



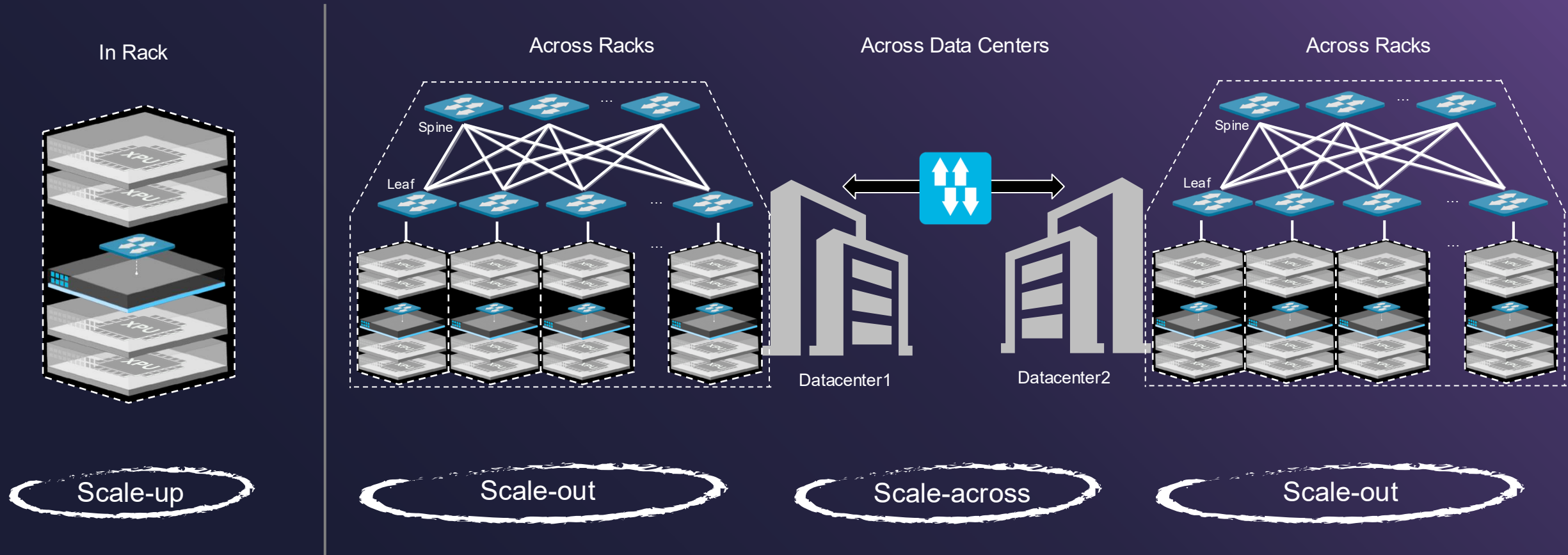
Distributed Computing @ Scale for AI Training & Inference

Mohan Kalkunte Ph.D.

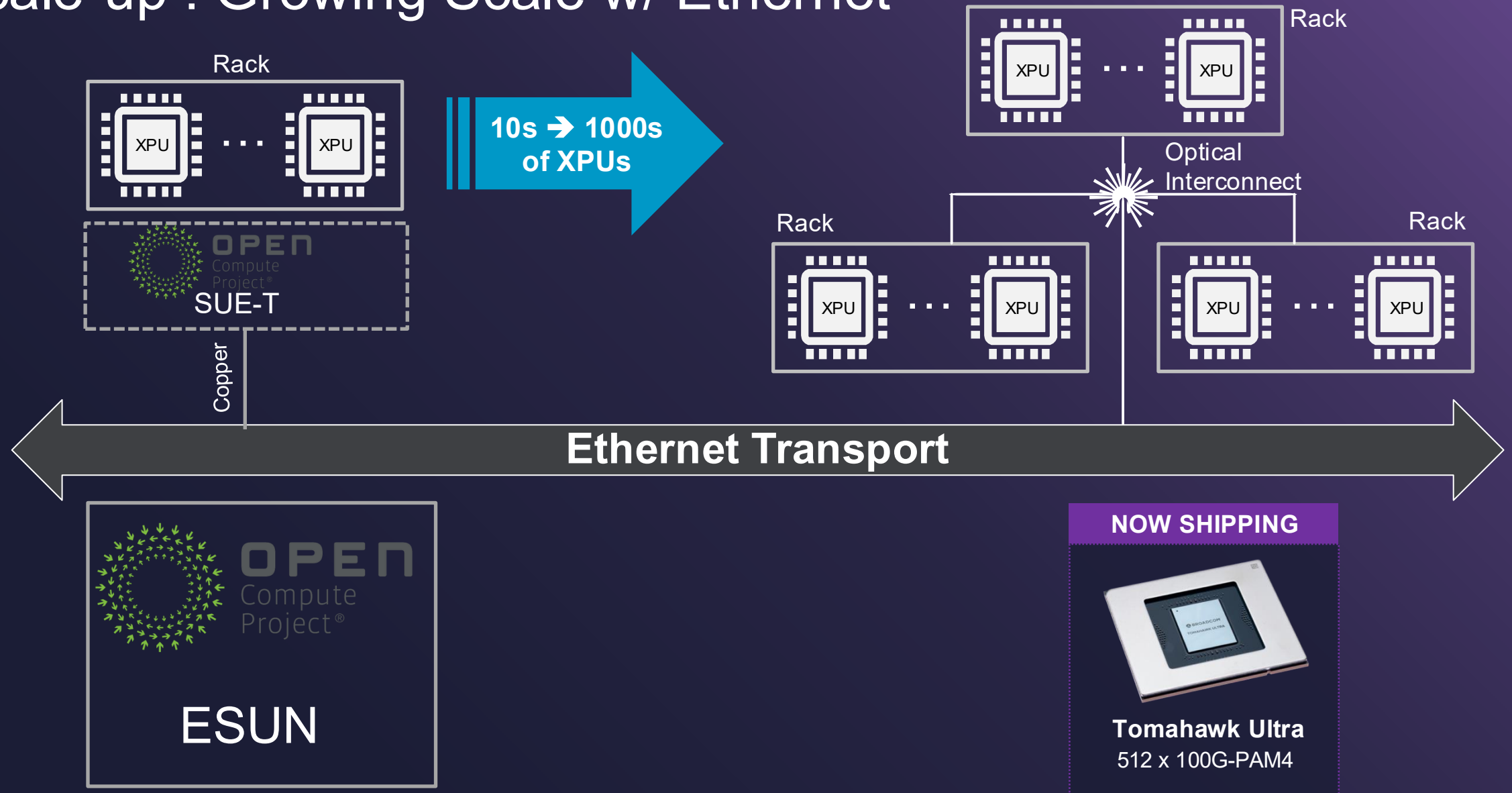
Vice President of Architecture & Technology, Broadcom



AI Scale-up and Scale-out Networking



Scale-up : Growing Scale w/ Ethernet



Scale-up: Optical Compute Interconnect (OCI)



Founding Members

Industry alignment around an optical scale-up.



Est. March 2026

Future AI infrastructure built on open standards.



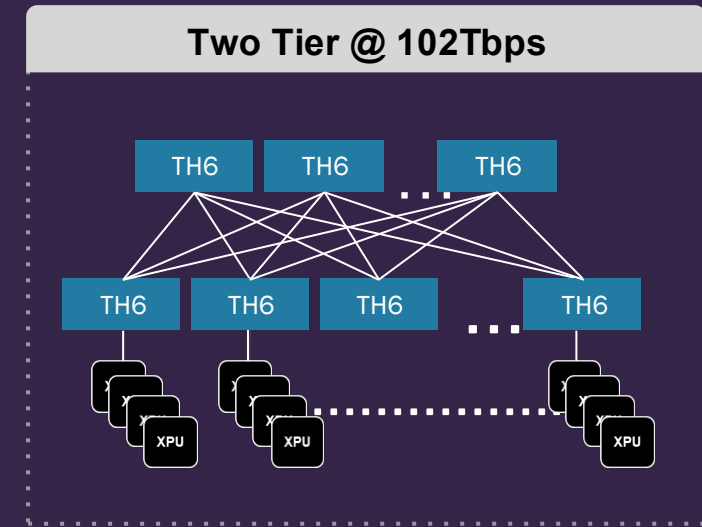
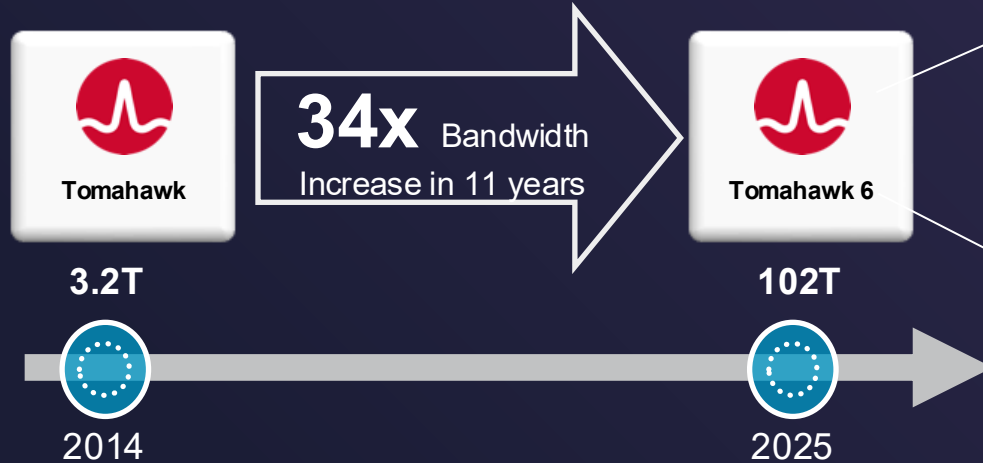
Optical Scale-Up

Architecture that delivers the efficiency required to scale AI infrastructure.

Move Scale-up from In-Rack to Multi-Rack & Multi-Row



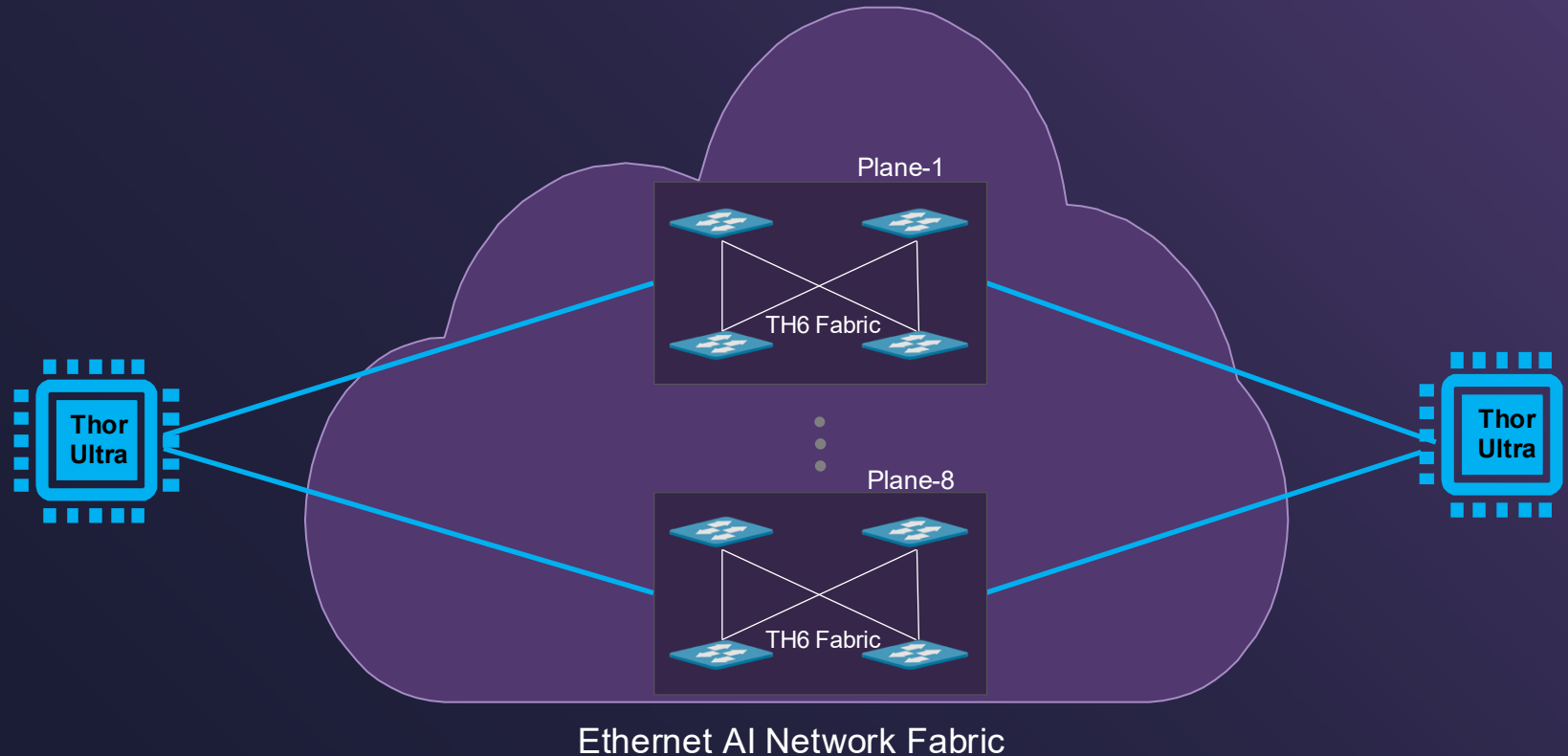
Scale-out: Scaling Bandwidth, Simplifying Networks



- 128K XPU cluster w/ 2-tier topology
- >40% reduction in Power, Latency, Optics compared to 51T device
- Improved Performance and Reliability



Scale-out: MRC Based Multi-plane Architecture



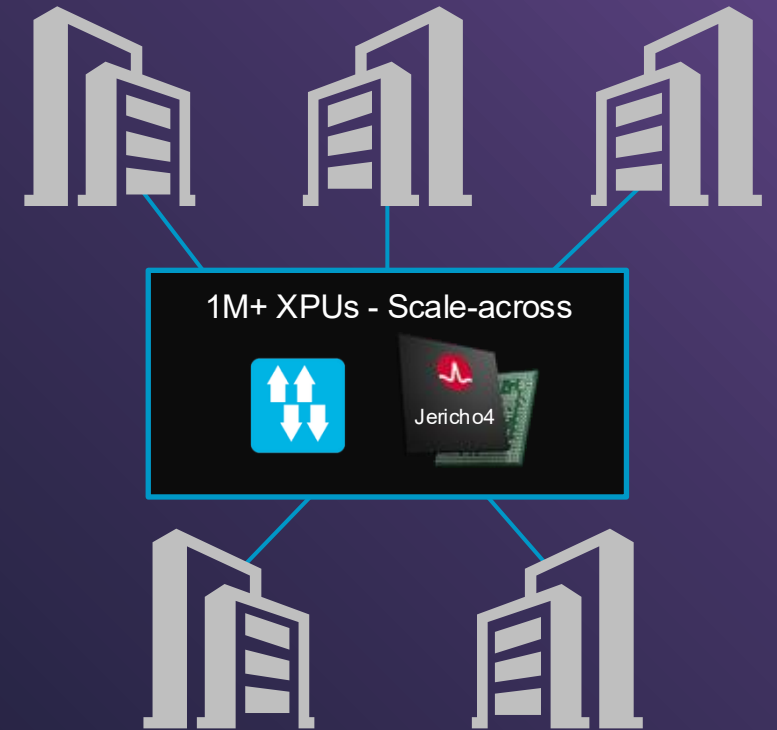
- Adaptive packet spraying
- Out-of-order packet delivery

- End-to-End Path Management via SRv6
- Selective retransmission
- Packet trimming



Scale-across: Scaling 1M+ Accelerators Across Data Centers

- Open Ethernet fabric for massive AI Scale-across
- End-to-end congestion control
- Integrated line rate encryption
- 100 km+ lossless data center interconnect



Jericho4 Delivers Scale-Out Network Interconnect



Scale Across: Connecting AI Data Centers with Jericho



High Capacity
& Radix



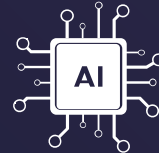
Long Distance
Connectivity



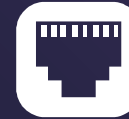
Deep Buffers
for AI Bursts



Intelligent Traffic
Engineering



AI Congestion
Management



Lossless AI
Transport



End-to-end
Telemetry



High Availability



Ethernet : Complete Coverage of HPC and AI

