Cisco
Unified Edge

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CISCO

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Data Center

On Premises Edge

AI increasing demand for local processing and networking

25%

75%
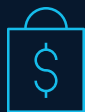
2027

DATA PROCESSING

90%

10%

2021

Industry use cases are accelerating the need for AI inferencing and compute at the enterprise edge

Industry-Specific Use Cases and Requirements are Being Evaluated

Retail
Drive Through Optimization

Financial
Financial Crime/Fraud Detection

Manufacturing
Asset Visibility and Control

Healthcare
Augmented Diagnosis System

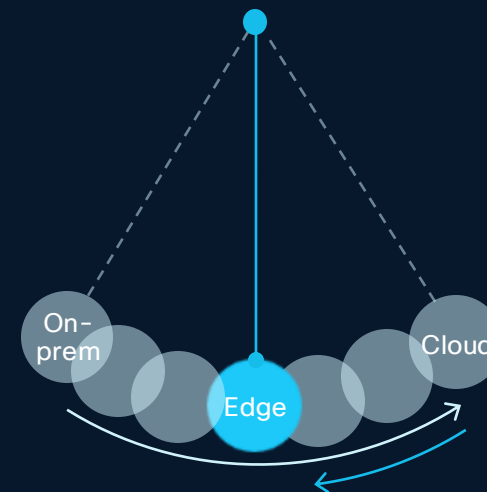## Accelerating the Need for AI Inference and Applications at the Edge

Data sovereignty

Latency considerations

Bandwidth constraints

Creating a Paradigm Shift from the Centralized Cloud Model to Edge AI

On-prem

Cloud

Edge

Optimized for being closer to use case

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Introducing Cisco Unified Edge

Future-ready performance

Compute | Storage | Networking | Software | SaaS Management | Analytics | Security

NUTANIX
Nutanix Stack for Edge

Red Hat
Red Hat Edge Stack

vmware by Broadcom
VMware Edge Compute Stack

intel.
Intel Tiber

CISCO
Virtual Networking

RANCHER BY SUSE
SUSE Edge

Cisco Unified Edge:
Future-Ready Performance

Integrates compute, networking, storage, and security

Compute node

Compute

Storage

Software
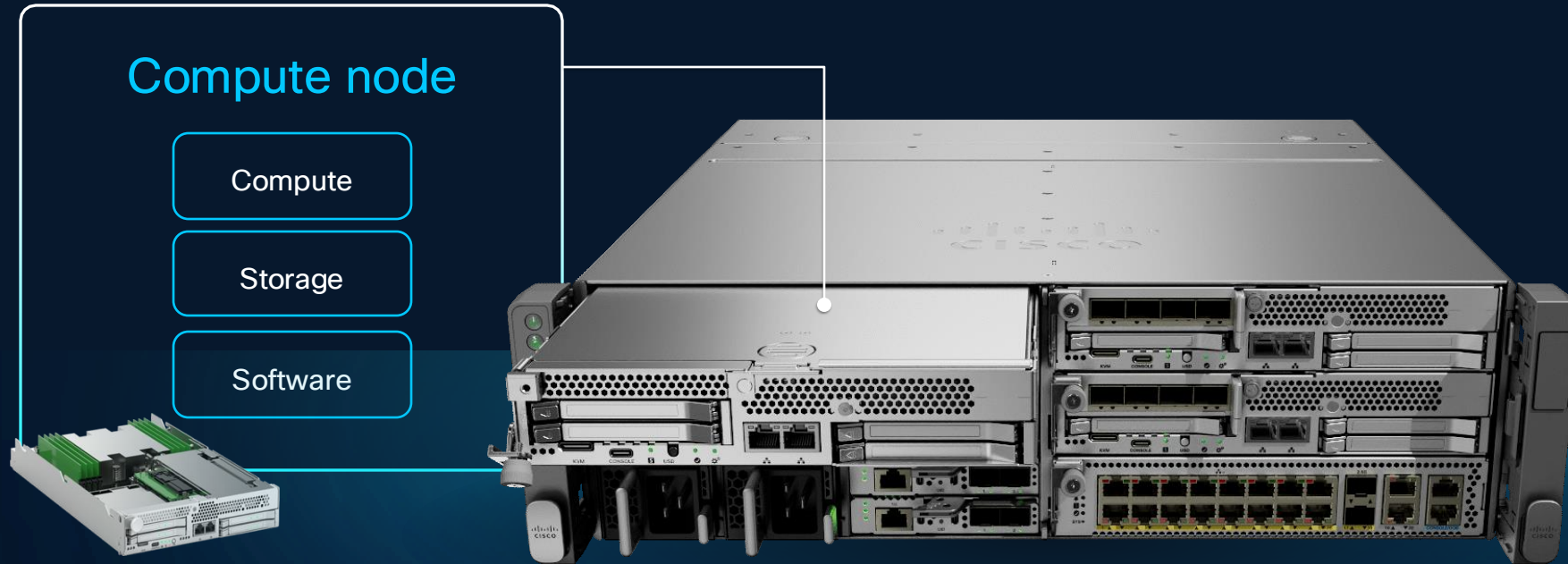
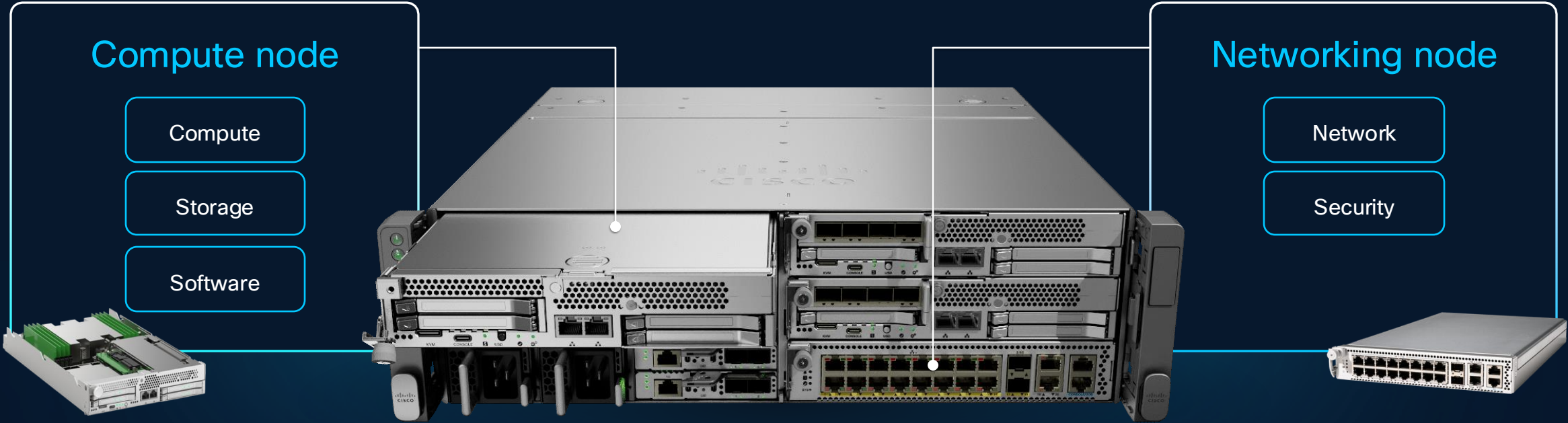| Nutanix	Red Hat	vmware by Broadcom	intel	CISCO	RANCHER BY SUSE
Nutanix Stack for Edge	Red Hat Edge Stack	VMware Edge Compute Stack	Intel Tiber	Virtual Networking	SUSE Edge

Cisco Unified Edge

Fully validated, full-stack environment that integrates advanced network, compute, storage and security

Future-ready performance

Compute node

- Compute
- Storage
- Software

Networking node

- Network
- Security

NUTANIX
Nutanix Stack for Edge

Red Hat
Red Hat Edge Stack

vmware by Broadcom
VMware Edge Compute Stack

intel
Intel Tiber

CISCO
Virtual Networking

RANCHER BY SUSE
SUSE Edge

Agile edge system

Personalized

Serviceable

Modular

3 RU Chassis
2 or 4 post mounting

18-inch depth

Up to 5 modules
Compute and network options

Optional bezel
Provides physical security
and air filtration

5x 80mm Fans
Acoustically-optimizable

Secure by design
(physical and digital)

Investment protection
over multiple generations

Consolidation of power,
cooling and cabling

Personalized

Serviceable

Modular

Status LEDs
Easy-to-read simplified
health and status indicators

2x Chassis
Management controllers
fully redundant

2x 2400W PSUs
N+N redundancy capable

Tool-less, hot swappable modules

Automated configuration upon replacement

Built-in redundancy and resiliency

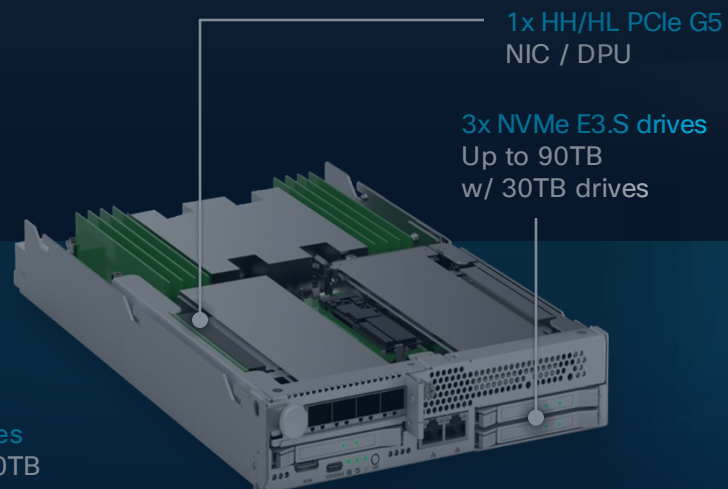## Real-time health monitoring
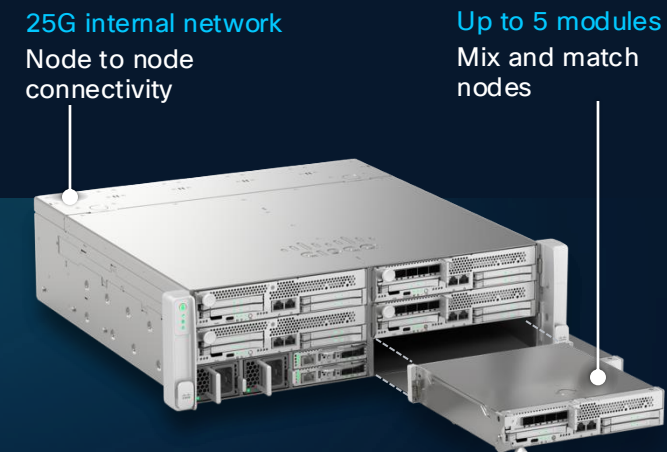
Personalized

Serviceable

Modular

Storage-optimized configuration

Xeon-6 SoC
P-core processor
12/20/32 Core options

8x Memory DIMMs
Up to 768GB

1x HH/HL PCIe G5
L4 Class GPU

4x NVMe
E3.S drives
Up to 120TB

2x M.2
SATA drives
HW RAID

2x 1/10
G NIC ports

Console / KVM ports
For local access

IO-optimized configuration

1x HH/HL PCIe G5
NIC / DPU

3x NVMe E3.S drives
Up to 90TB
w/ 30TB drives

High-performance networking

25G internal network
Node to node
connectivity

Up to 5 modules
Mix and match
nodes
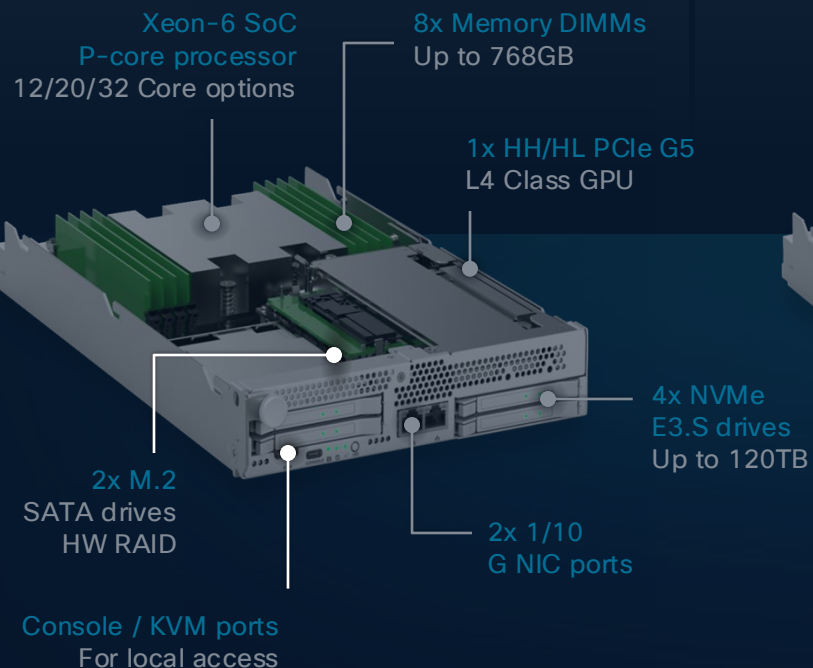
Node level personalization

Chassis level personalization

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High-performance networking

Data center fabric at the edge

25G internal network
Node to node
connectivity

- In-chassis east-west networking keeps traffic local and fast
- Ideal for node-to-node communication
- Clustered environments

Networking node

- Fourteen 1G ports; Four 2.5mGig ports, Two 10G SFP
  - PoE enabled – fewer cables, faster installs
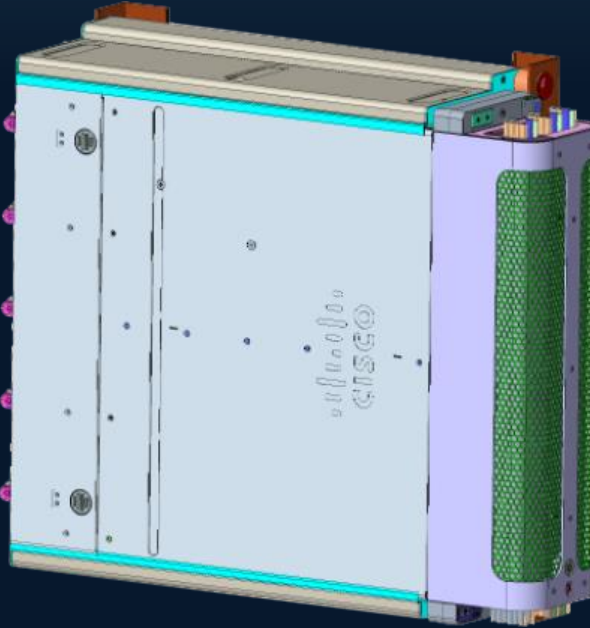- Time-Sensitive Networking (TSN) support

XE9305 Chassis Mounting Options

4-post rack with sliding rails

2-post rack with center mount brackets

Wall mount bracket (view with bezel installed)
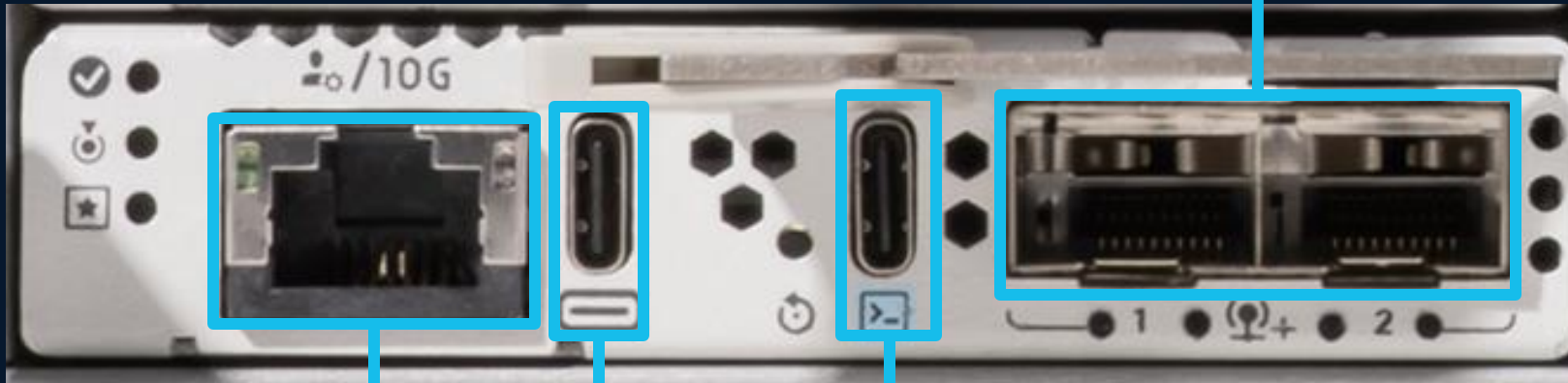

Mount brackets for horizontal positioning

Mount brackets for vertical positioning

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eCMC Port Layout

Dual 1/10/25Gb* uplinks
No disjoint L2 at FCS; if 2 links are in use, they must be a port channel
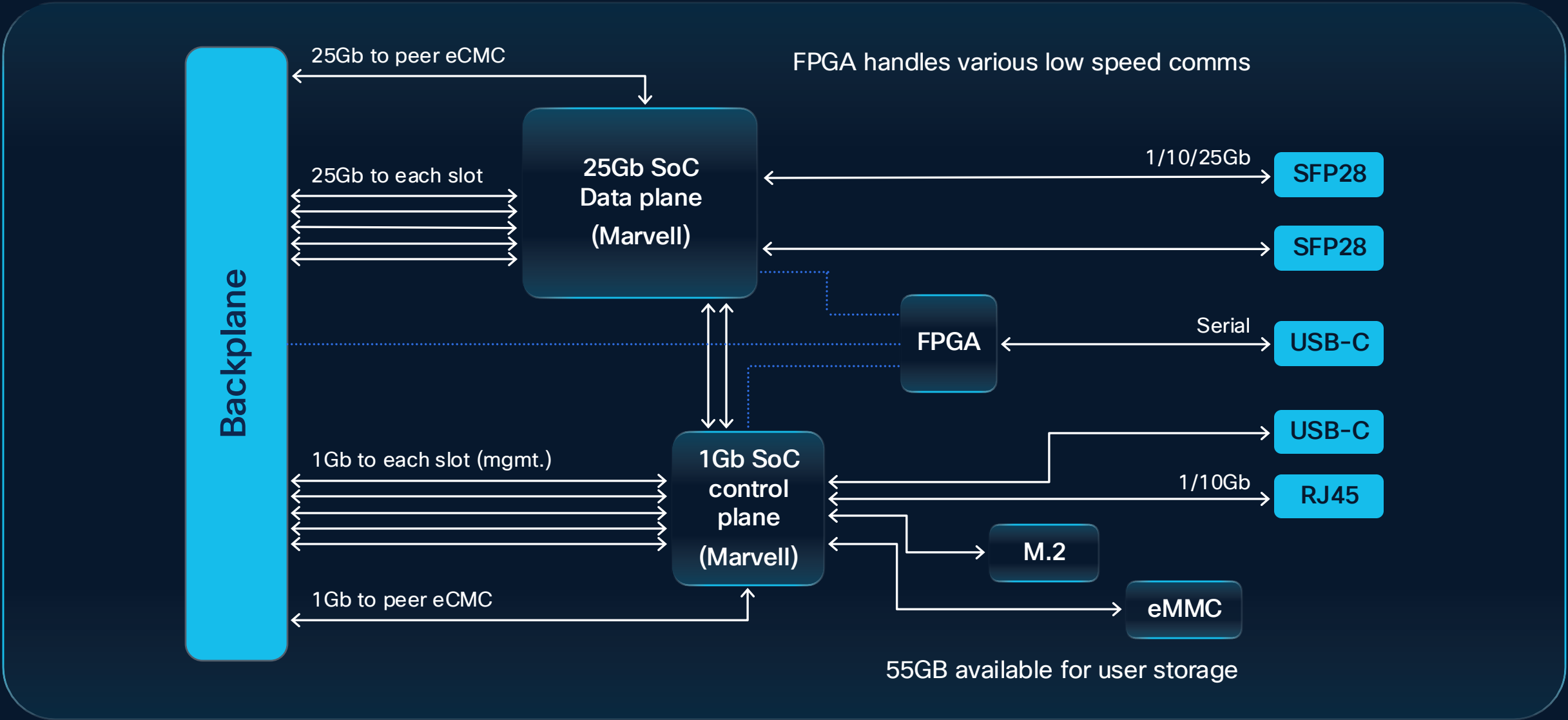
Serial console access
for recovery console

USB-C port
for local file transfer, BTE (Bluetooth Ethernet), etc.

1/10Gb* Management port
for chassis management and tunneled KVM

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eCMC Block Diagram Simplified

25Gb to peer eCMC

FPGA handles various low speed comms

25Gb to each slot

25Gb SoC Data plane (Marvell)

1/10/25Gb

SFP28

SFP28

Backplane

FPGA

Serial

USB-C

USB-C

1Gb to each slot (mgmt.)

1Gb SoC control plane (Marvell)

1/10Gb

RJ45

M.2

1Gb to peer eCMC

eMMC

55GB available for user storage

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Cisco XE130c M8 Storage-Optimized

Intel 2x25G NICs
Mid-plane connected NICs
connected to eCMCs

Intel Xeon 6 SoC
Granite Rapids architecture
12, 20, 32 core options

GPU slot
HH/HL PCIe Gen5

M.2 Boot
Optional M.2 HW RAID

8 memory DIMMs
Up to 768GB w/ 96G DIMMs

4 x E3.S drives
Up to 120TB
with 30TB drives

Intel 2x1/10G NICs
RJ45 LOM

Cisco
Tech Elevate Monthly

Cisco XE130c M8 I/O-Optimized

Intel 2x25G NICs
Mid-plane connected NICs
connected to eCMCs

Intel Xeon 6 SoC
Granite Rapids architecture
12, 20, 32 core options

GPU slot
HH/HL PCIe Gen5

8 memory DIMMs
Up to 768GB w/ 96G DIMMs

M.2 Boot
Optional M.2 HW RAID

Additional I/O slot
HH/HL PCIe Gen5

3 x E3.S drives
Up to 90TB
with 30TB drives

Intel 2x1/10G NICs
RJ45 LOM

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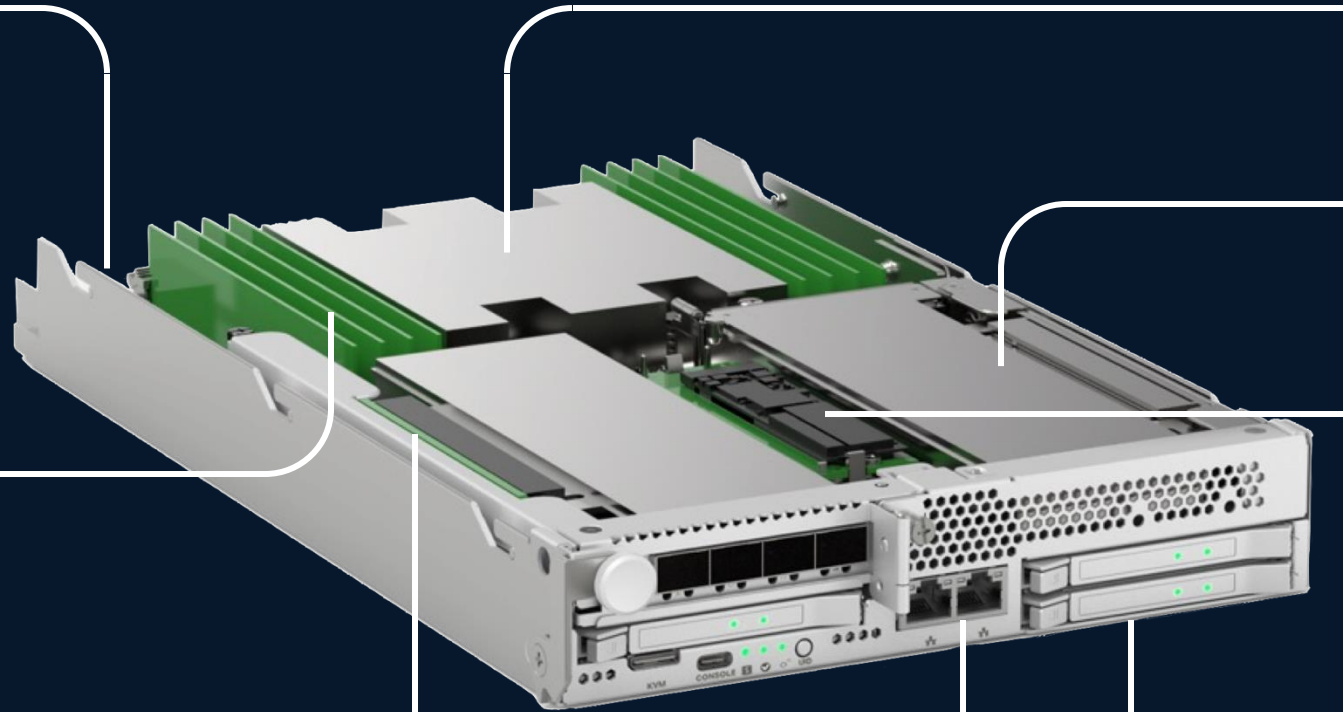
Internal Networking with One Compute Node

eCMC-A

Faceplate Ports

SFP28

SFP28

25Gb SoC

switch-to-switch link

Backplane

25Gbps
switch-to-switch link

Compute Node

Faceplate Ports

25Gbps

25Gbps

Intel Xeon
SoC

RJ45

RJ45

embedded Intel NICs

eCMC-B

Faceplate Ports

SFP28

SFP28

25Gb SoC

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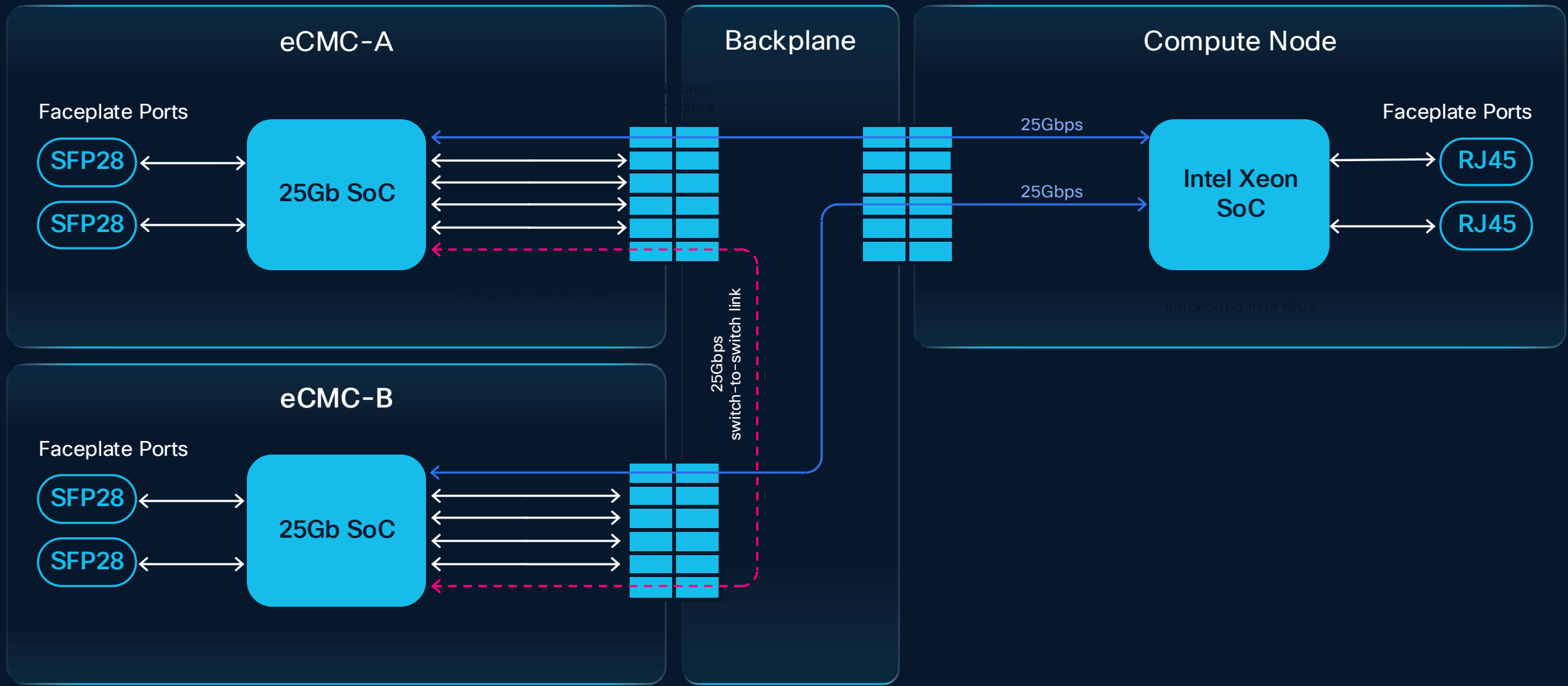
Common Connection Scenario
Small

01 Management requires its own uplinks at launch

02 One or two uplinks for data plane from each eCMC

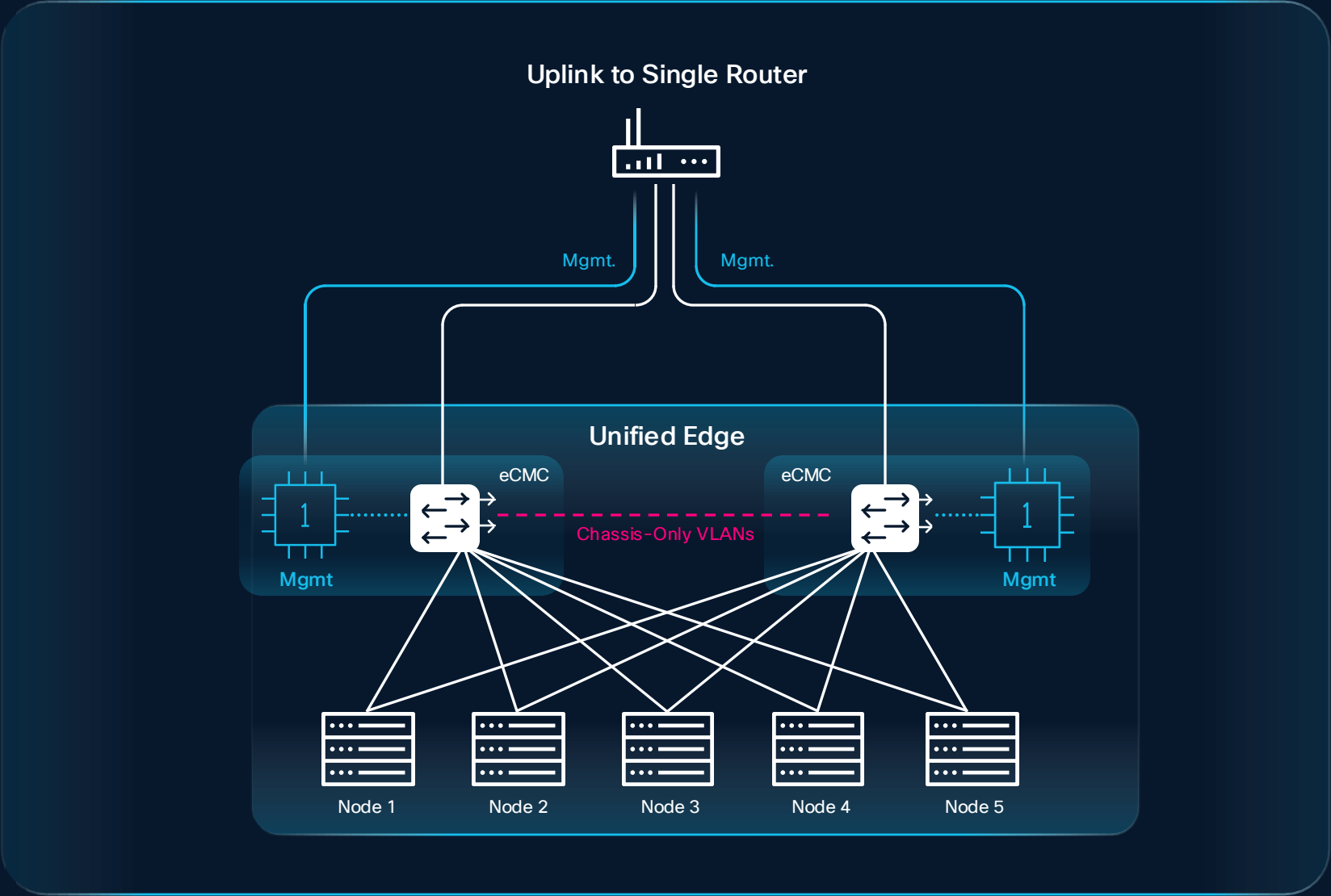**03** If two links are used, they must be port-channeled


1Gb   1Gb
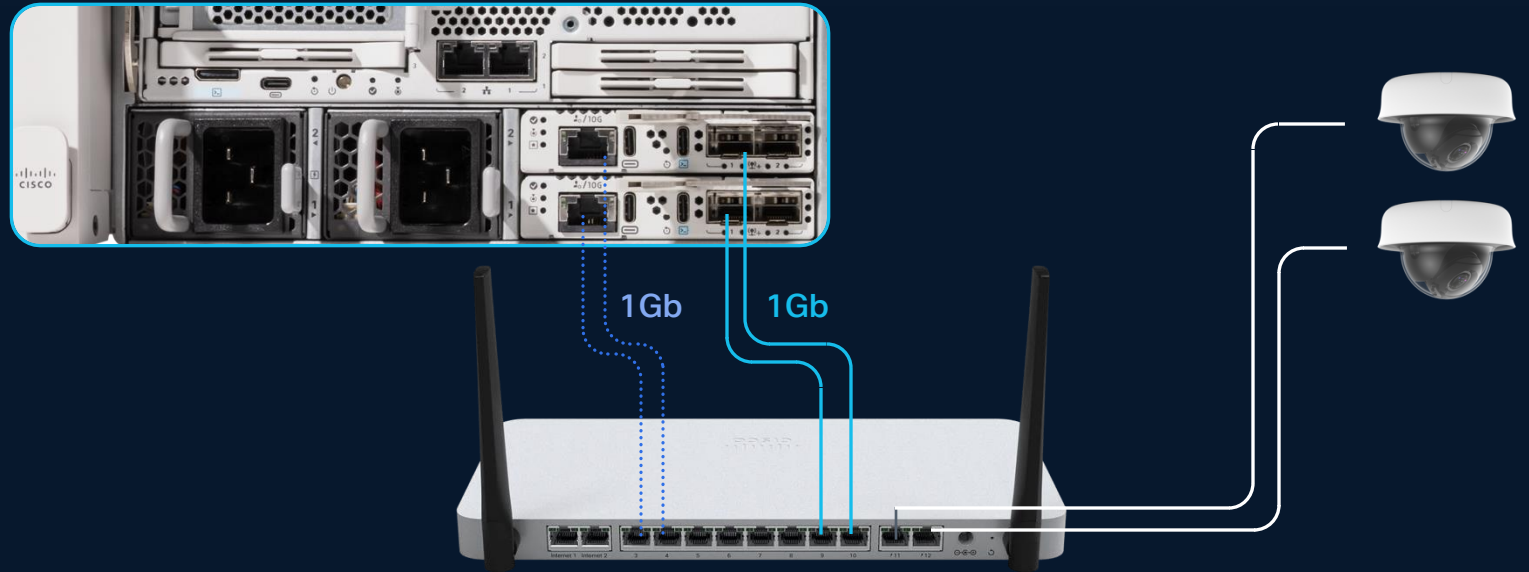
Network Admin Point of View

Small

Example topology

Uplink to single router

Uplink to Single Router

Unified Edge

eCMC

eCMC

Mgmt.   Mgmt.

1   Mgmt   **Chassis-Only VLANs**   1   Mgmt

Node 1   Node 2   Node 3   Node 4   Node 5

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Common connection scenario
Large

01 Management requires its own uplinks at FCS

02 One or two uplinks for data plane from each eCMC

03 If two links are used, they must be port-channeled

1/10/25Gb

1Gb

1Gb

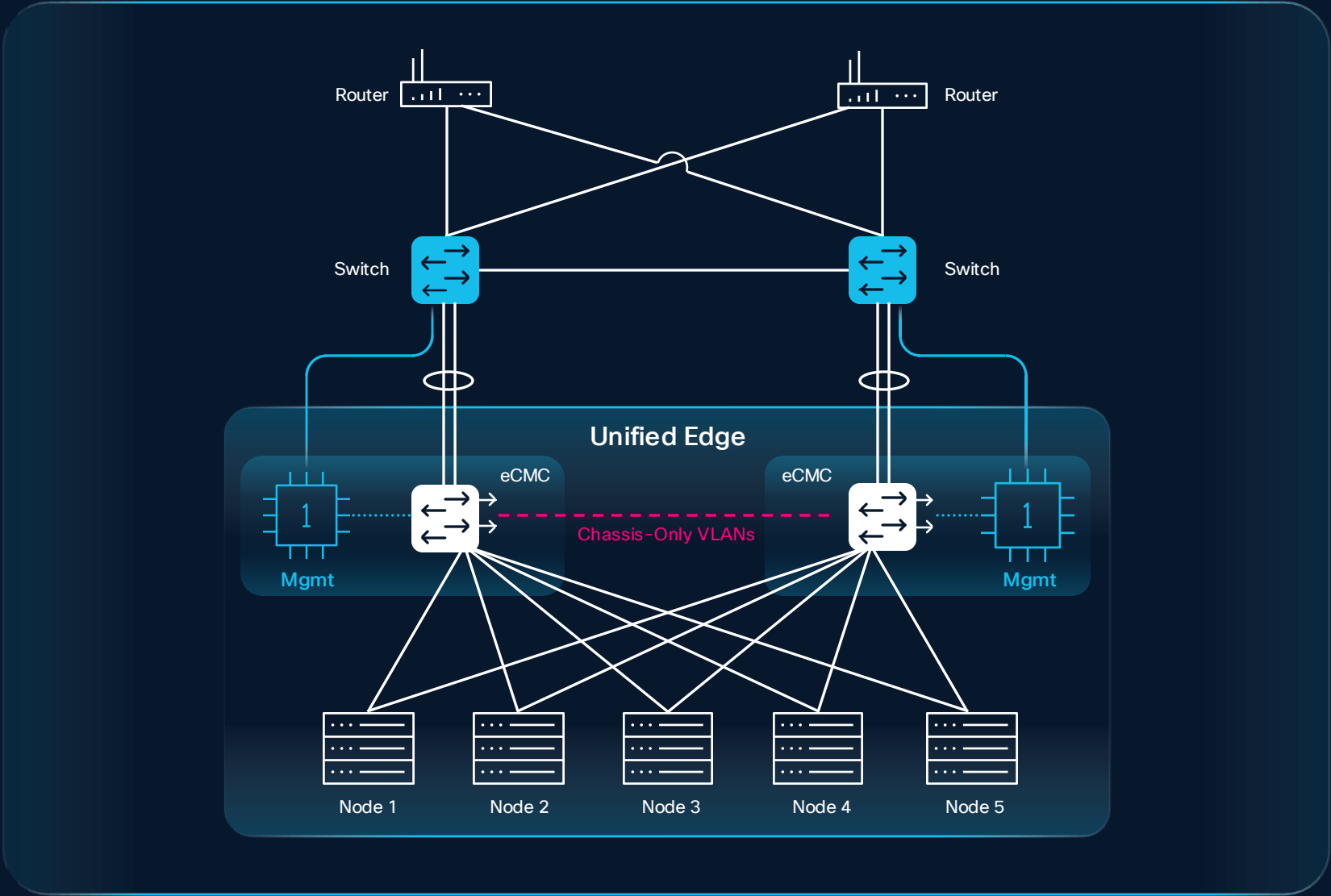1/10/25Gb

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Tech Elevate Monthly
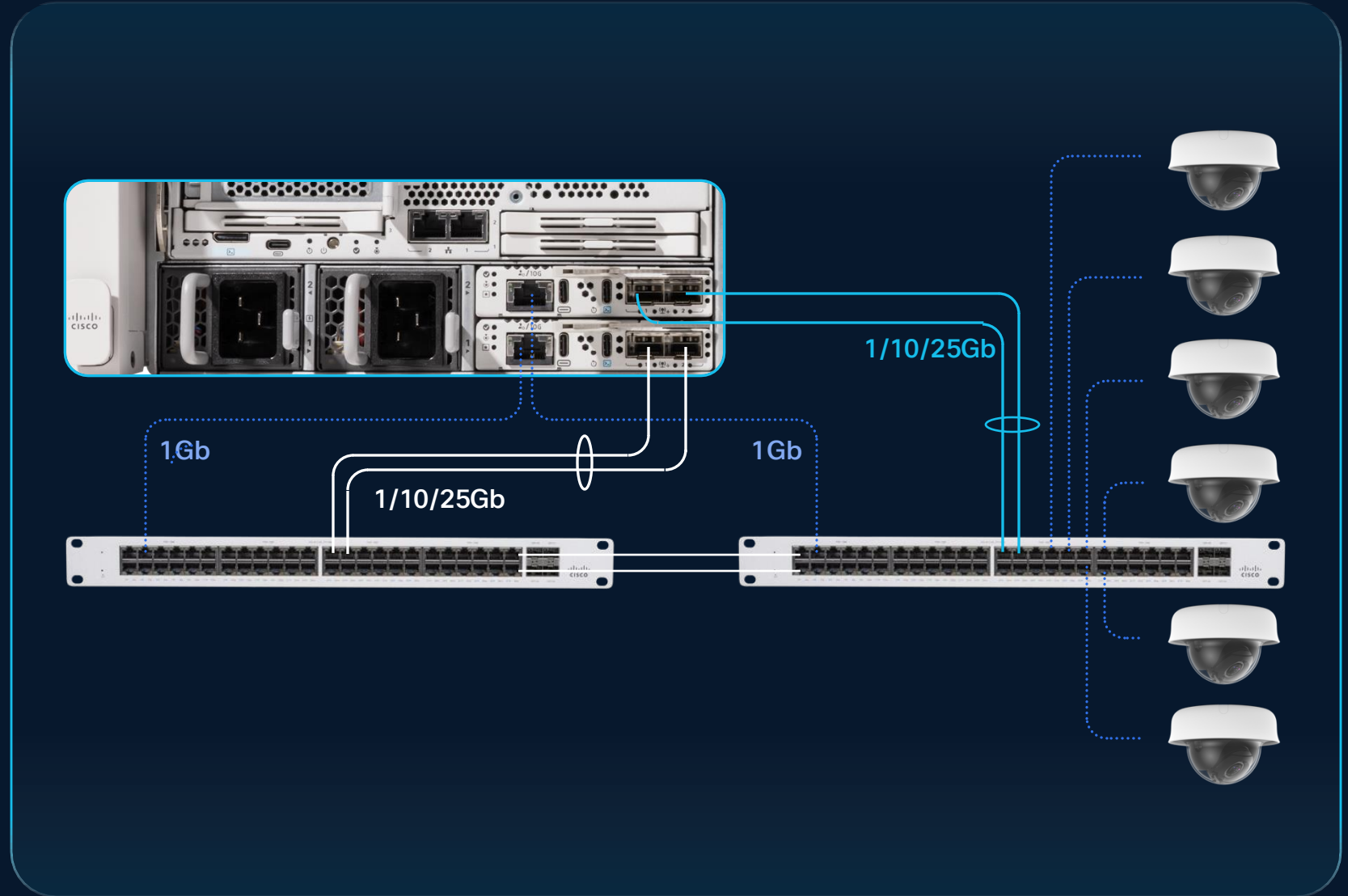
Network Admin Point of View

Large

Example topology

One or two links to local switches (two links requires port channel)

Notice that this configuration is not using VPC or MLAG towards the Unified Edge eCMC

Router

Router

Switch

Switch

Unified Edge

eCMC

eCMC

Mgmt

Chassis-Only VLANs

Mgmt

Node 1

Node 2

Node 3

Node 4

Node 5

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Connecting External Storage

Connect storage to external network switches

Direct connect to eCMC will require disjoint L2 (post-FCS)

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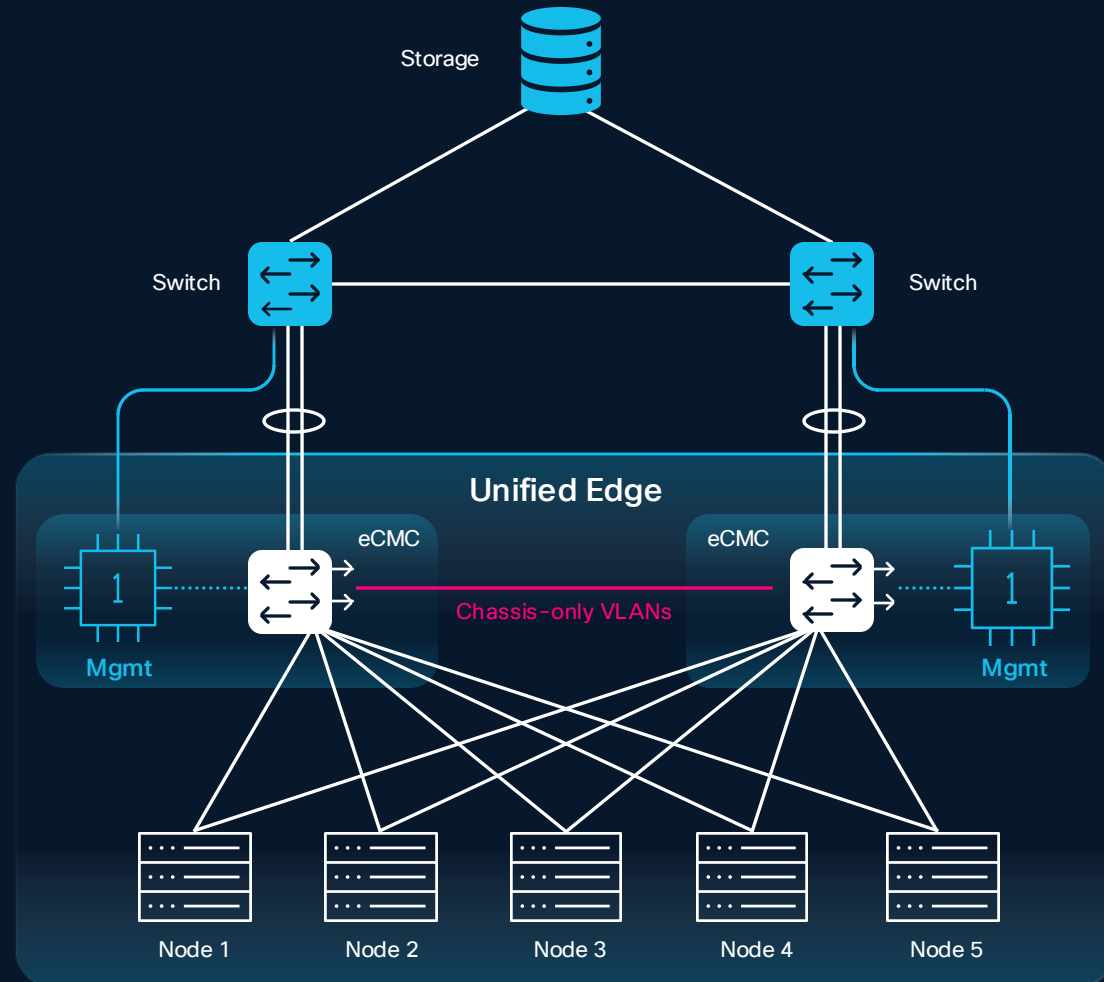
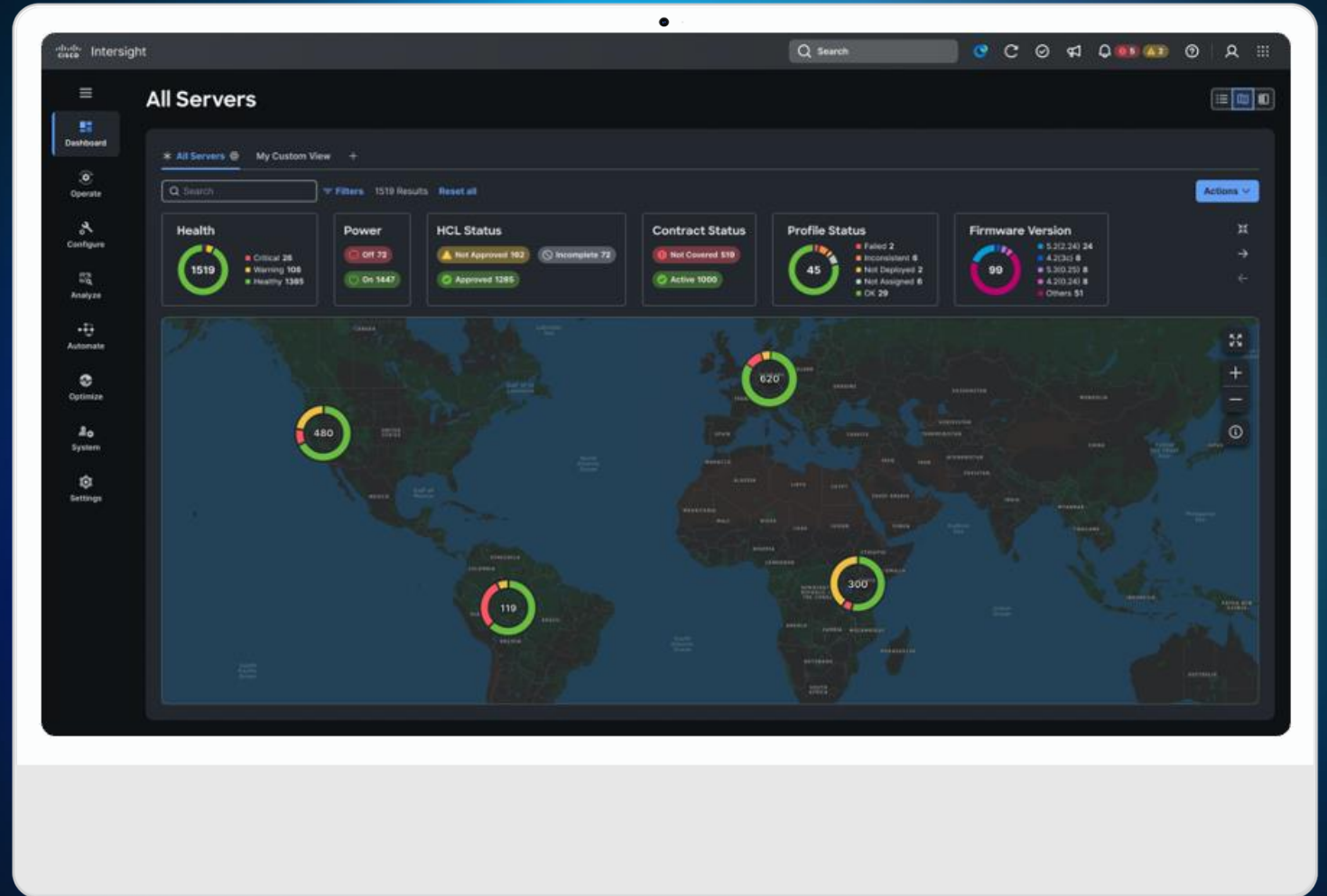# Intersight fleet management

- Simplified onboarding & Zero-touch provisioning

- Automated lifecycle management

- Global visualization

Thank you