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NTT PR/IR Day

Networking for AI Scaling

Ram Velaga, SVP/GM, Broadcom

Oct 6th, 2025

AI Scaling

124 GW

Incremental AI capacity between 2025-2030

Source: https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-cost-of-compute-a-7-trillion-dollar-race-to-scale-data-centers

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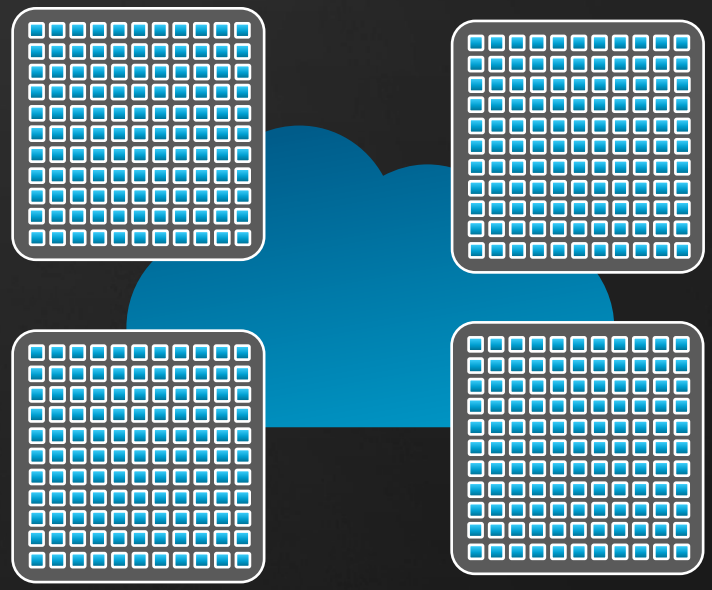
A Very Very Large Distributed Computing System



100K+ XPU Clusters

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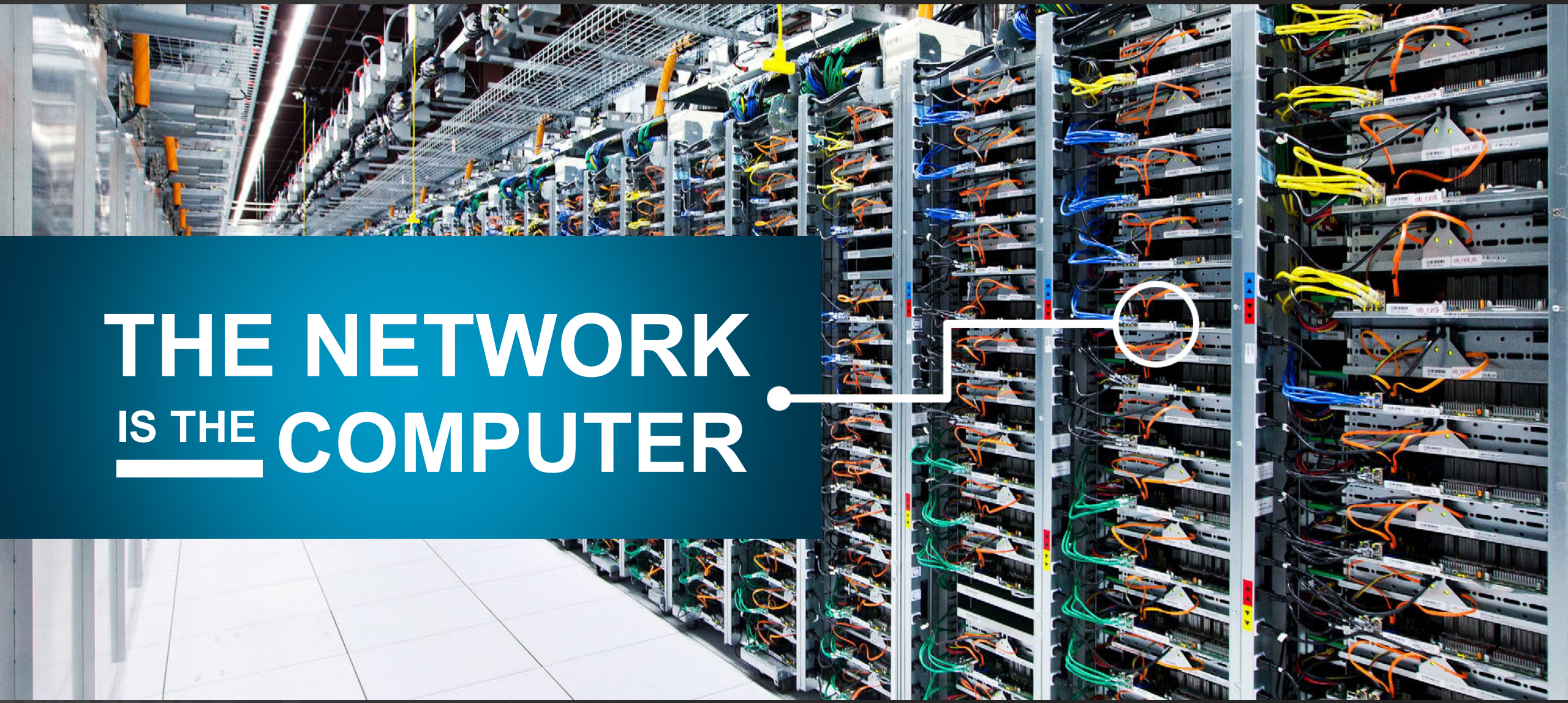

THE NETWORK IS THE COMPUTER

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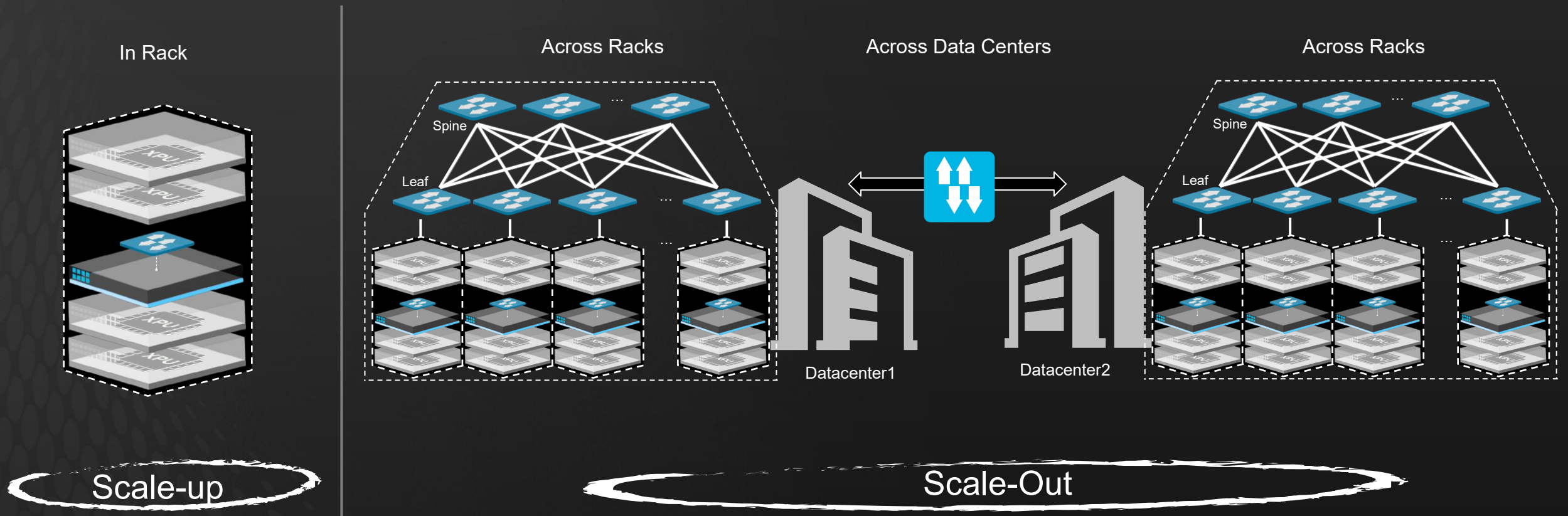
AI Scale-up and Scale-out Networking



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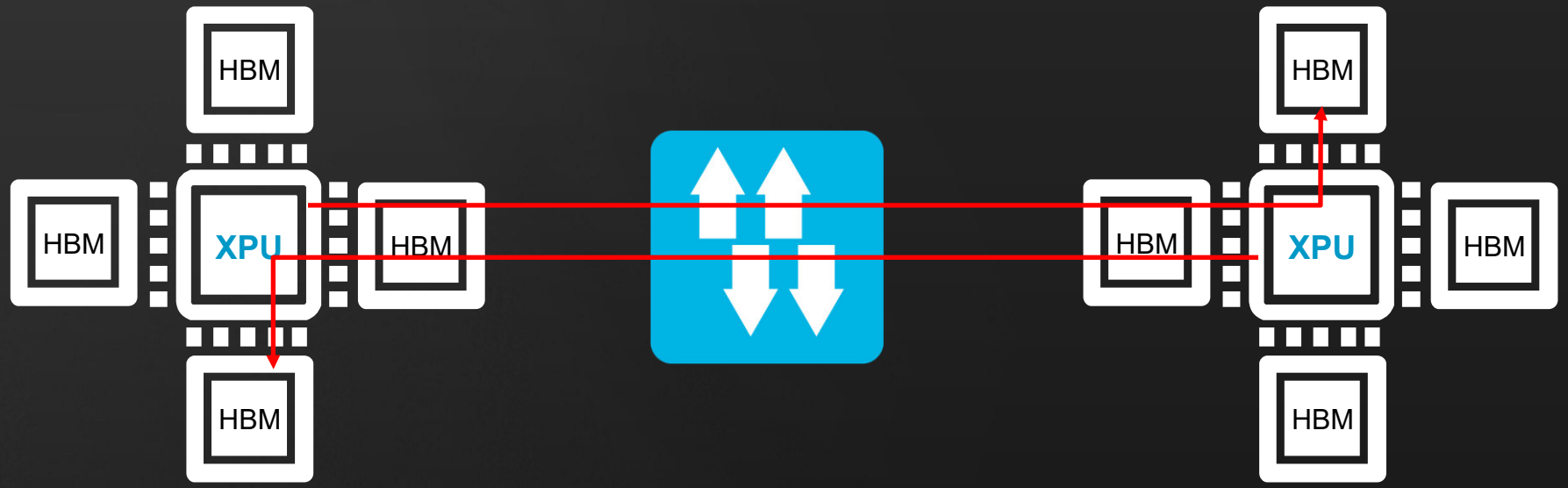
XPU Scale-up: High Bandwidth Memory Sharing Across XPUs



4 x HBM3E (9.6Tbps) → 38.4Tbps
8 x HBM4 (12.8Tbps) → 102.4Tbps

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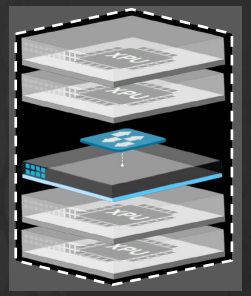
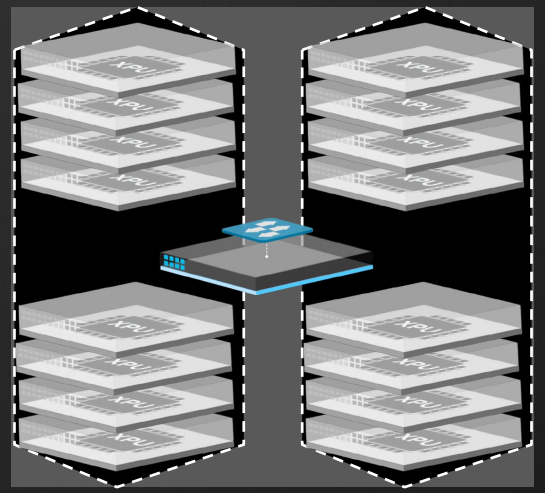
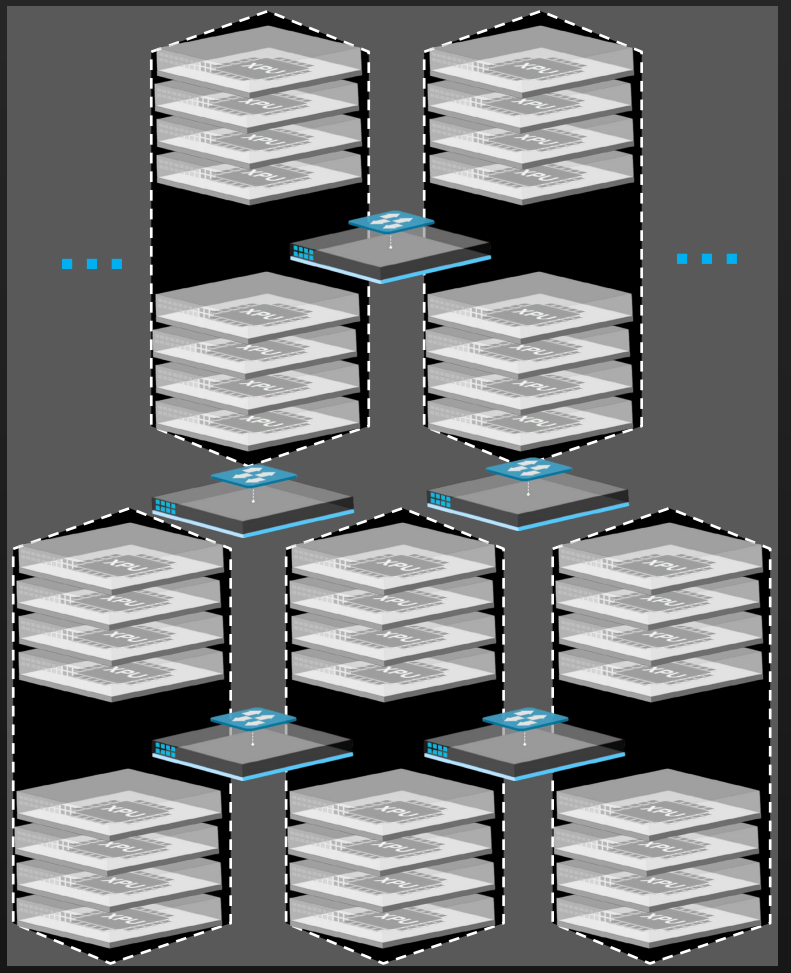
Ethernet: Reliable & Proven



64-128 XPUs



256-512 XPUs



1024-2048 XPUs

- Low latency delivery over Ethernet
- Reliable & lossless operations w/ LLR, CBFC, PFC

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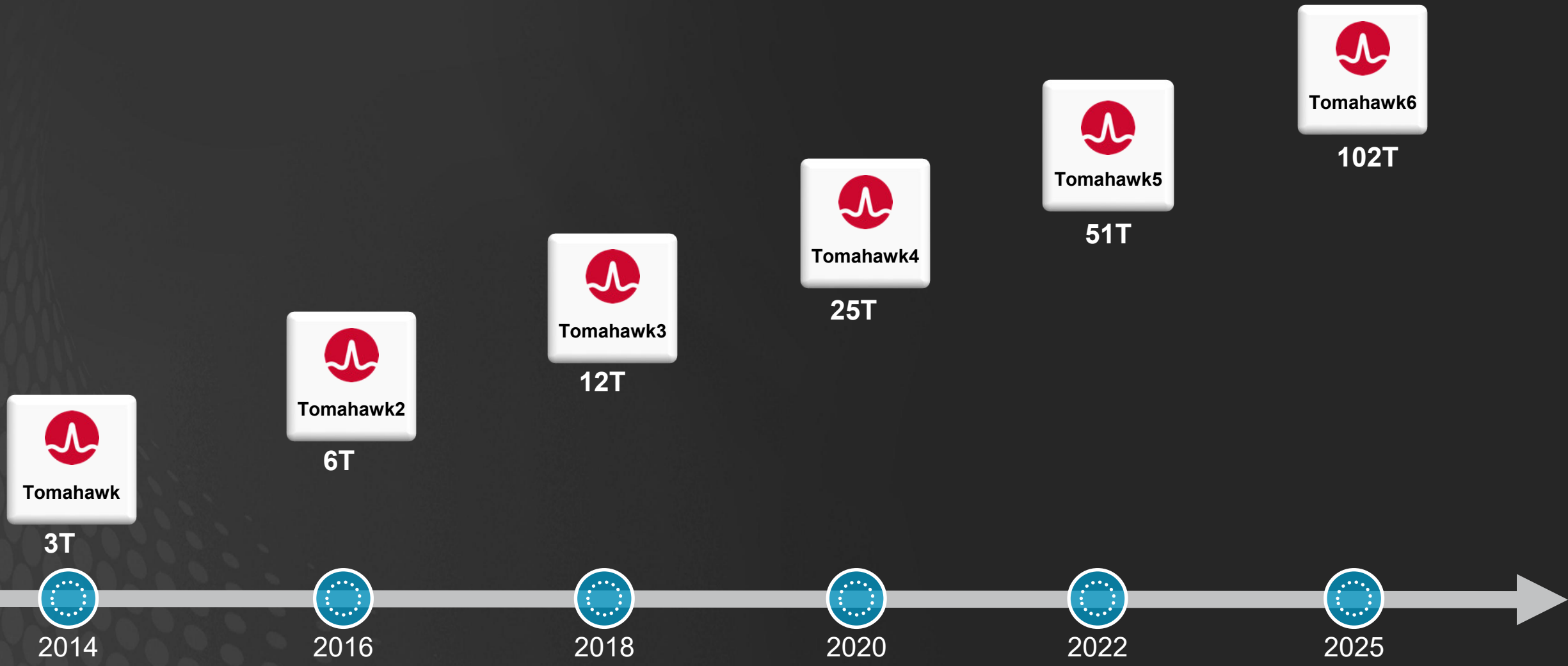
Performance & Execution for Bandwidth Growth



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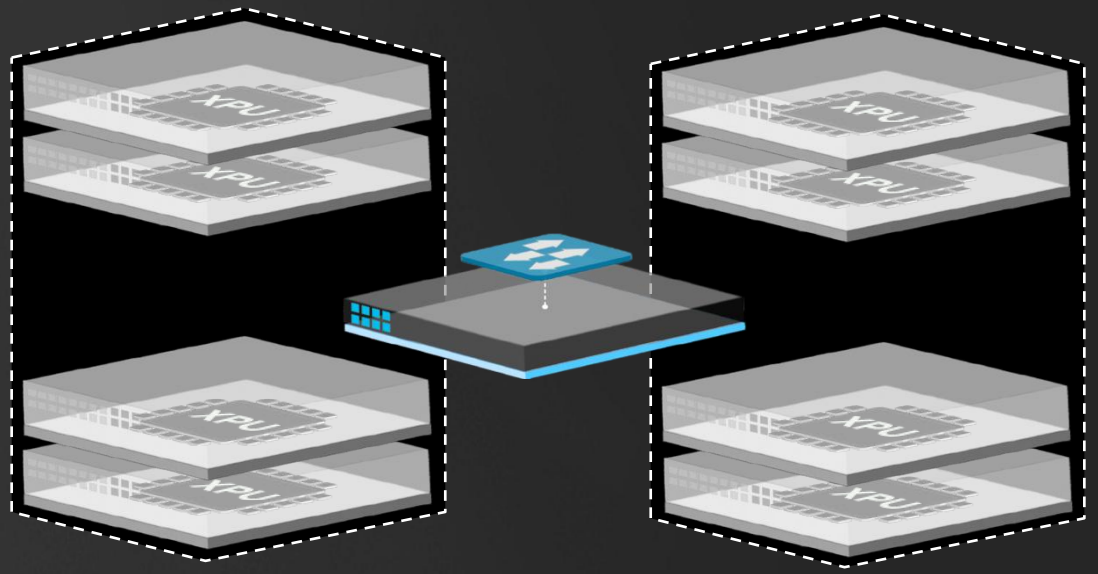
Tomahawk 6 → 512 XPUs in a Scale-Up Cluster



512 XPUs connected in a single hop with 200G PAM4

>7x scale-up cluster size compared to alternatives

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Jericho4: 1M+ Accelerators Across the Data Centers

Jericho4 Delivers Scale-Out Network Interconnect

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Broadcom Offers Complete Coverage of HPC and AI

HPC

AI Scale-Up

AI Scale-Out

Region Scale-Out

Tomahawk Ultra
51.2 Tbps

Tomahawk 6
102.4 Tbps

Jericho4
51.2 Tbps

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Introducing NTT InnovativeDevice + Tomahawk 6 CPO

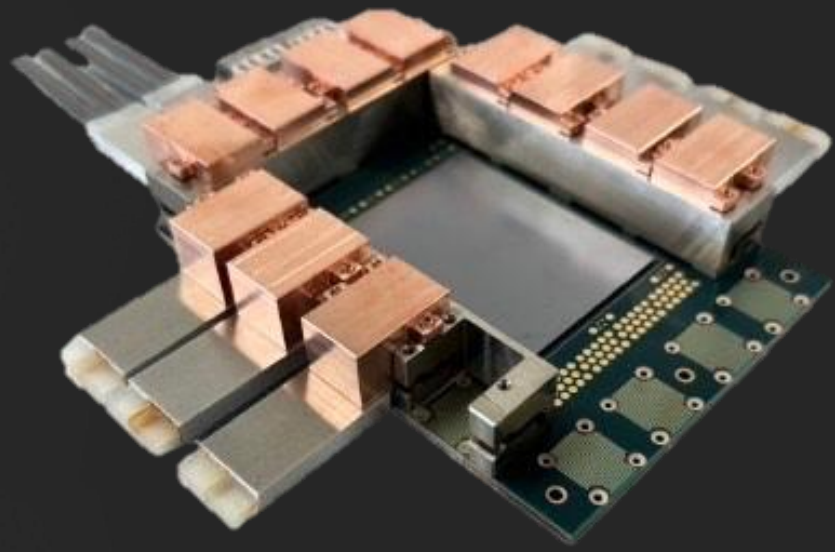
Industry's First 100T CPO with Replaceable Optical Engine

Deploy CPO with Pluggable-like Flexibility
First CPO with Replaceable Engine

Faster AI/Network Performance
Less Link Flaps = Faster JCT

Tremendous Power Reduction vs Pluggable Optics
> 70% Power Reduction

NTT Innovative Devices



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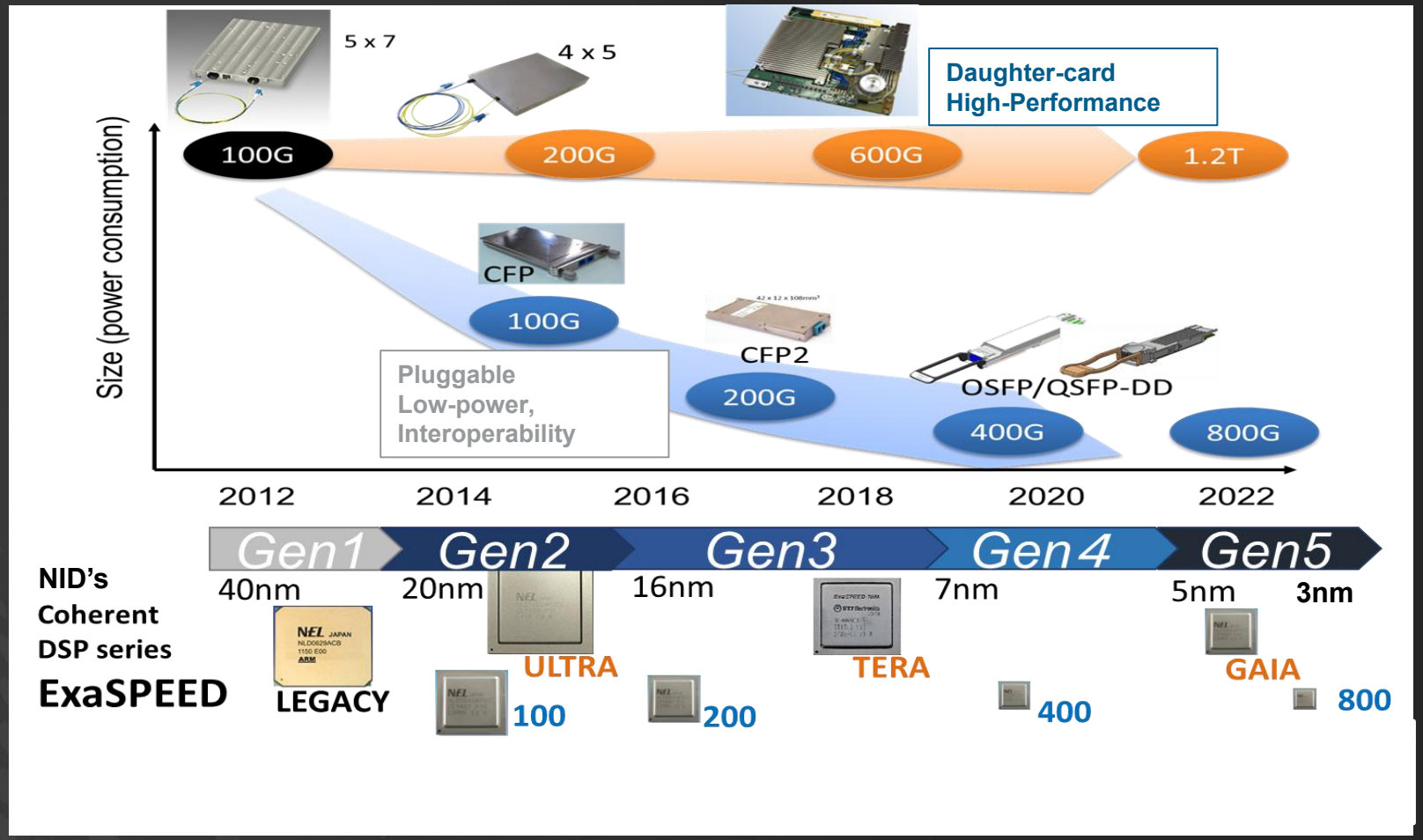
History of the collaboration between NTT and Broadcom

- Collaboration on coherent DSPs, since 2013.
- 8 Products, in 5 generations of process nodes



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Thank You