE Event

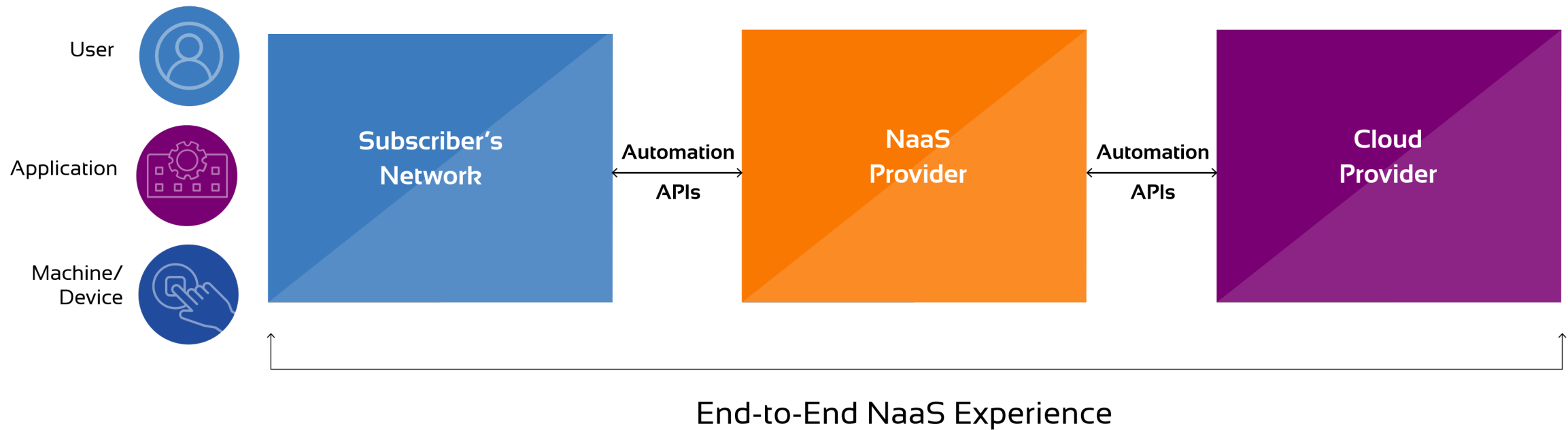
# The Edge is Key to NaaS



# NaaS is also an End-to-End Frictionless Experience

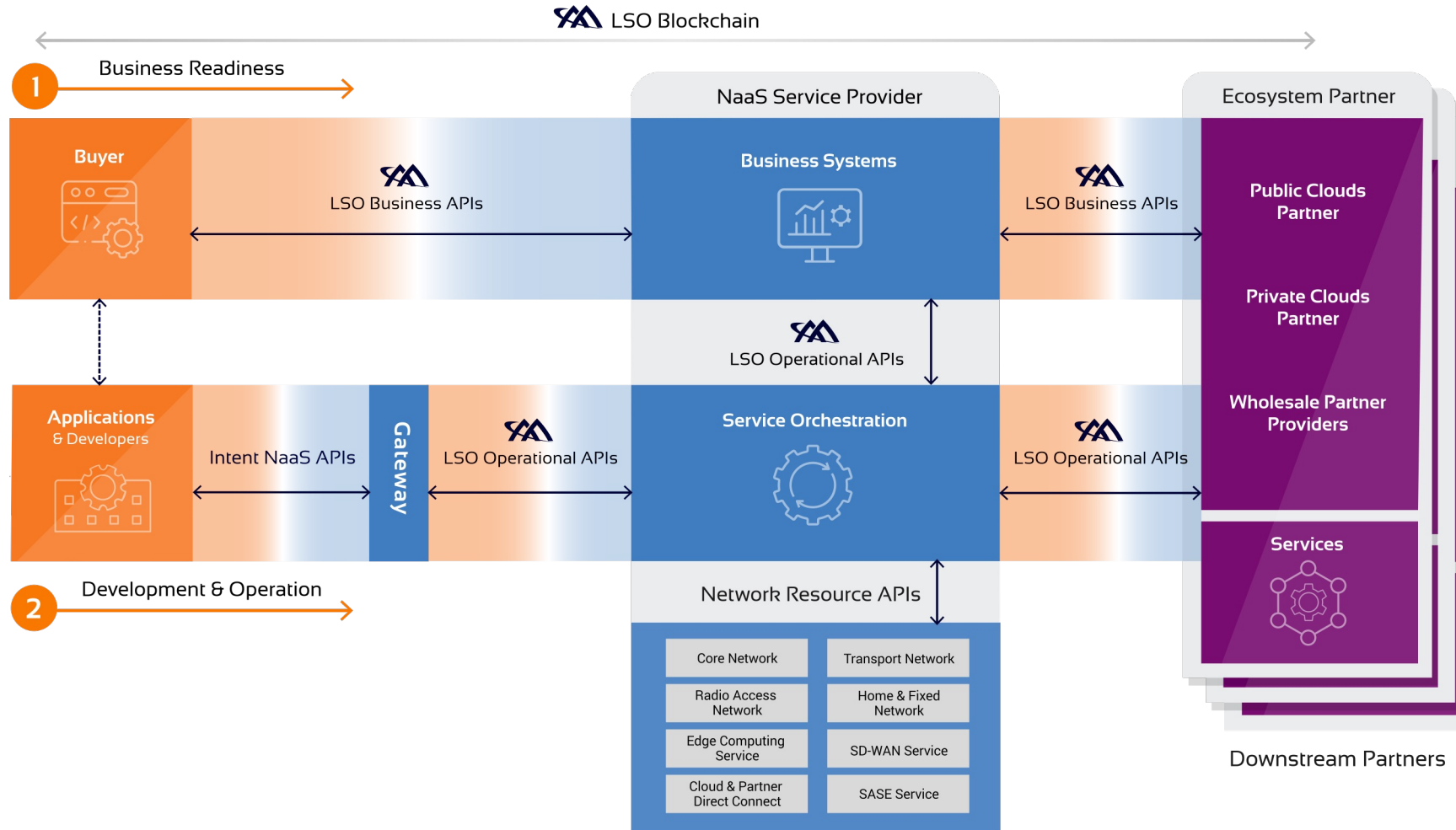


Enterprise NaaS has to be part of a service provider NaaS offering





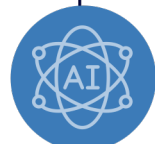
# Application developers want to be able to interact with the NaaS provider network via intent



# NaaS Will Evolve to be Part of a Supercloud – Clouds Interconnected by each Other to Create a Fully On-Demand Experience via the Cloud Ecosystem



IoT



AI/ML



AV/VR



Robotics



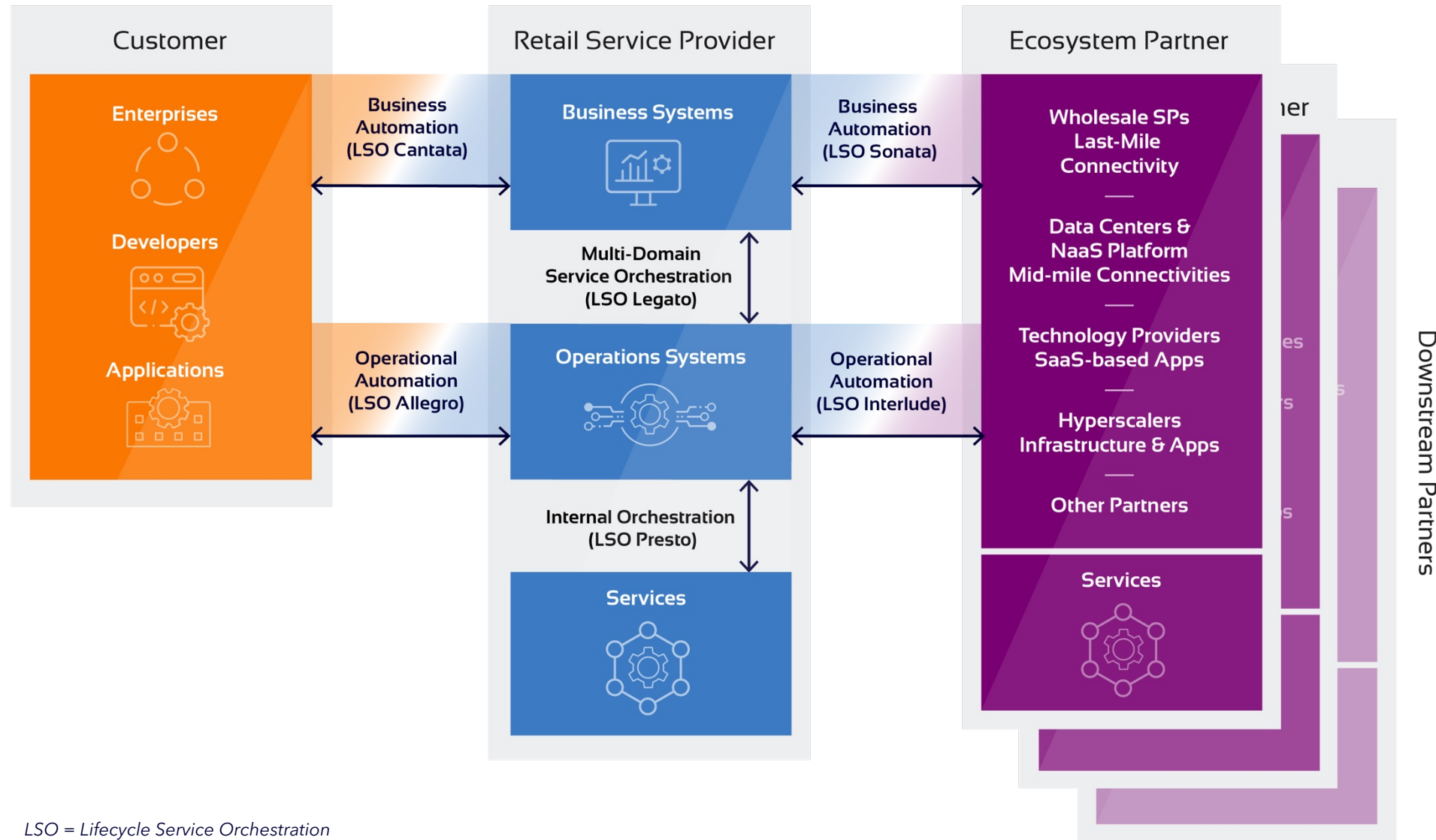
Smart Car

High-Speed Interconnected  
Clouds

Smart Contracts

Fully Automated

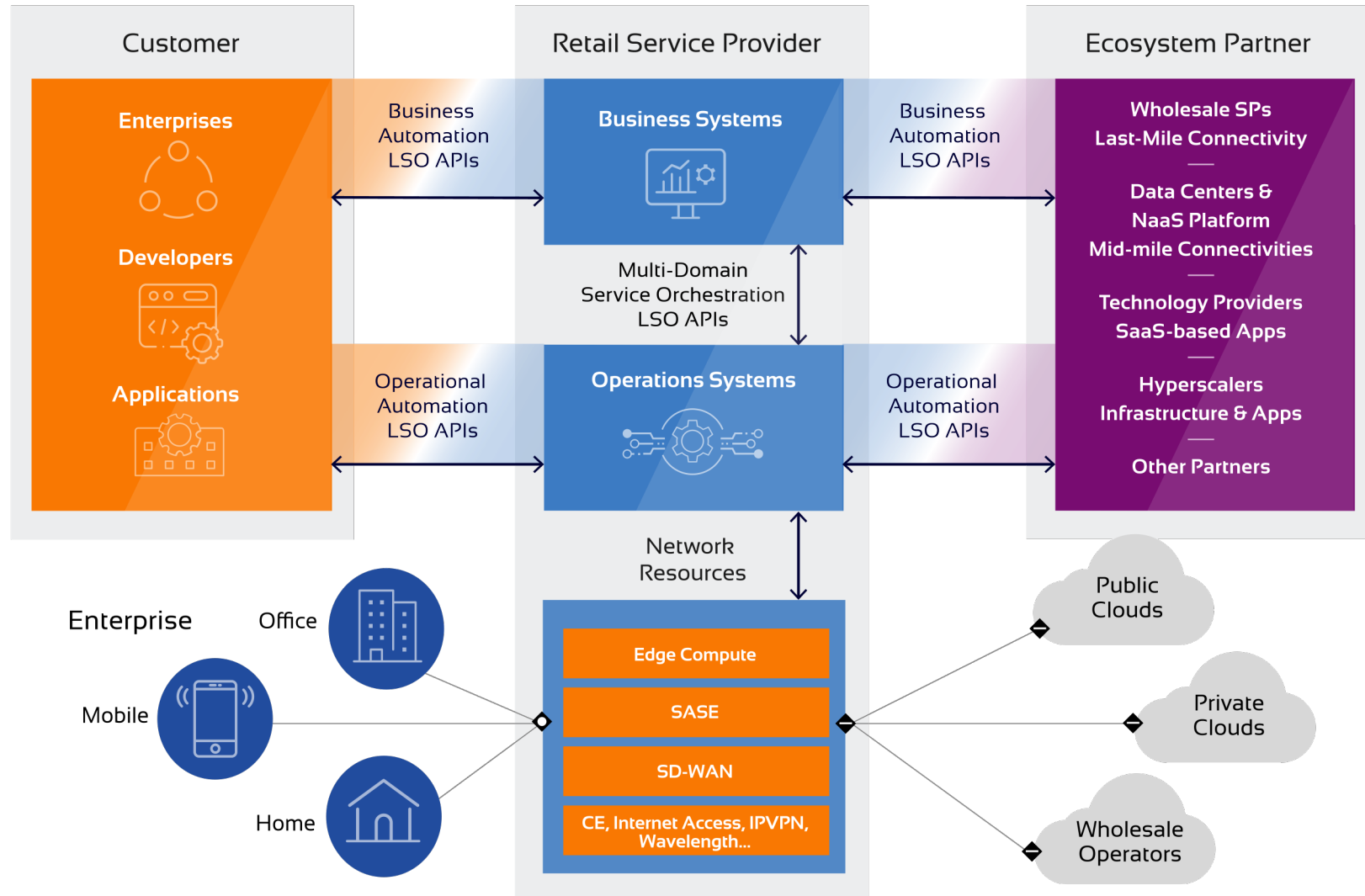
# MEF's LSO Framework Provides the Model for Automating the Full Lifecycle of Services End-to-End Across Ecosystem Participants



LSO = Lifecycle Service Orchestration

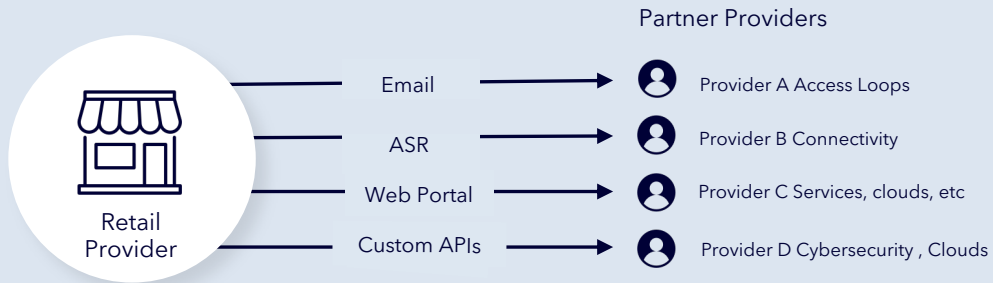


# Use of LSO Business & Operational APIs throughout the Supply Chain Facilitates an Unprecedented Automated NaaS Experience



# Industry Needs to be Open and Interoperable

## Manual Processes & Proprietary APIs



VS

# MEF Invest Once and Deploy Anywhere LSO APIs

(High Fidelity, Interoperability and Extensibility Across the Global Ecosystem for NaaS)

## Open Standards Model - Many to Many



### TIME

timely development & integration



### COST

cost of human errors; higher resource costs



### EASE OF USE

steep learning curve



### NOT SCALABLE

pairwise APIs for each partner and service



### TIME

shorter development; rapid service turnup



### COST

develop once and reuse



### EASE OF USE

learn once; apply to all products and services



### SCALABLE

reuse with any partner for any service

# MEF has Created Many LSO API Assets that are Based on TMF APIs



LSO Marketplace

LSO Sonata Certification Program

LSO API Onboarding and Interop Test Service

LSO API Developer Support

LSO API Security Profile

Product and Service Schema Development Handbook

Product and Service Schema Guides

Product and Service Data Models and Schemas

MEF LSO API Developer Guides

Full Commercial and Operation Lifecycle: 20+ MEF LSO APIs Modified from TMF APIs

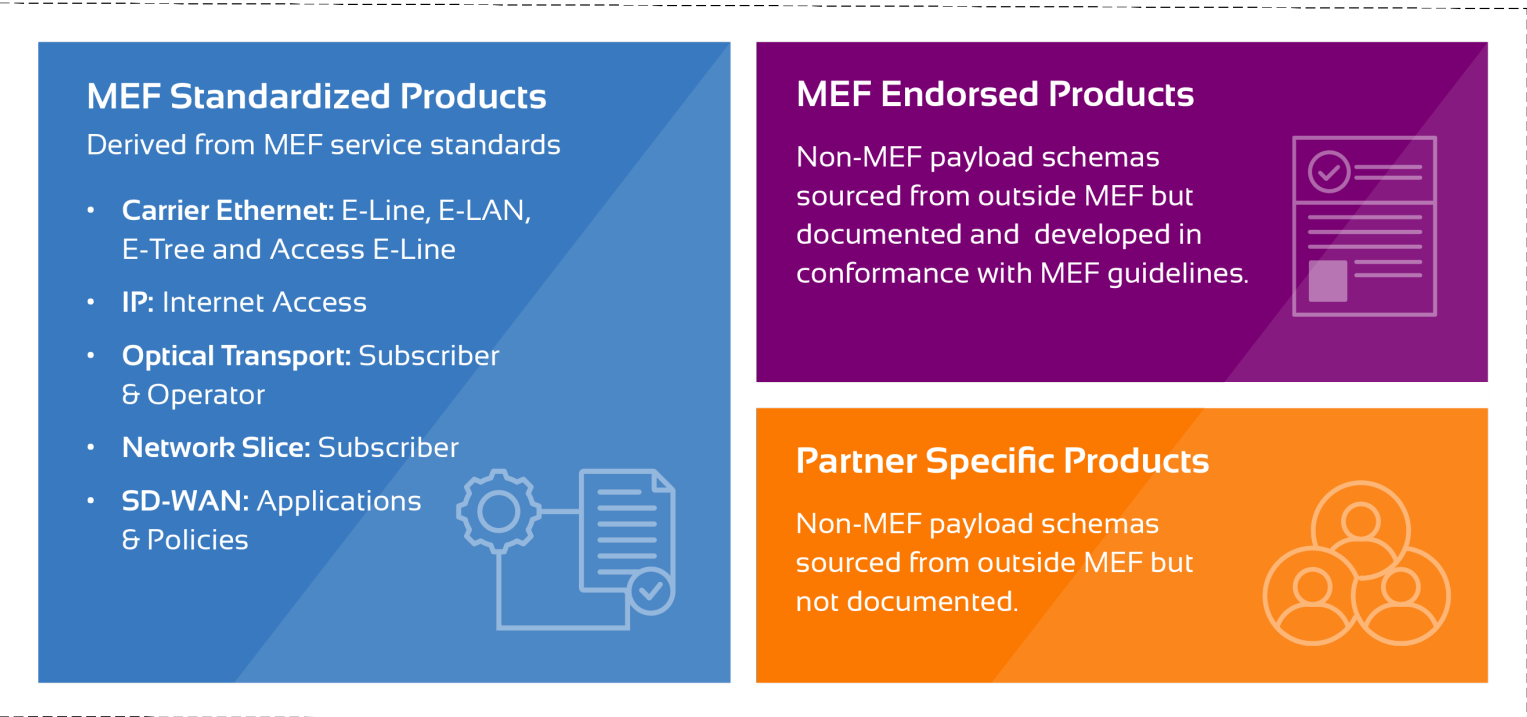
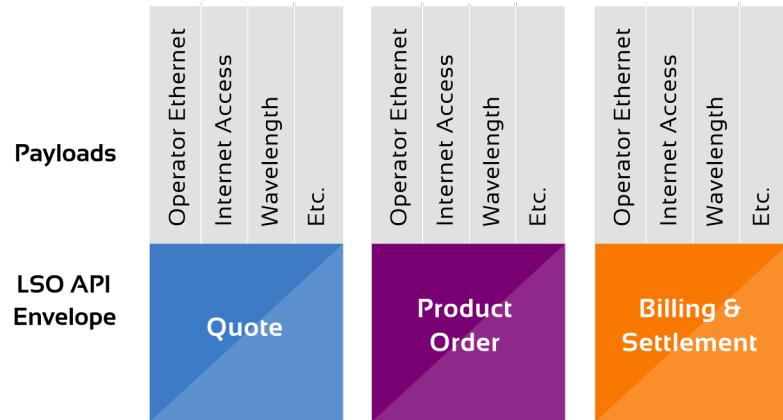
Commercial and Operational Lifecycle Business Requirements and Use Cases

**60+ REST-based Open APIs**

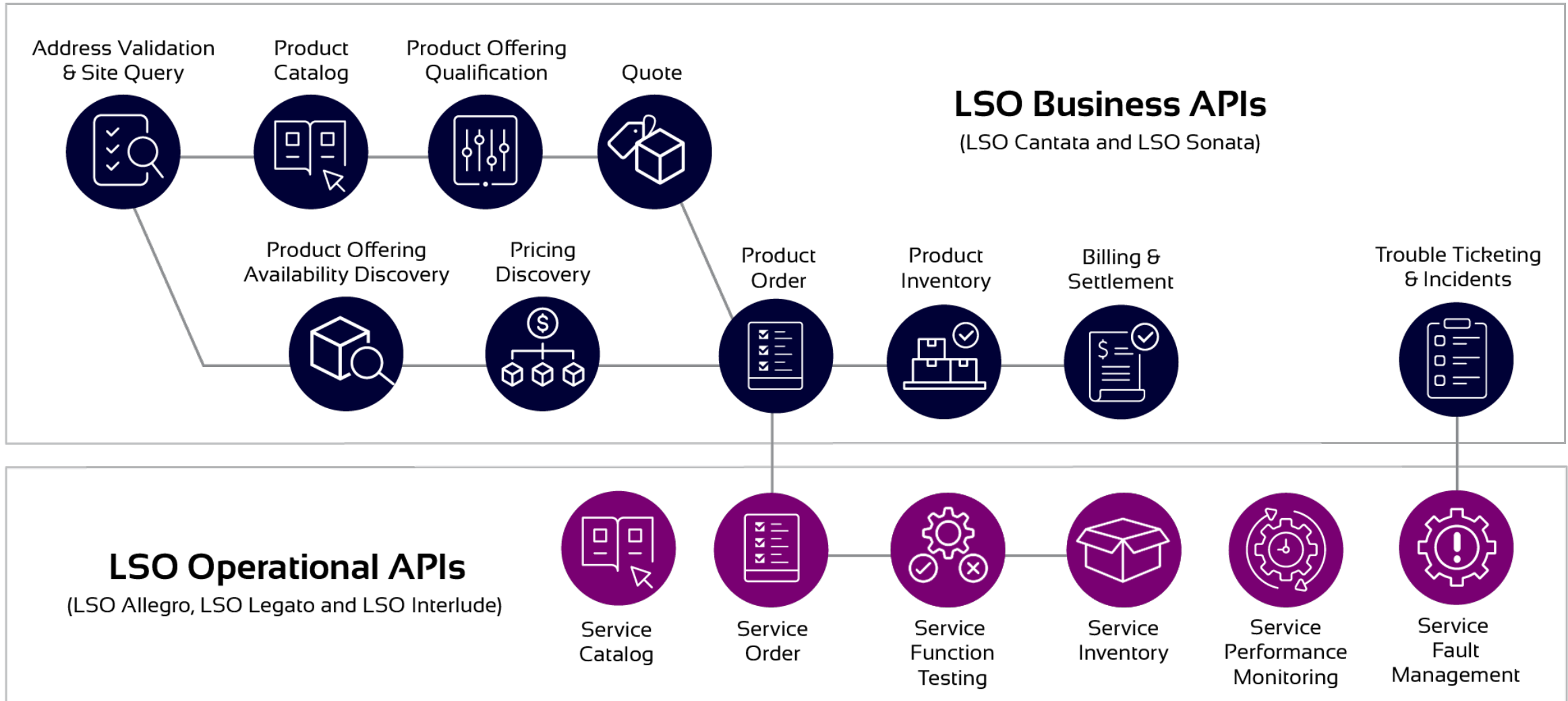




# Many flavors of product & service payloads can be blended with any LSO API envelope



# MEF Has Created More than 20+ LSO Business and Operational APIs that Can be Used to Support NaaS



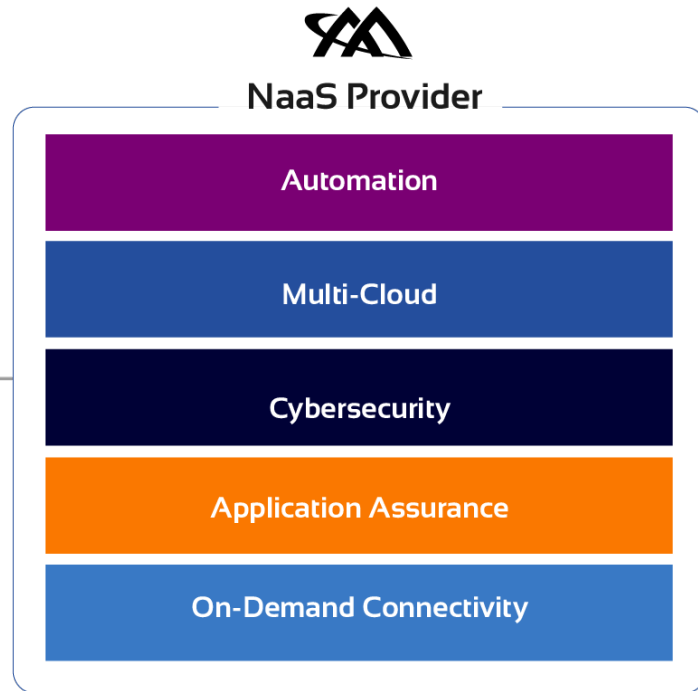
# LSO APIs Can Fuel NaaS Growth by Enabling Service Ordering, Delivery & Management Across Horizontally Integrated Networks



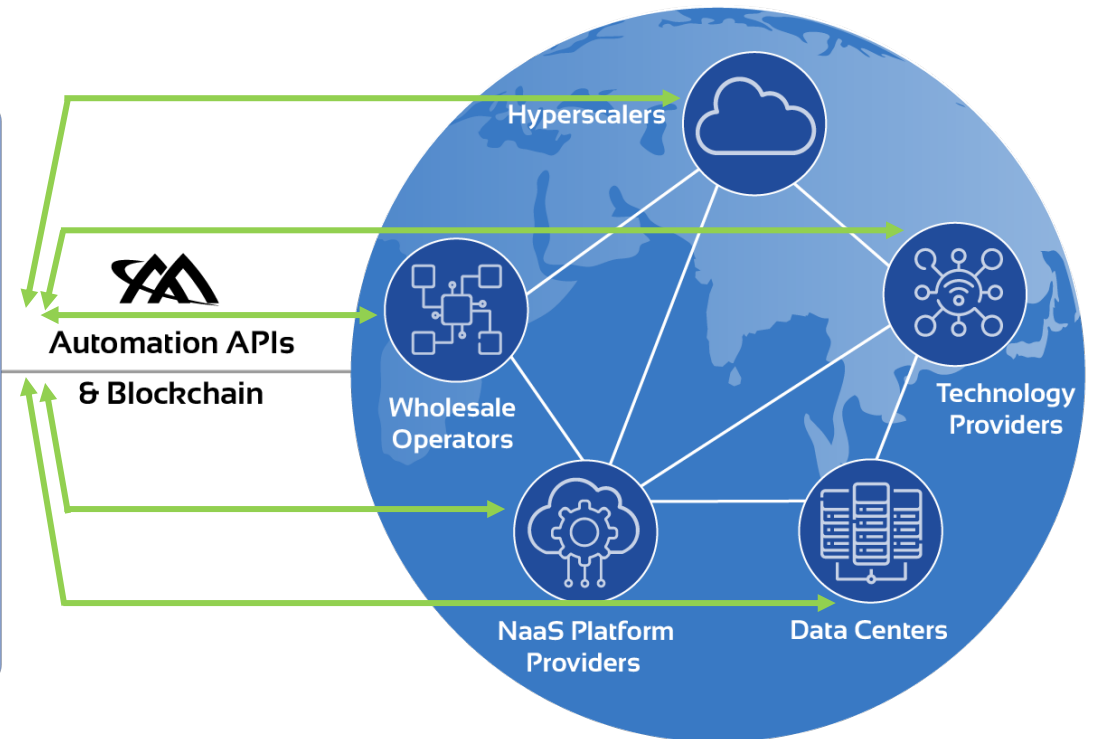
Enterprise & Application Providers



Automation APIs

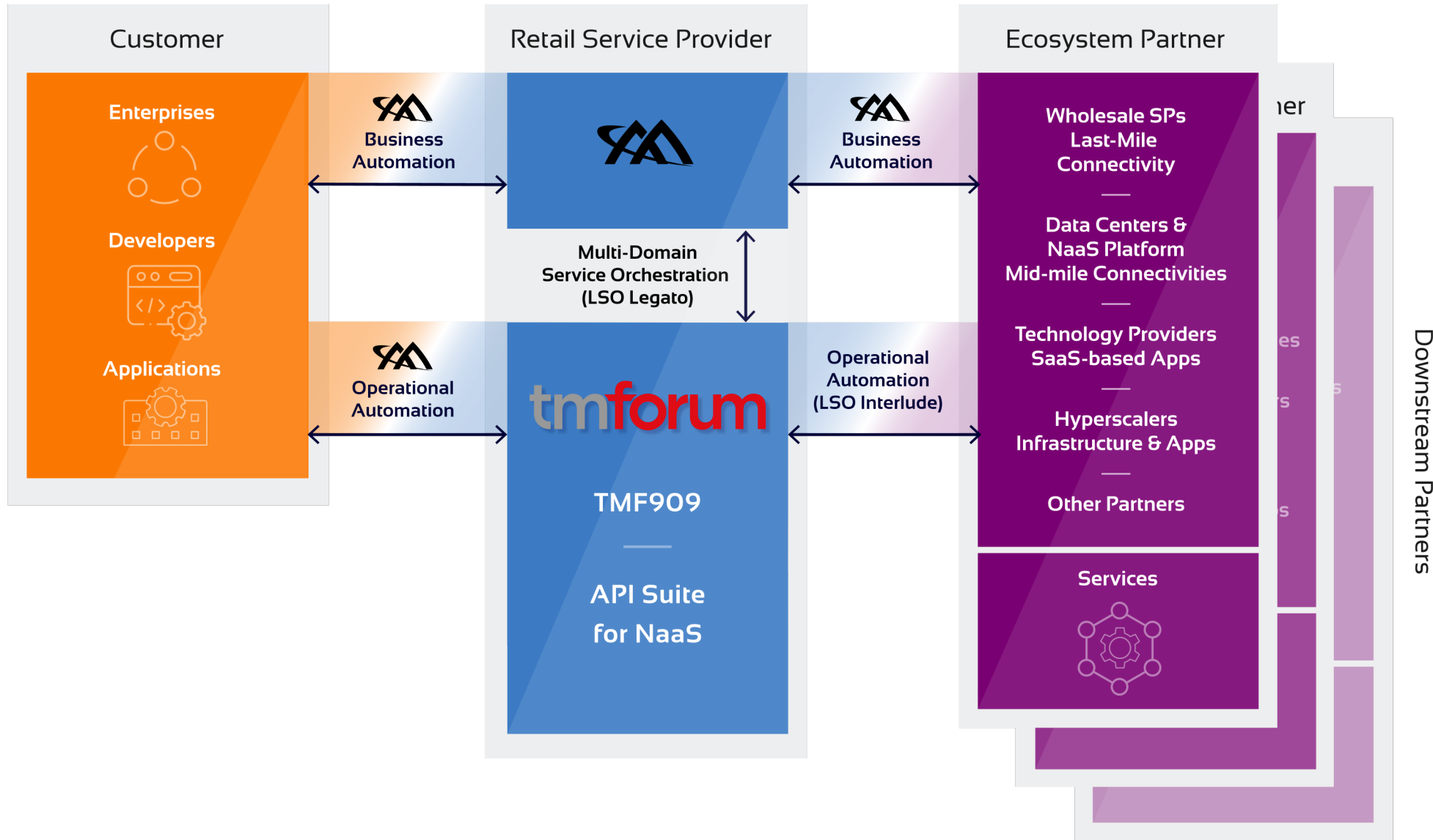


Ecosystem Partners





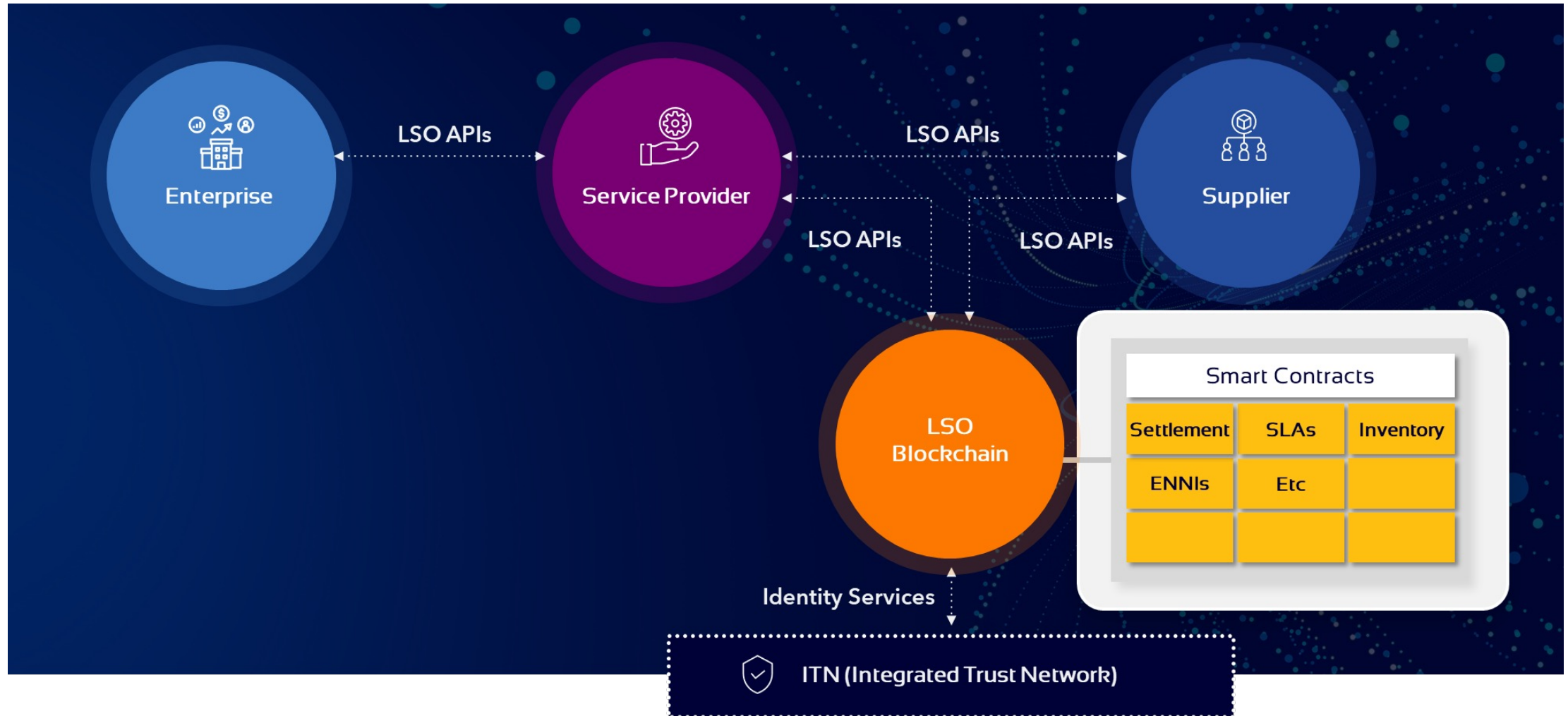
# NaaS Automation Landscape - MEF East-West and TMF North-South



# Product and Service Payload Schema Roadmap



# MEF LSO Blockchain & Smart Contracts Play Important Roles in Reducing Friction in Billing/Settlement & Enabling NaaS Services







# Introducing the First Industry NaaS Blueprint Network-as-a-Service (NaaS) Industry Blueprint

October 2023

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*First version can be downloaded at <https://www.mef.net/NaaS>*

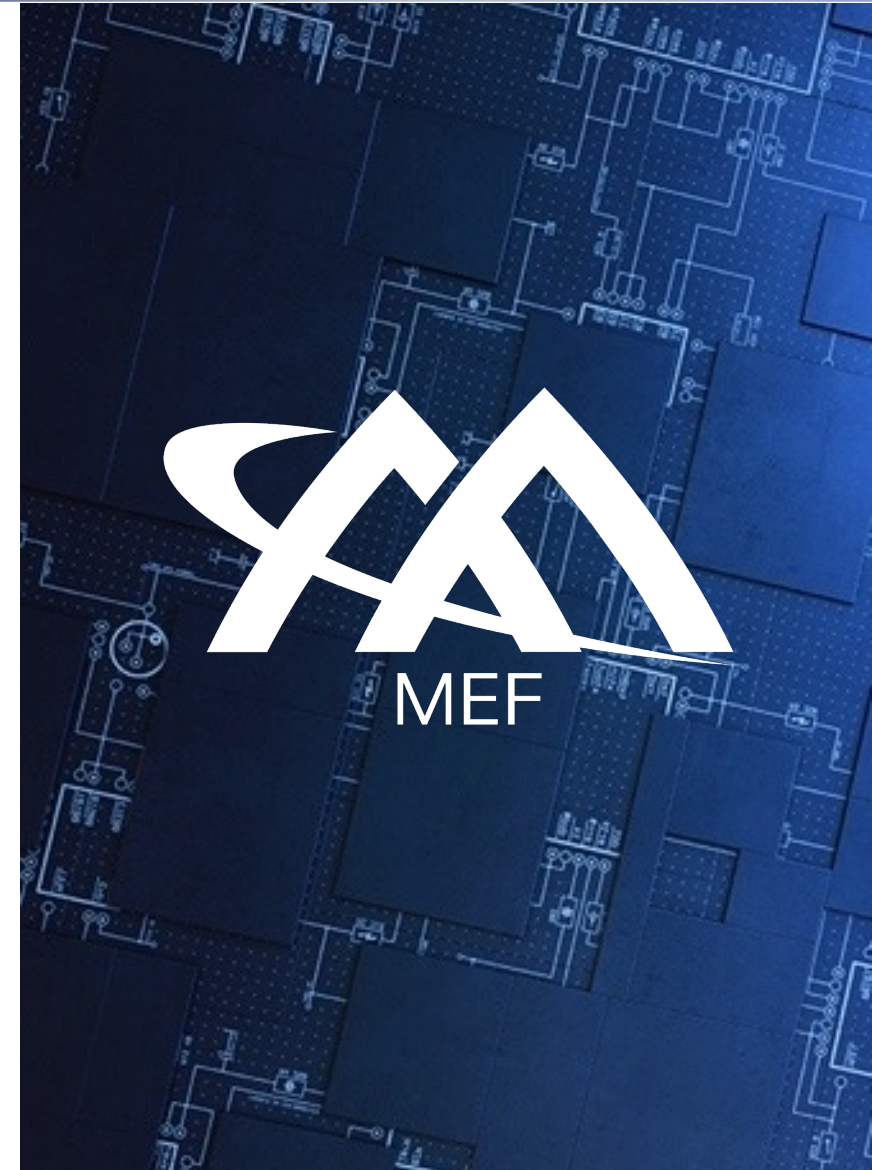
- Frames the NaaS market opportunity
- Defines NaaS and its core components and capabilities
- Presents initial NaaS use cases in the areas of on-demand transport, SD-WAN, SASE, and multi-cloud
- Proposes primary building blocks of NaaS solutions, including services, automation platforms, ecosystem, and certifications
- Summarizes industry NaaS efforts by the TM Forum, Camara, and the ITW GLF
- References MEF services and LSO automation APIs standards for building and delivering NaaS



# MEF NaaS Industry Blueprint Table of Contents



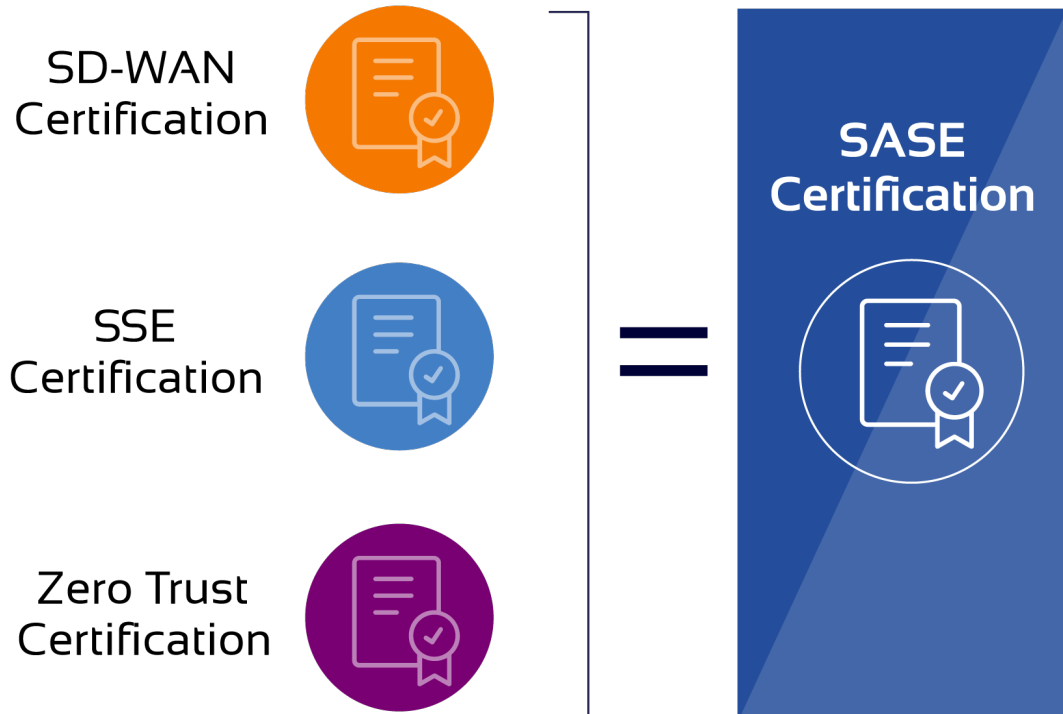
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# MEF/CyberRatings Launch First Industry SASE Product and Services Certification in the Industry



*16 Leading Technology and Service Providers Deigned to Increase Cybersecurity Confidence in the Market*



## Certification Value to Enterprise

Under the unifying umbrella of SASE, solution providers can certify their solutions' effectiveness in the following scorecard categories:

- ✓ WAN impairments
- ✓ Scale performance
- ✓ Classification verification
- ✓ Threat protection
- ✓ TLS/SSL functionality
- ✓ Zero trust network access
- ✓ Conformance to MEF standards

## Transition to CI/CD Cloud Model

- ✓ Cybersecurity postures must be tested at least every 30 days for threat protection.
- ✓ Major releases must be retested



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Global NaaS Event  
By MEF





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