

The background of the slide features a dark blue field with a pattern of lighter blue hexagons. A network of thin, light blue lines connects small, glowing blue dots, creating a digital or data-driven aesthetic. The Arista logo is positioned in the top left corner.

ARISTA

Arista Data-Driven Solutions

November 2024

Trends Driving Network Transformation



**DIGITAL
TRANSFORMATION**



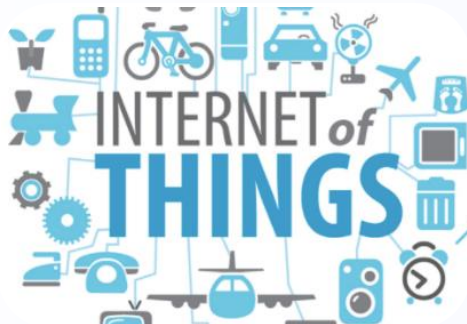
STREAMING MEDIA SURGE



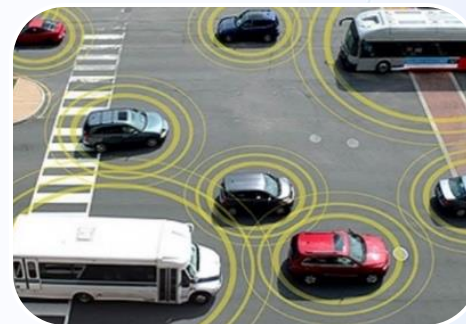
**SECURE ACCESS SERVICE
EDGE**



REMOTE WORK



IOT/OT PROLIFERATION



AI APPS



CLOUDIFICATION

MANDATES A Relevant Network

Data-Driven Network Demands



DIGITAL TRANSFORMATION



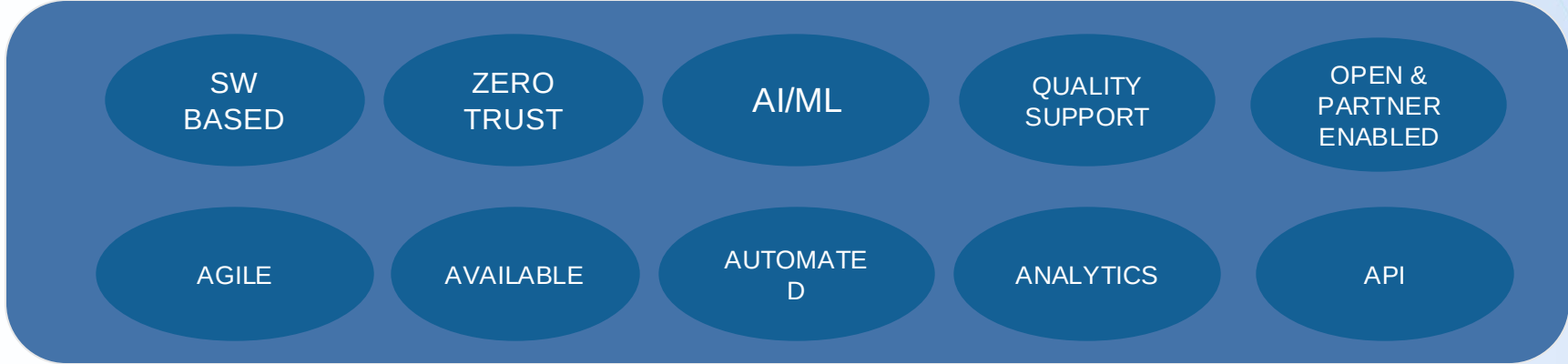
STREAMING MEDIA SURGE



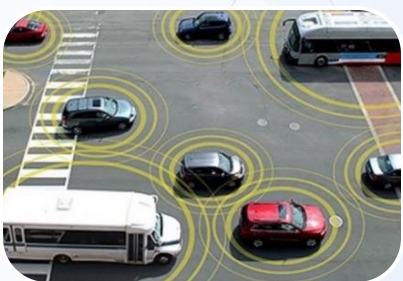
SECURE ACCESS SERVICE EDGE



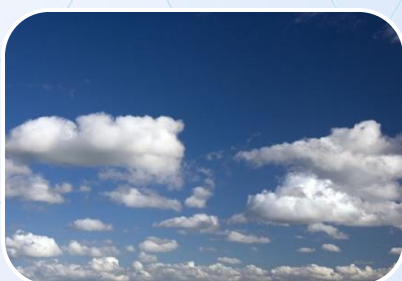
REMOTE WORK



IOT/IOT PROLIFERATION



5G & AI APPS



CLOUDIFICATION

Arista's Strategy: Client to Cloud and AI Networking



DIGITAL TRANSFORMATION



STREAMING MEDIA SURGE



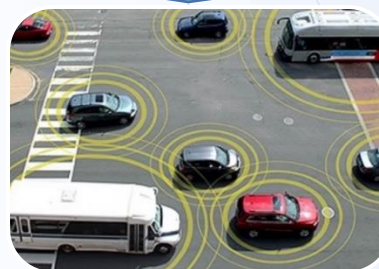
SECURE ACCESS SERVICE EDGE



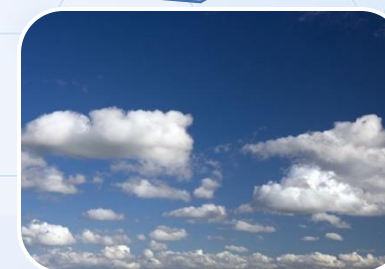
REMOTE WORK



IOT/OT PROLIFERATION



AI APPS



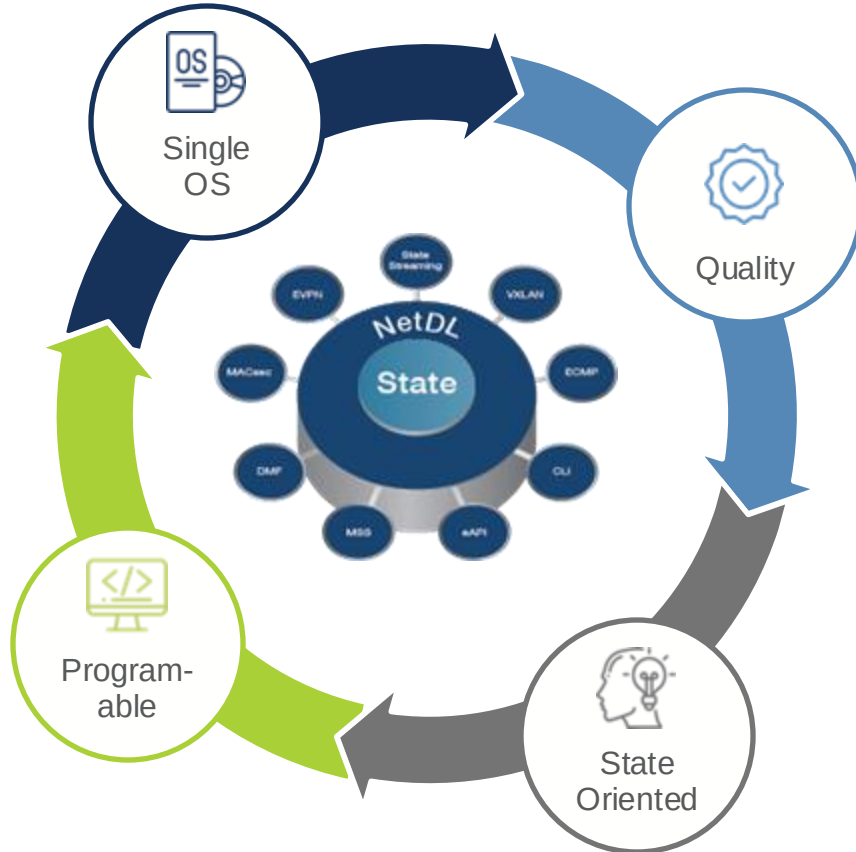
CLOUDIFICATION

The background of the slide features a dark blue field with a pattern of lighter blue hexagons. Some of these hexagons are interconnected by thin white lines, and at the points of intersection, there are small, glowing blue dots, creating a network-like or circuit-like aesthetic.

ARISTA

Arista EOS, CloudVision and NetDL

Arista EOS: a Robust Software Foundation



Customer flexibility through open, Standards-based Architecture



Reduced Operational Costs through Network-wide Automation



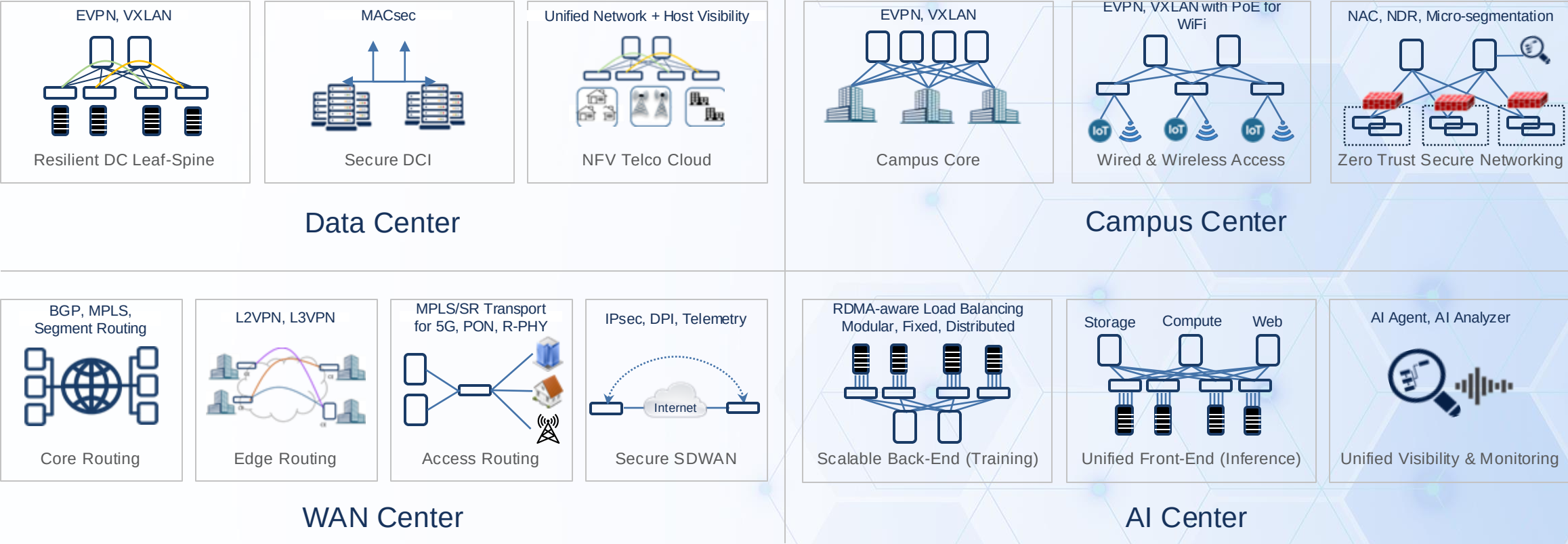
High Reliability with modern operating system and unique automated testing approach



Fast issue resolution with Rich Telemetry

Leading Disruption Across The Network

EOS Network Role Flexibility

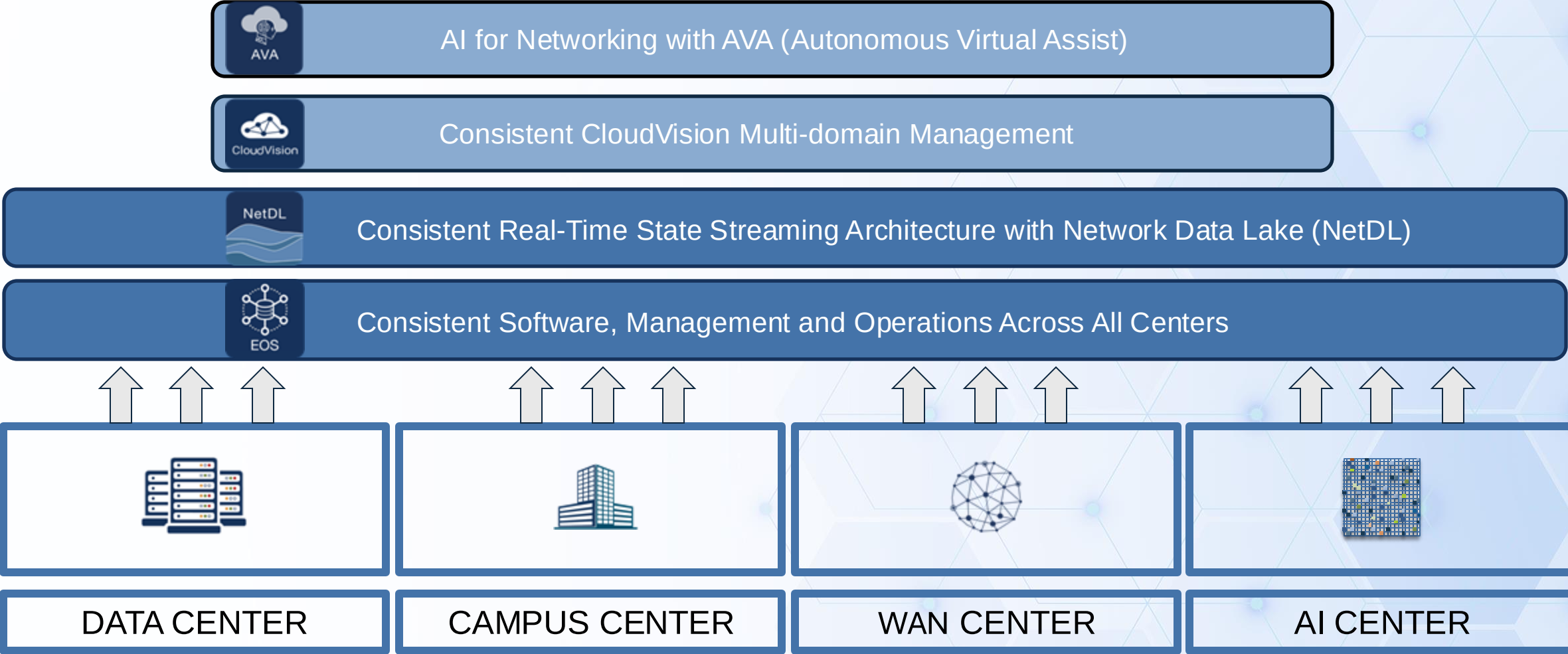


Arista Differentiation: Commonality Across Domains for Operational Simplicity

CloudVision: Multi-Function, Multi-Domain NetOps



CloudVision Evolution of the Enterprise



Flexible CloudVision Consumption

01 CloudVision On-Premises



Virtual or Physical Appearance

On-premises Network



DC Switching



Inter-DC Routing



Campus



Multi-Cloud

02 CloudVision as-a-Service



Cloud Service

On-premises Network



DC Switching



Inter-DC Routing



Campus



Multi-Cloud

Two Deployment Options for Customer Flexibility

Arista EOS Stack Evolution



AI-Enabled Network Operations 2020s

Centralize all Network State Data and Enrich w/ 3rd Party Integrations to build foundation for AI NetOps



NetDL - add enriched data sources & packet, flow, and network data. Enable powerful AI/ML app development.

SDN and Intent Systems 2010s

Centralized models for network automation and data



NetDB - centralized the network state of multiple devices - enabled automation and provisioning orchestration.

Federated Routing Protocol 1990s/2000s

Development of BGP/OSPF and multiple distributed topology construction methods - achieved unprecedented scale



SysDB - device-level network state aggregation - improved reliability and development efficiency through publish/subscribe model

Arista's Platform for Network as-a-Service



Design

Prescriptive architectures enabled as software with broad support for a myriad of design patterns

Arista Validated Design (AVD) Templates
Arista Cloud Test
Source of Truth integrations
Security / Identity Policy



Operations

Cloud-like service interface and catalog to provision topologies, overlays, and policies and controls

Enterprise-wide Automated Provisioning
Network-wide Upgrades
Quality of Experience
Real-time Monitoring



Support

Enabling a shift from reactive TAC to proactive software-led troubleshooting and multi-channel support

Better Data → Better Insights
Automated Bug/PSIRT
Autonomous Virtual Assist (AVA)
Direct TAC Access
Proactive RMA



Full Stack Lifecycle

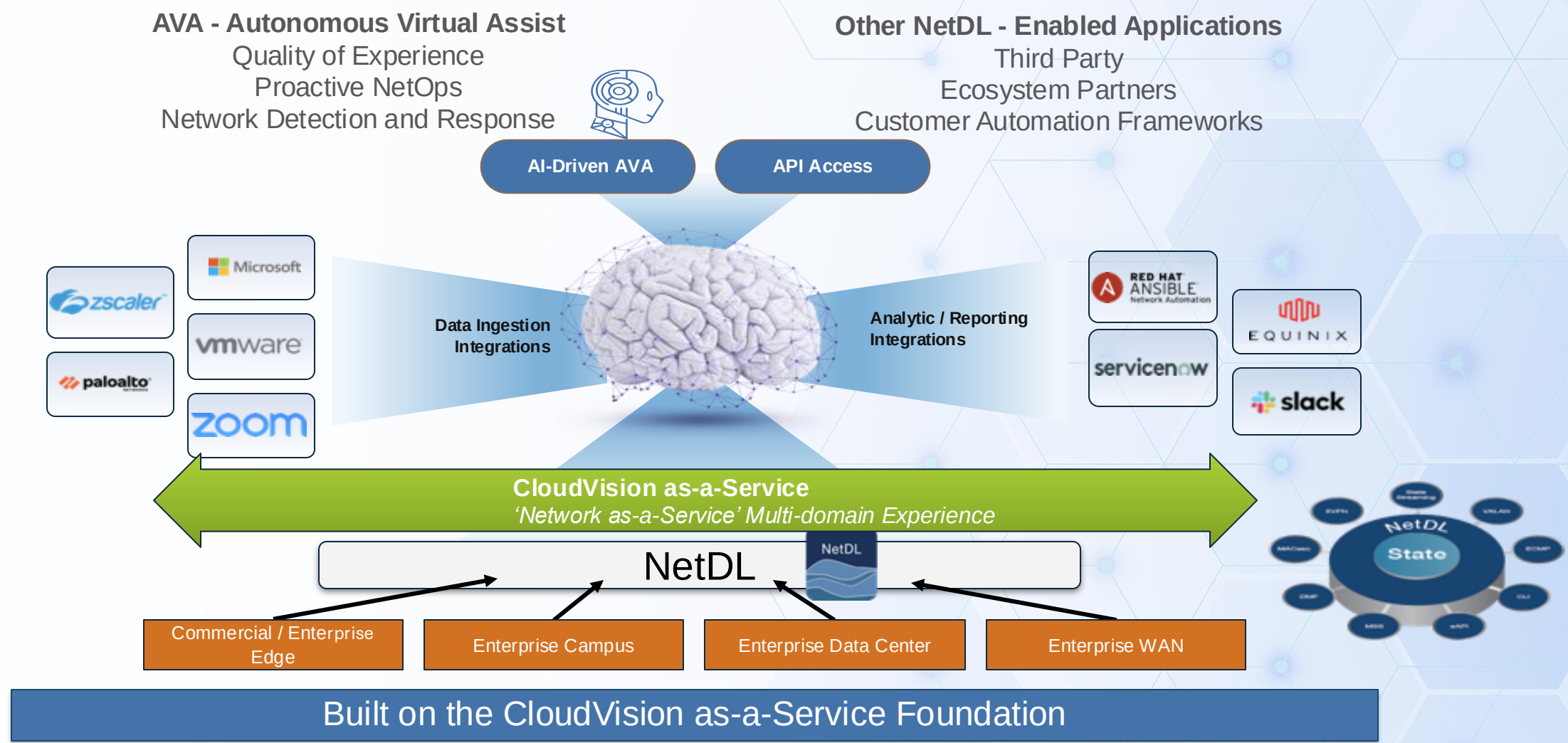
HW and SW lifecycle management. From design, to HW selection, to procurement, to software versioning

Automated Lifecycle Mgmt
Compliance / Risk Mgmt
Broad Operator Types
Software Recommendation
3rd Party Integrations



Network as-a-Service built on the NetDL Foundation

Broad Ecosystem of Industry Leaders

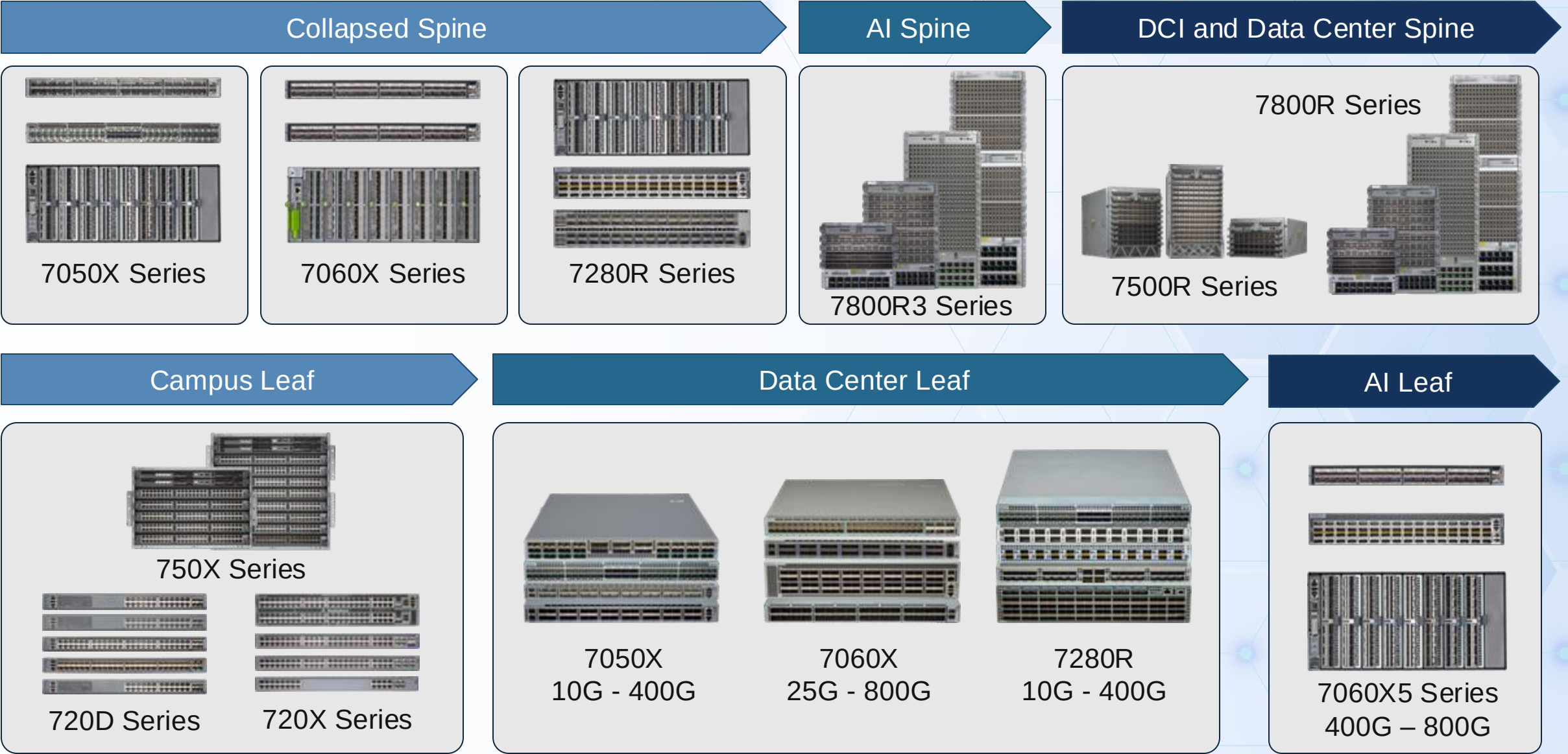


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Arista Data Center, Cloud and AI Solutions

Enterprise and Data Center Portfolio



Domain-Specific Products for Data Center Networks

Consistent High Performance and Extensible EOS

Highest Bandwidth



7060X Series

Cloud and AI application stacks
Highest Switching performance
Lowest Latency
Scale Out & High Radix
High density 400/800G Fixed Spines
Multiple Choices - 25G to 800G

Feature Rich



7050X Series

Enterprise application stacks
Multicast, EVPN, VXLAN
Rich Telemetry for deep visibility
Compute TOR for 10/25/50/100G
Flexible Traffic Management
Integrates into Campus Architecture

Cloud Grade Scale

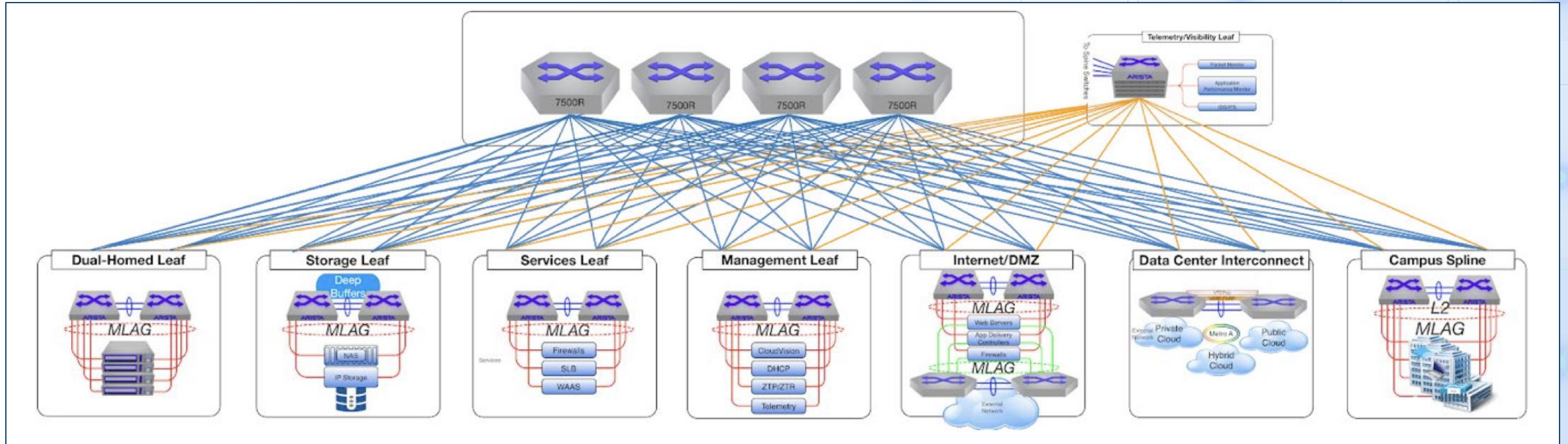


7280/7800R Series

Routing, Storage and AI Spine
EVPN, MPLS, SR
High capacity scaling
Metro & DCI with MACSec & ZR
Packet Spraying & VOQ
Fixed and Modular Choices

Arista Universal Cloud Network

Modern Agile and Scalable Network Architecture



Common Design Principles for Customers and Use Cases of All Sizes

EOS for AI

Arista EOS, because AI needs ...

- Robust and Resilient Network OS
- Lossless network
 - Cell based Fabric
 - Optimal load balancing
 - Adjustable buffer allocation schemes
 - Advanced Congestion Management
- Scalability and Multi-tenancy
 - Mature feature set: VXLAN + EVPN
- Network visibility
 - Extensive counters
 - Real-time state streaming

AI Traffic Differs from Cloud Networking

Datacenter Type	CPU Datacenter	AI Datacenter
Connectivity per XPU	100G	400G/800G
Network Design	Oversubscribed	Non-Blocking
Bandwidth per 128K Chips	1 Petabit/Sec	100 Petabit/Sec
Traffic Pattern	Random	All-to-All, All-Reduce
Flow Duration	Short-lived	Long-lived
Congestion Impact	Minor	Very Significant

AI Networks Need a New Architecture to Perform Best

Arista Etherlink AI Portfolio

Single Tier



Fixed & Modular Systems

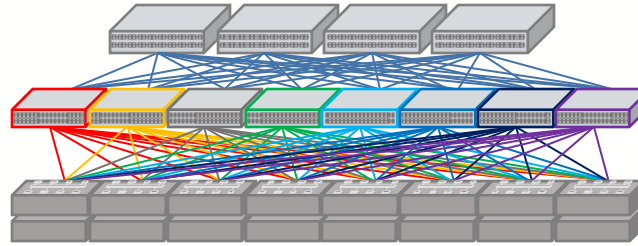
51.2T ➡ 460.8T

64-576 x 800G Nodes

128-1152 x 400G Nodes

Lowest Cost, Power &
Complexity

Leaf-Spine



2- or 3-Tier Leaf-Spine or Plane-based

Multi-Petabit Bisectional B/W

DLB, PFC, ECN,

Hundreds of Thousands of
Nodes

Distributed Etherlink Switch



Single Hop Interconnect

Fully Scheduled Lossless

100% Efficient, Cell Spraying

Multi-Petabit Bisectional B/W

Tens of Thousands of Nodes

Accelerator & NIC Agnostic, Open Standards, Smart AI Features

Scaling out the AI Spine

7800R4 AI Spine



Lossless Fully Scheduled VOQ
100% Fair And Efficient Traffic Spraying
Integrated Redundancy and Resilience
Optimized Pipeline for AI Workloads

50X Scale Out

7700R4 Distributed Etherlink Switch



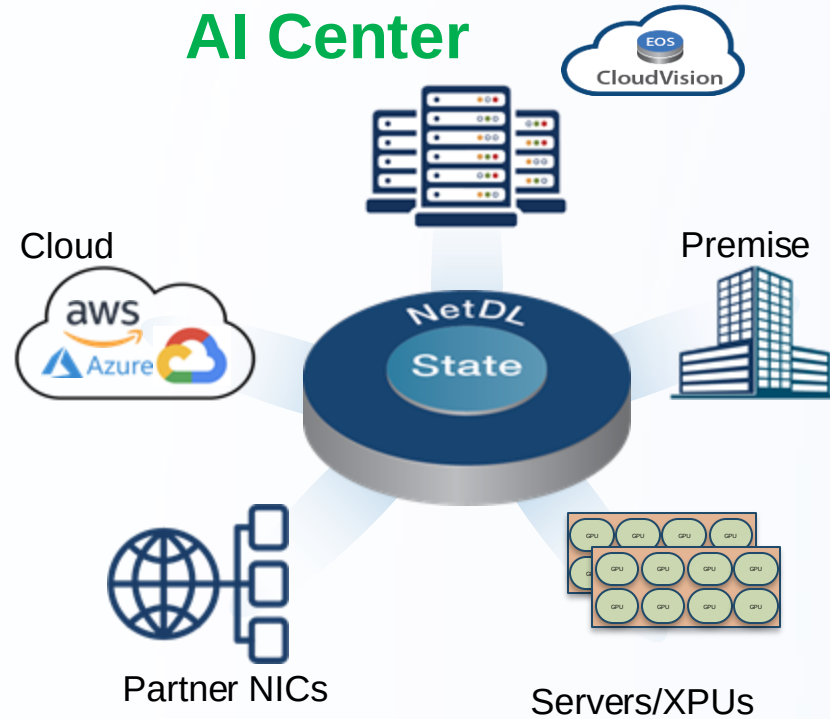
Lossless Fully Scheduled VOQ
100% Fair And Efficient Traffic Spraying
Integrated Redundancy and Resilience
Optimized Pipeline for AI Workloads

Common Architecture – Re-packaged for AI Scale Out

AI Deployment Landscape

	Dedicated Training	Multi-tenant / Hosted	Inference
Purpose	Building a model based on very large data set	Training / Experimentation / Tuning / Inference	Application of the trained model
Where it happens	In the Cloud	Specialist Providers / Large Enterprise	In the Cloud / Distributed / On Prem
Scale	10,000s to 100,000s XPU	100s to 1,000s XPU	10s to 100s of XPU
Workload Mix	Minimal, Model Specific	Generic, Highly Variable	Back-End: Model Specific Front-End: Transactional
Predictability	Predictable	Dynamic	Back-End: Predictable Front-End: Dynamic
Networking Profile	Very large scale Very high bandwidth	Large scale, high bandwidth	Back-End: High Performance Front-End: Load Dependent
Network Optimization	Highly Optimized	Fully Connected	Back-End: Optimized Front-End: Data Center+

Arista's AI Center Vision



Etherlink Portfolio

Powered by EOS or AI @ Scale

Holistic CV AI NIC to Switch Mgmt

Ecosystem of Accelerators

Ecosystem of NICs

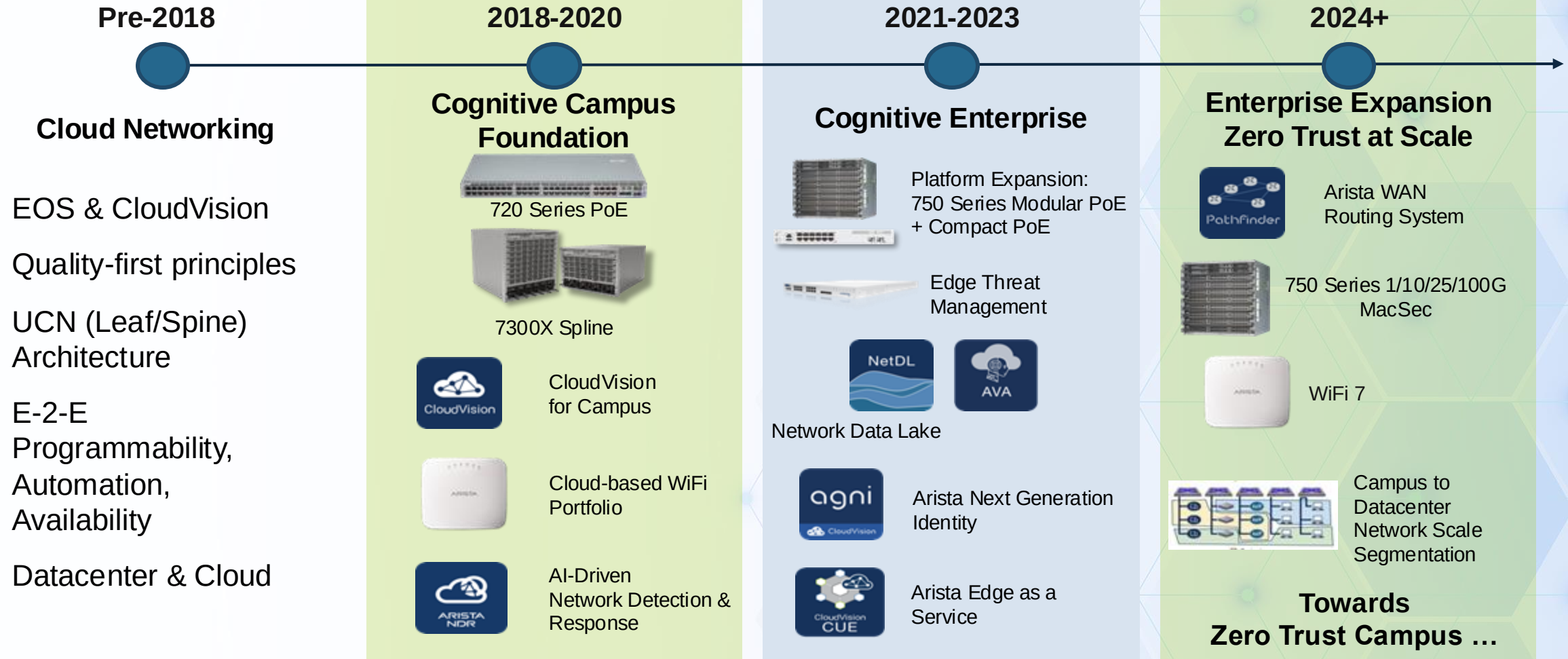
Migrate from Silos of XPUs, NICs, switches to a Holistic Network Based **AI Center**

The background of the slide features a dark blue field with a complex network of glowing blue lines and hexagonal shapes. These lines form a web-like structure, with small blue dots at the intersections, suggesting a digital or network theme. The hexagons are arranged in a honeycomb pattern, some of which are highlighted with a lighter blue glow.

ARISTA

Arista Cognitive Campus and Routing

Arista's Cognitive Journey



Arista's High Speed Wireless Networking

Arista's C-460 with Wi-Fi 7 Support



Features, Benefits and Application Improvements

320 MHz Channels	2X higher throughput		Industrial IoT
Multi-Link Operation (MLO)	Deterministic latency, increased efficiency, greater reliability		AR / VR
4K QAM	20% higher transmission rates		Gaming
512 Compressed Block Ack	Reduced transmission overhead		High Resolution Video
Multiple RU's to a single STA	Enhanced spectral efficiency		Real Time Collaboration

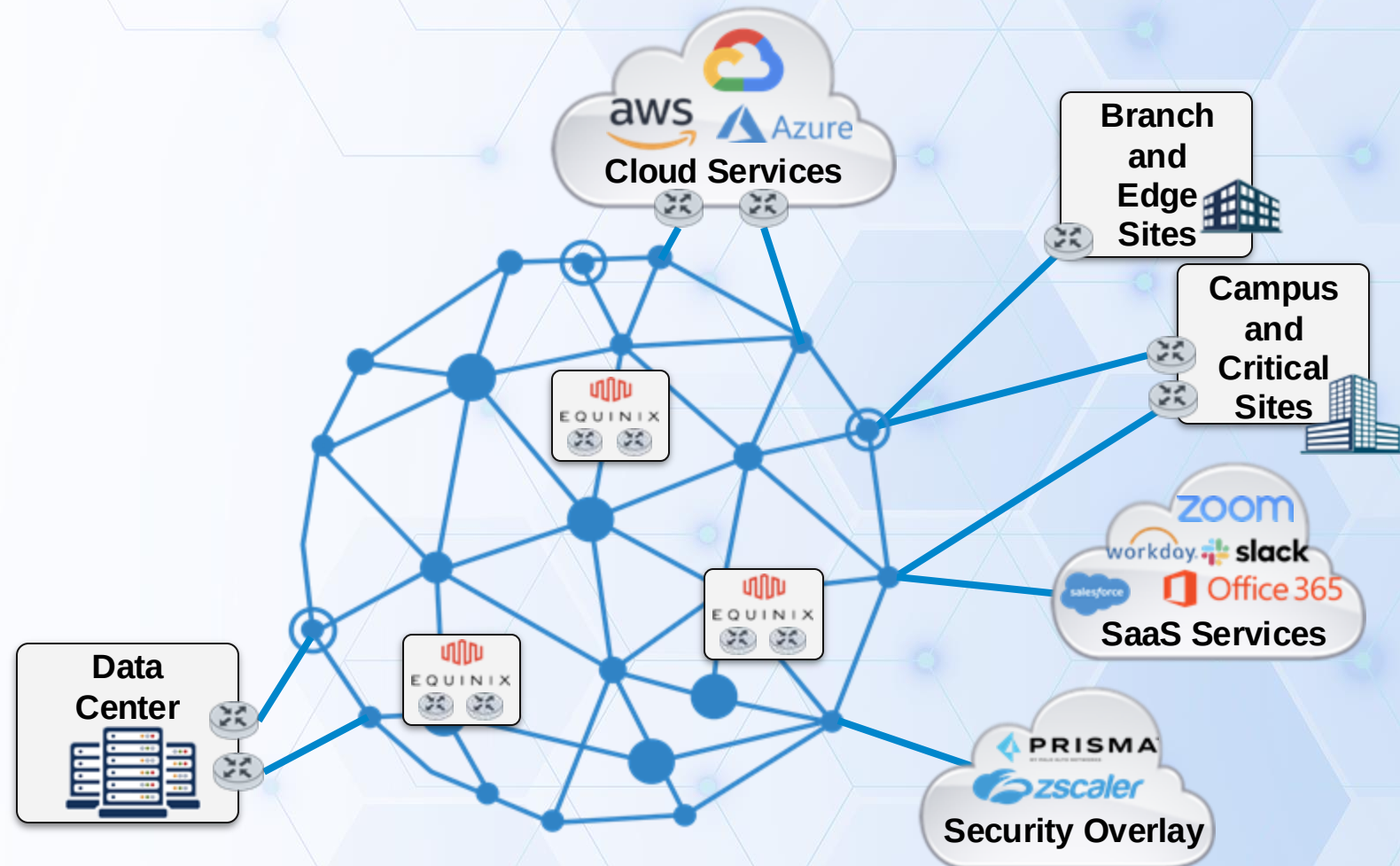
Arista's Modern WAN Architecture

Multi-Access: MPLS, Internet, Fiber, Lambda, Cloud Backbone, LEOSat

Federated Architecture: Routing and SD-WAN w/o Compromise

Virtual Topologies: Application Aware, Identity Aware, Segment Aware

Secure: Zero Trust Foundation and Root of Trust across the Wide Area



Self Healing and Autonomously Traffic Engineered WAN

Spine and Routing R3 Series Portfolio

30

Fixed and Modular Products
Jericho2c+ and Qumran2c+



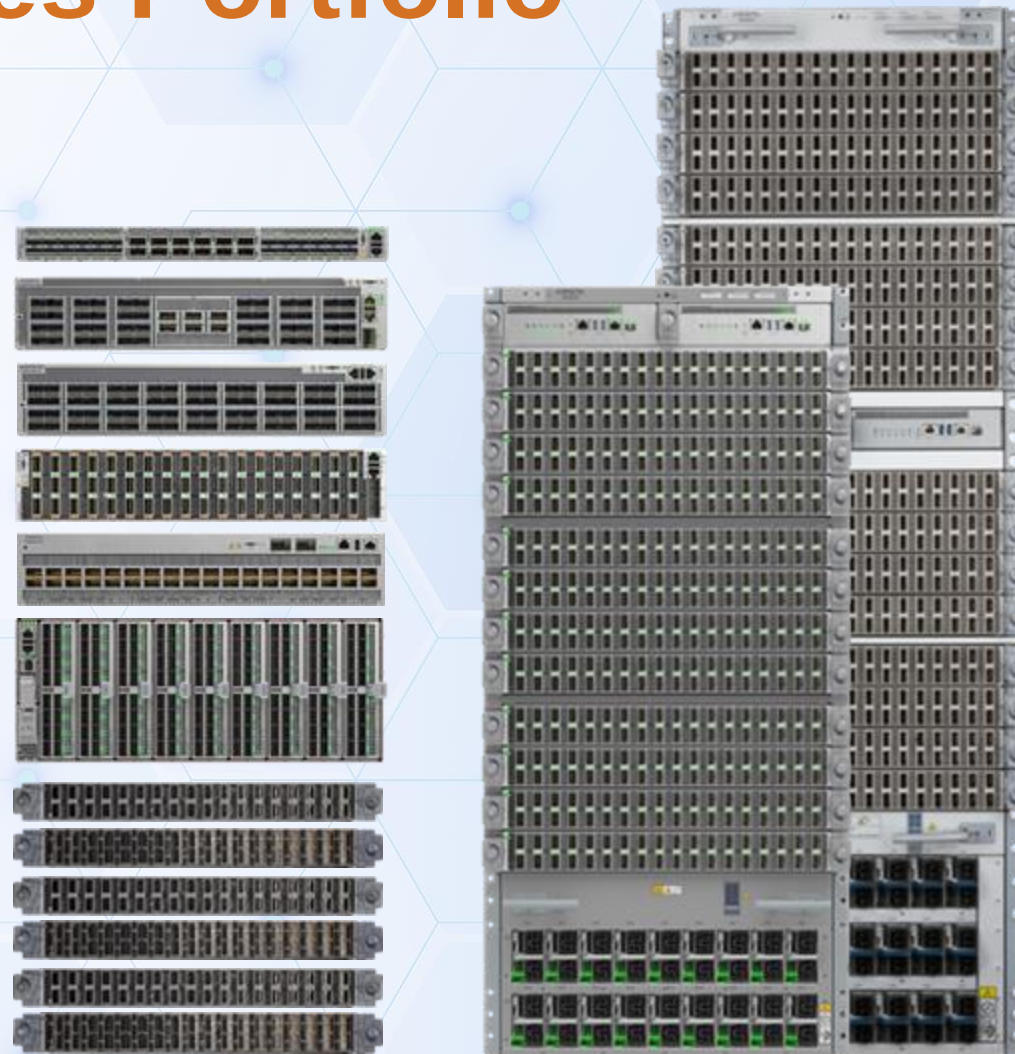
Universal TunnelSec™ Encryption



Dense 400G DWDM
Rich EVPN Services

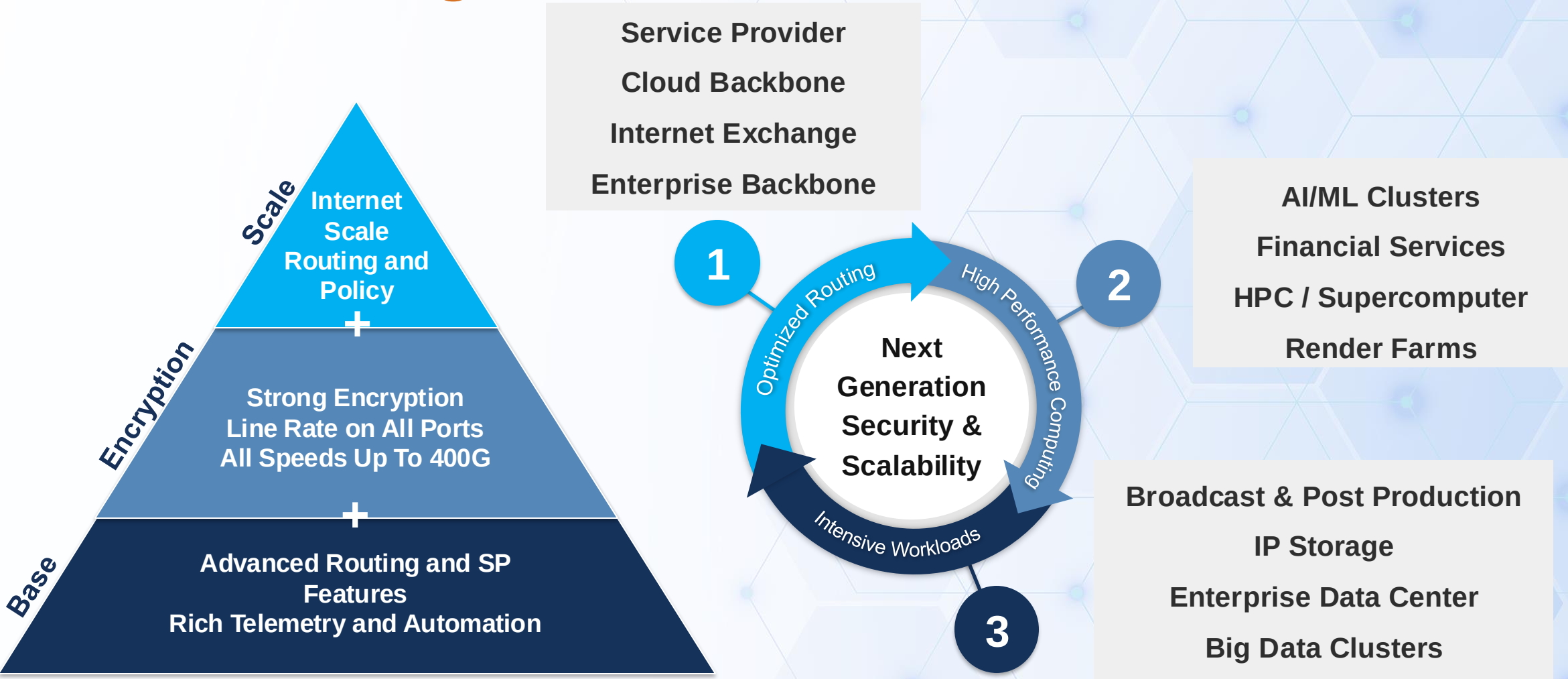
50%

Reduction in Power
Consumption / 100Gbps



Cloud Grade Routing from 1 to 460 Tbps - Single EOS - Consistent R Series Features

Arista Routing Use Cases



Purpose Built for Intensive Cloud, Enterprise and Carrier Workloads

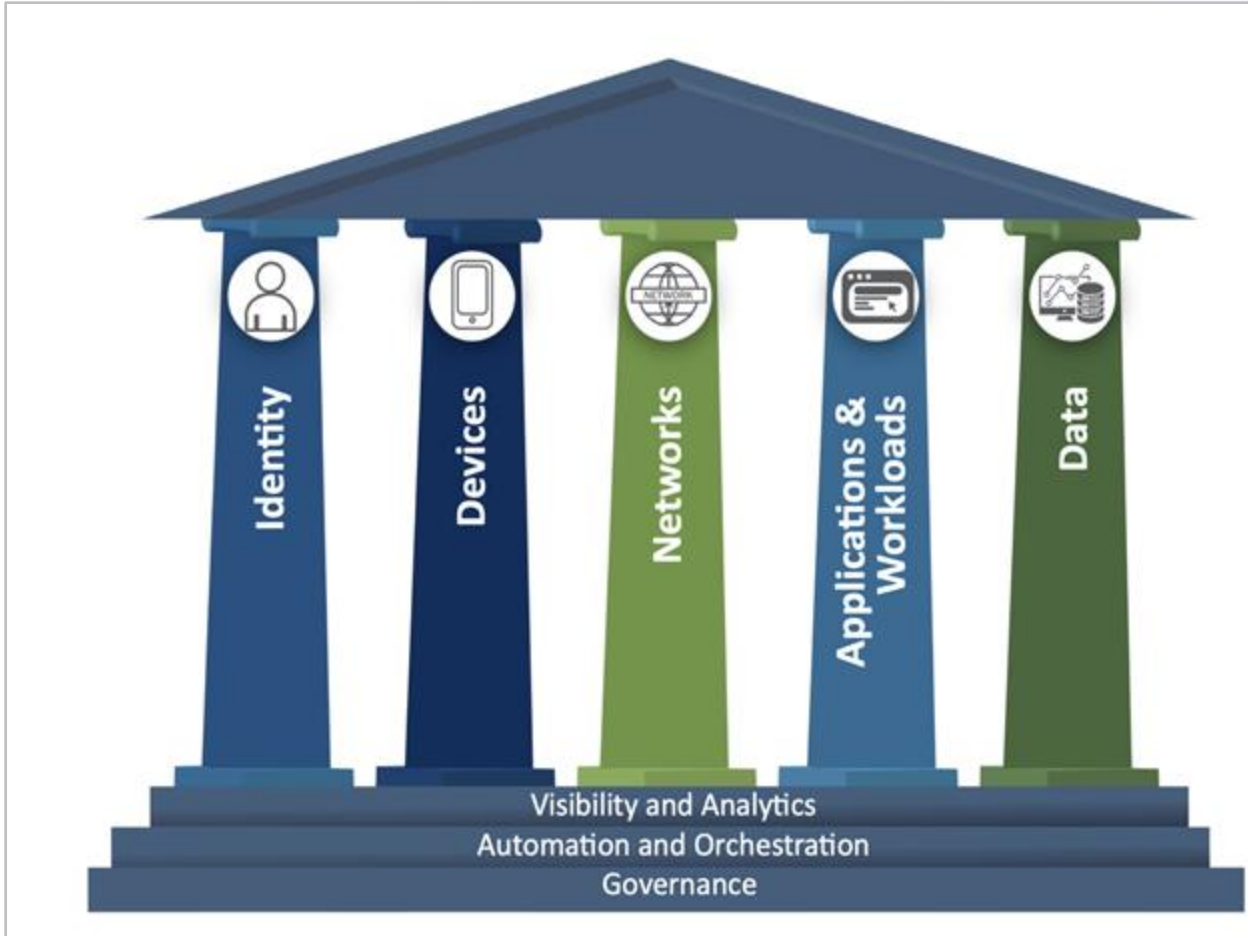
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ARISTA

Arista's Zero Trust Networking

The CISA Zero Trust Security Maturity Model

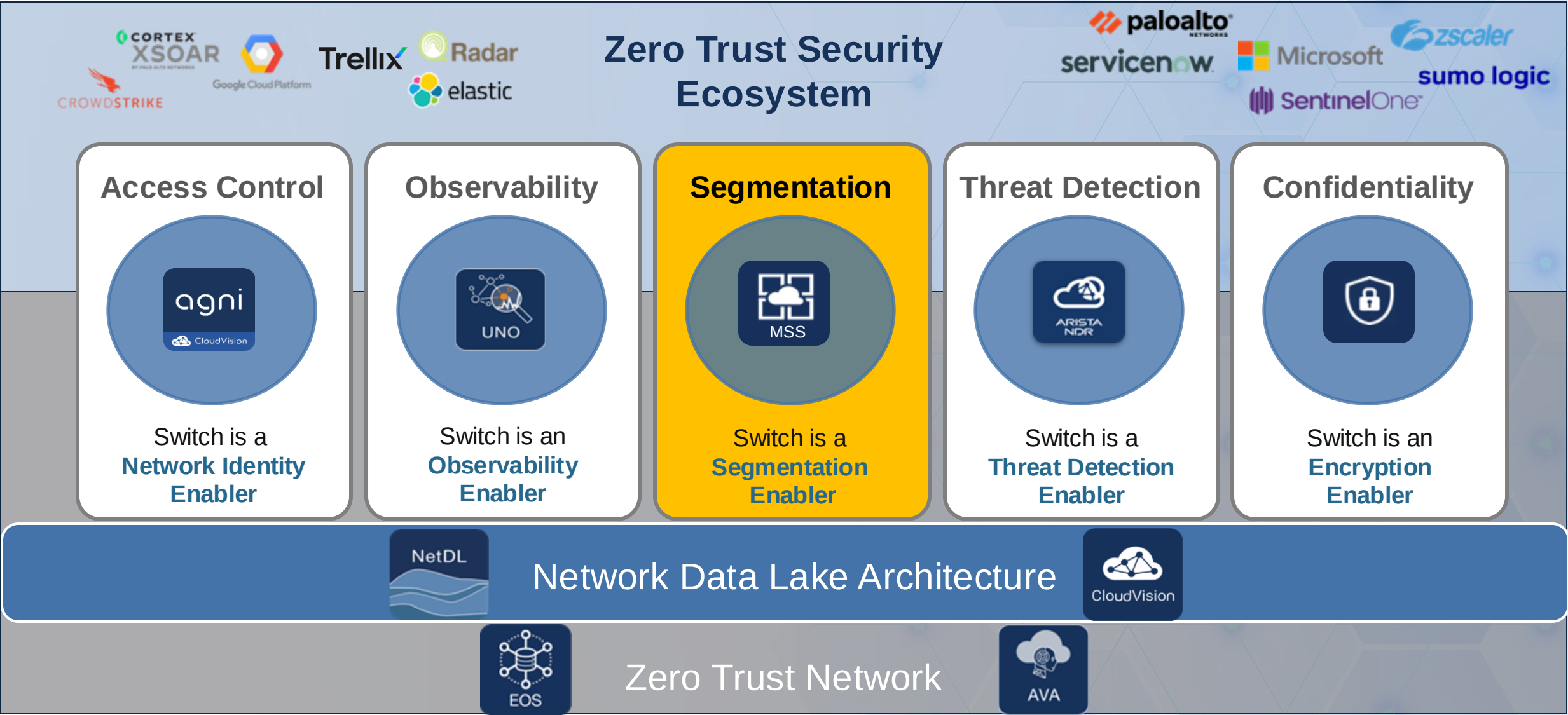
Built Around the Network



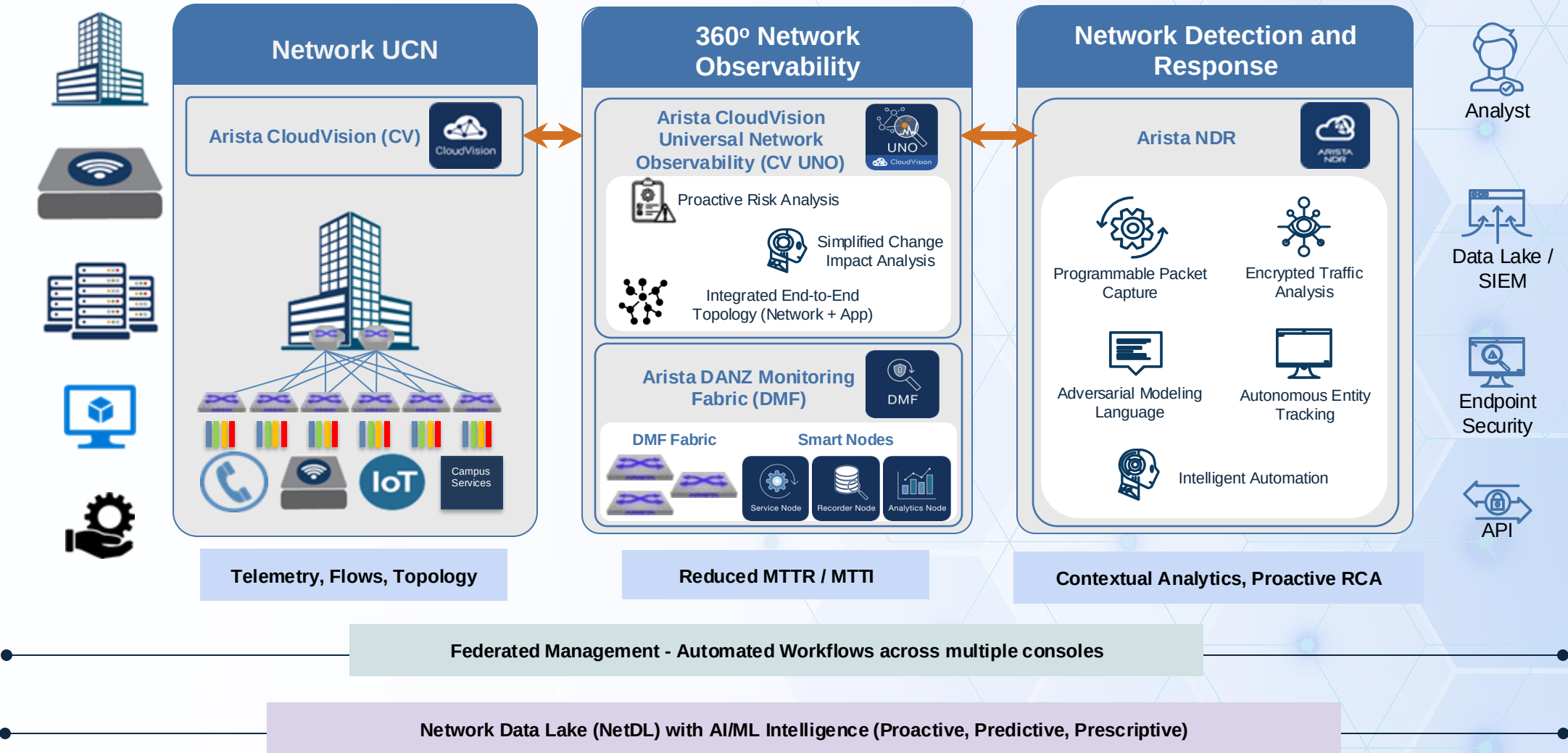
Traditional security perimeter is changing with *internal/external security boundaries collapsing...*

...driving the *need for pervasive, microperimeter segmentation in the network*

The Network: The Foundation Of Zero Trust

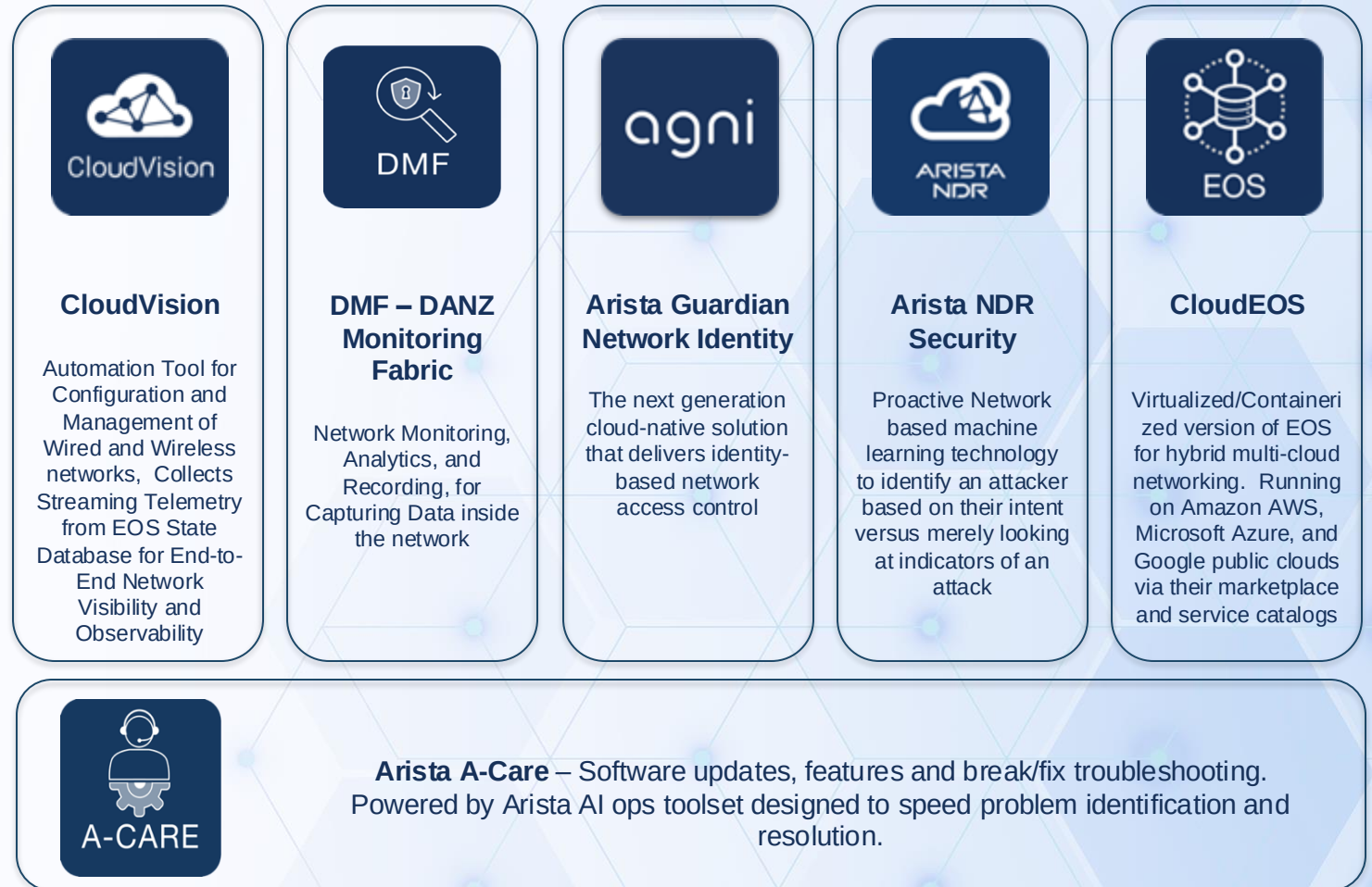


Pervasive Observability with Zero Trust Security



Network Software and Services

Arista's Holistic Approach





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Thank You

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