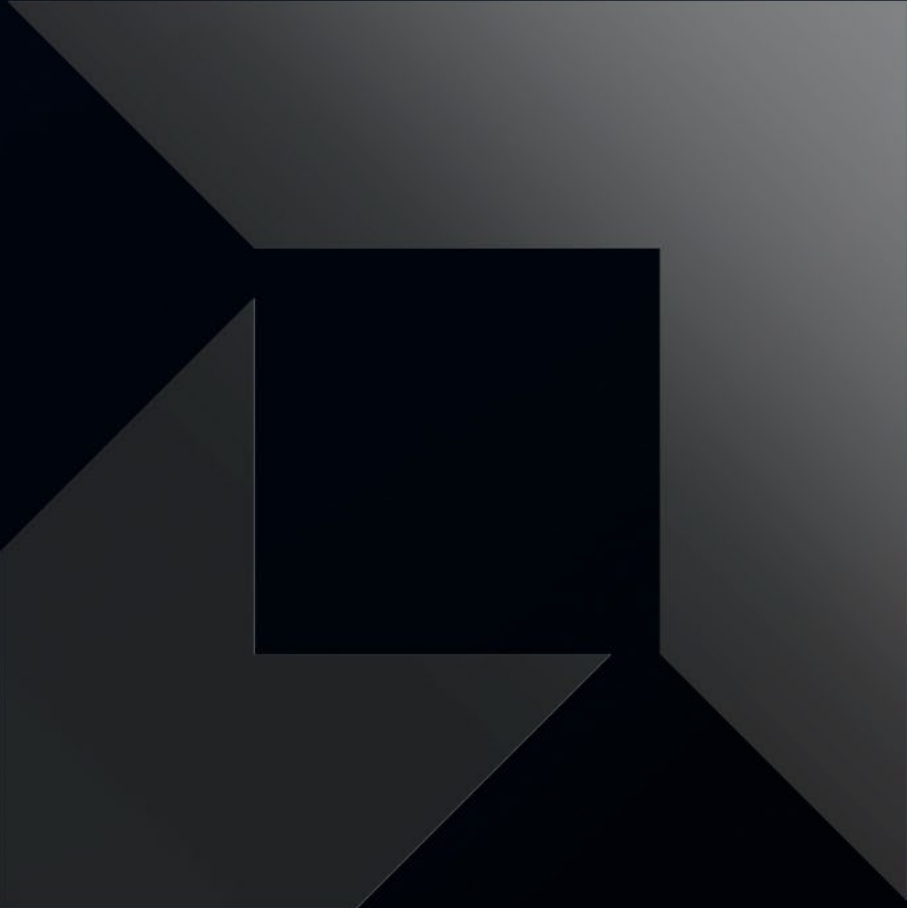




Reference Network Design Architecture MI355 series

4-Megawatt Design
256 Systems - MI355X
2K GPU

Version 1.0 – Nov 2025

Network Design Topology Notations:

Design note:

Topologies listed are based on either Jericho / Ramon switch type (Accton, Arista, Ciena, Nokia) or 51.2T switch type (Arista, Cisco, Dell, Juniper)

Vendors/switch models vary for port count and features – please consult desired vendor port count directly to confirm.

Scalable Units/PODs note:

Diagrams presented are designed around a Scalable Unit or POD – which can determine overall network end to end latency and AI use cases.

Certain ML/AI workloads may require change of scalable unit size. Please consult with AMD Architecture as required.

4-Megawatt Network Design Assumptions:

Important Note: These Are Estimates – Please See Vendor Model Data Sheets For Exact Power Specifications

System design:

Quantity: 256 MI355X DLC – 2K GPUs

Average Power per system $\approx$ 14kW

256 Systems $\approx$ 3.584 Megawatts

51.2T Switch designs:

Quantity $\approx$ 61 switches – 51.2T switch (Dell – Cisco – Arista)

Estimated typical/load power per switch:
540w/1125w $\approx$ 32.94kW/68.63kW

Jericho/Ramon design:

Quantity $\approx$ 10 x 7720R4-128PE & 64 x 7700R4C

Estimated typical/load power 7720R4-128PE:
1032w/3848w $\approx$ 10.32kW/38.48kW

Estimated typical/load power 7720R4C-38PE:
593w/1840w $\approx$ 37.96kW/117.76kW

Jericho/Ramon estimated power typical/load $\approx$
48.28kW/156.24kW

Storage/Management network design:

Please consult storage and OEM vendors for design and power specifications.

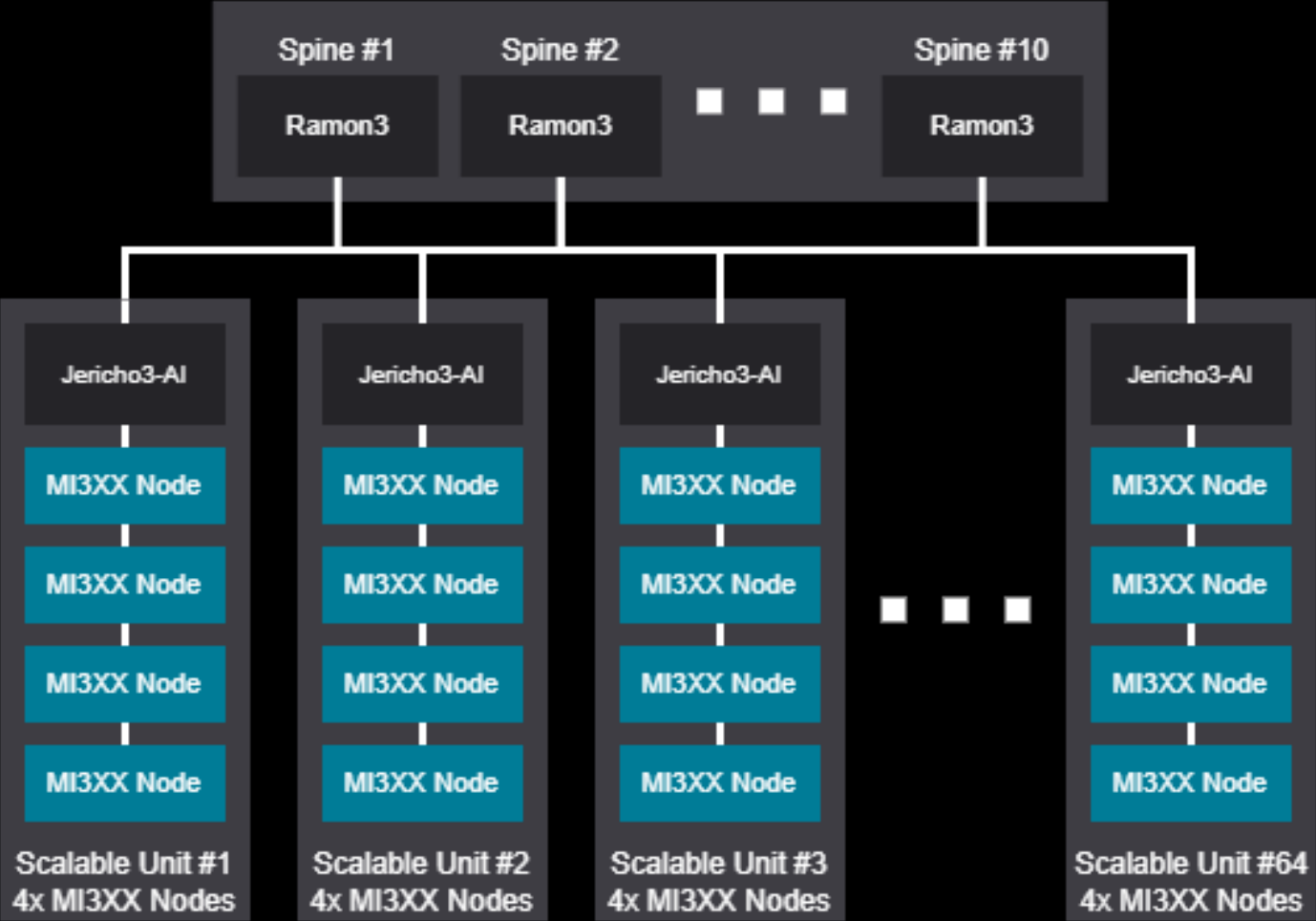
2K GPU Topology Design Examples

Jericho/Ramon

Network Diagram - 2048 GPU (256 Nodes)

Tree Design

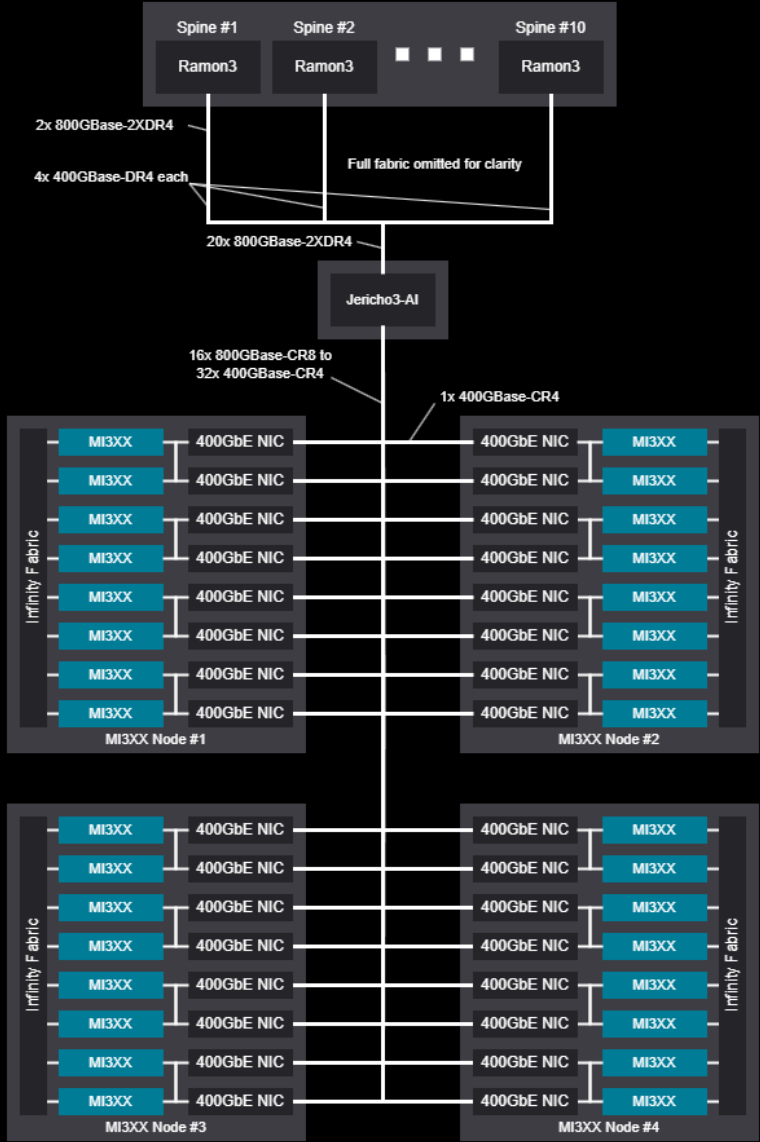
Jericho/Ramon



Network Diagram - 2048 GPU (256 Nodes)

Tree Scalable Unit

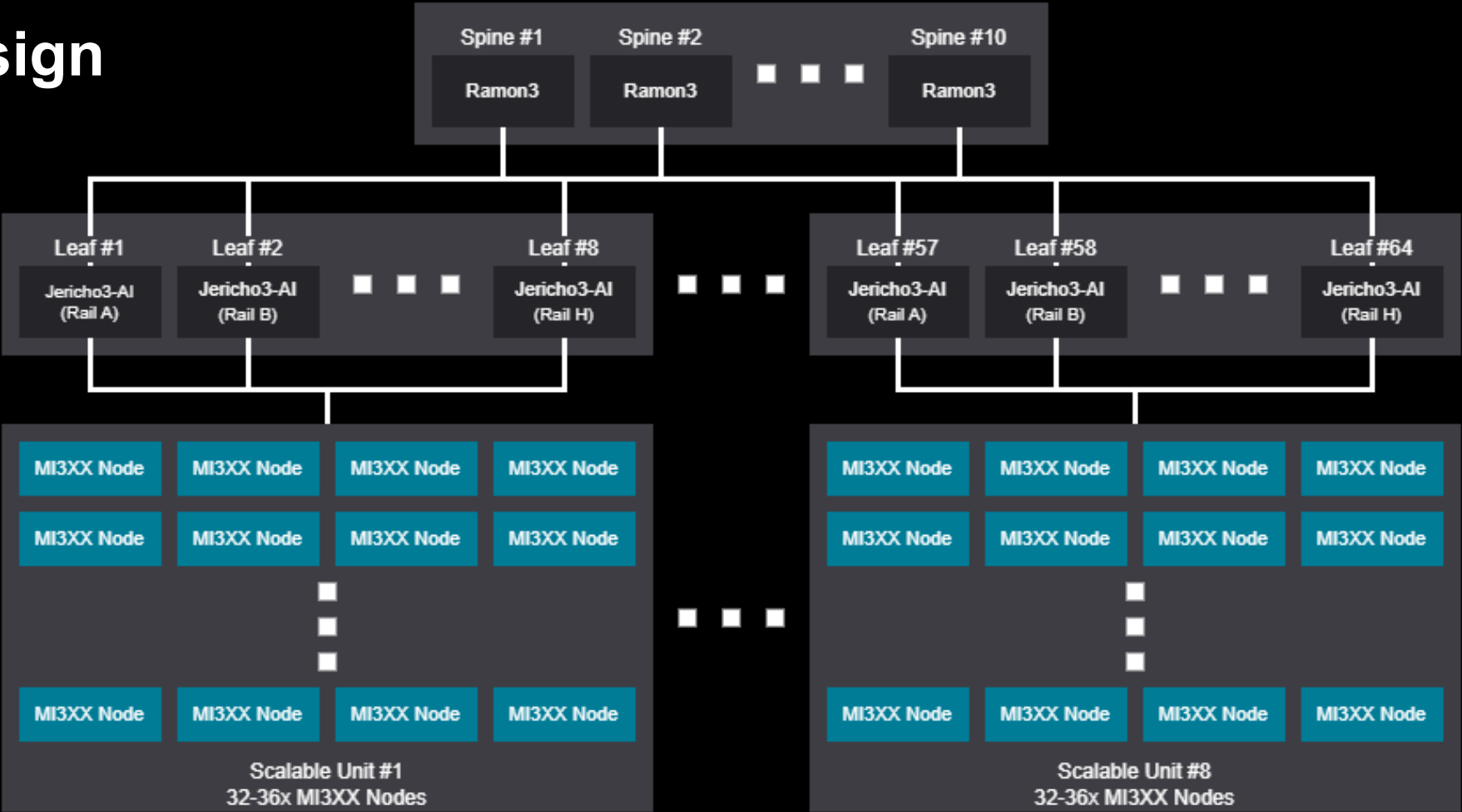
Jericho/Ramon



Network Diagram - 2048-2304 GPU (256-288 Nodes)

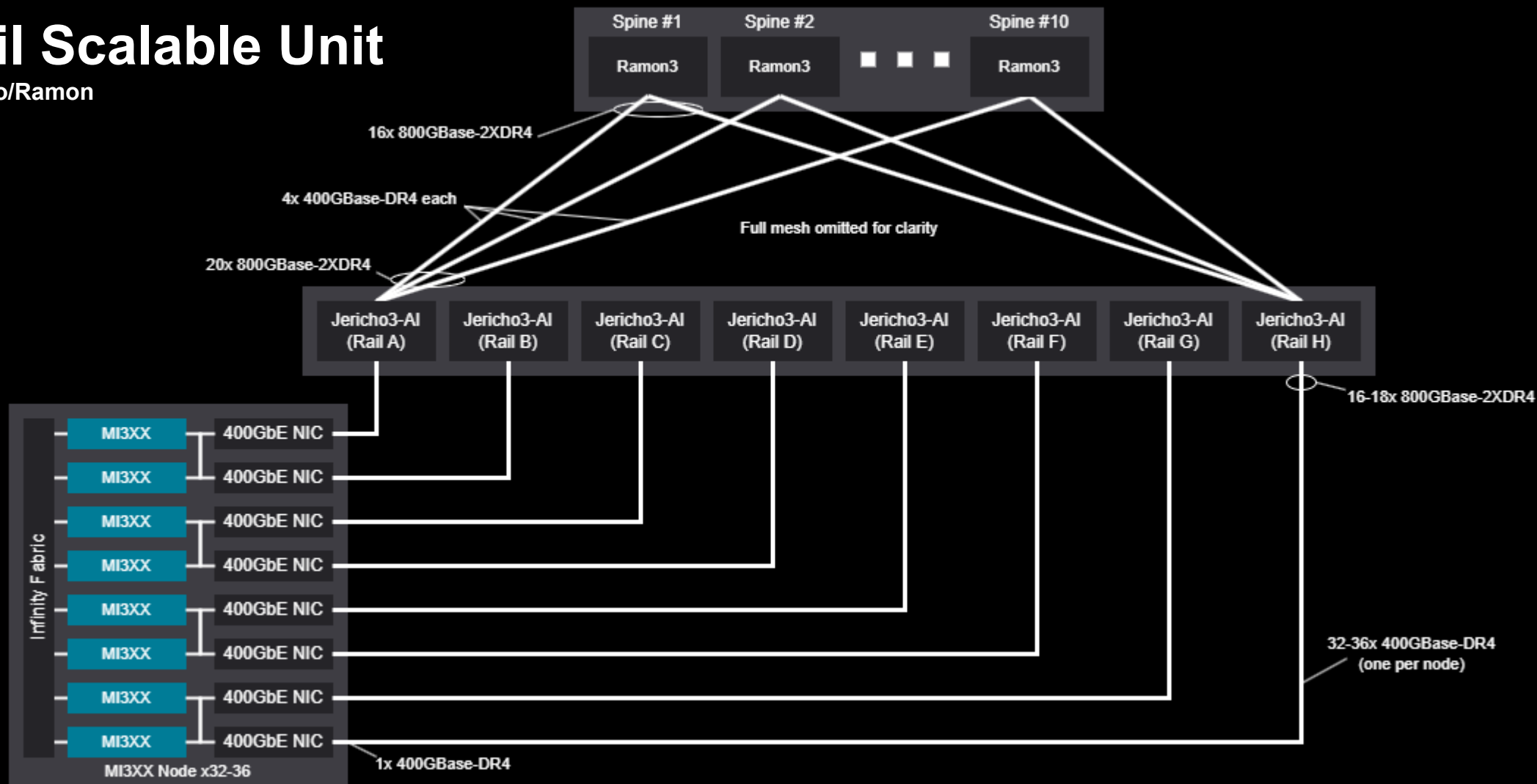
Rail Design

Jericho/Ramon



Rail Scalable Unit

Jericho/Ramon



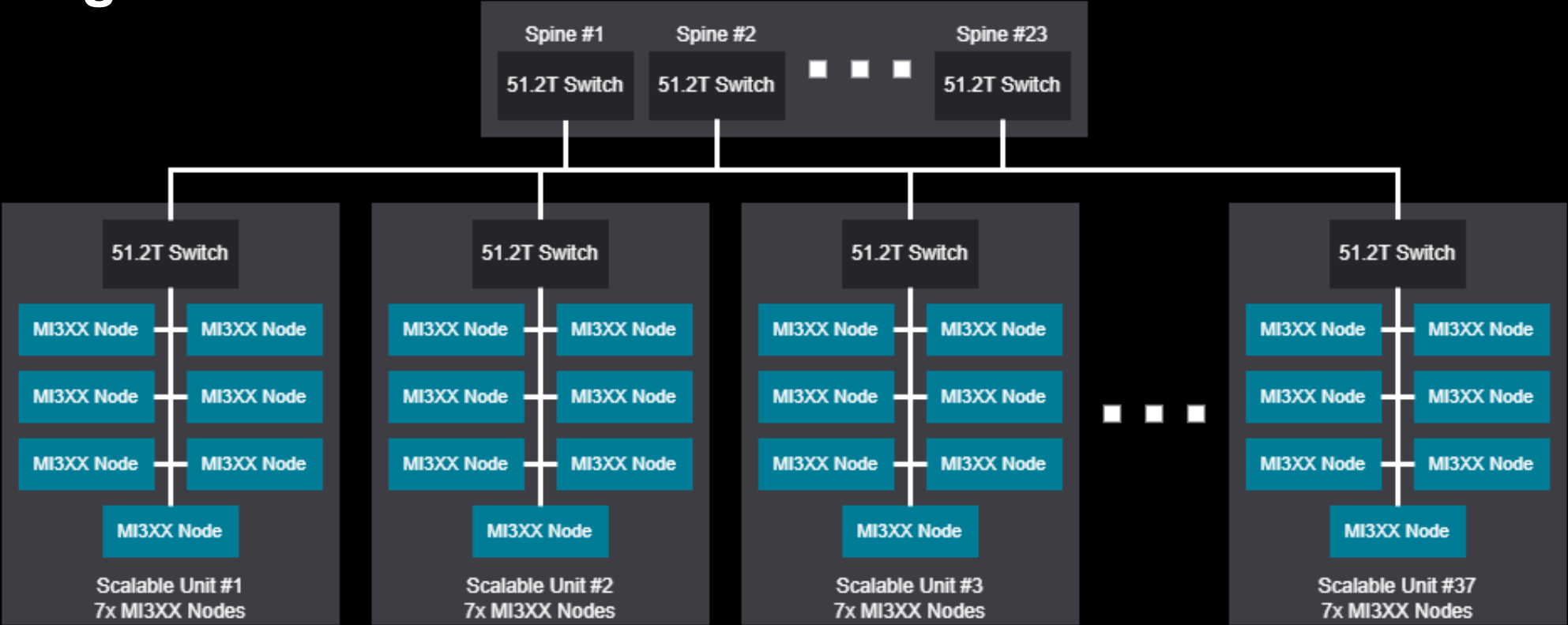
2K GPU Topology Design Examples

51.2T

Network Diagram - 2072 GPU (259 Nodes)

Tree Design

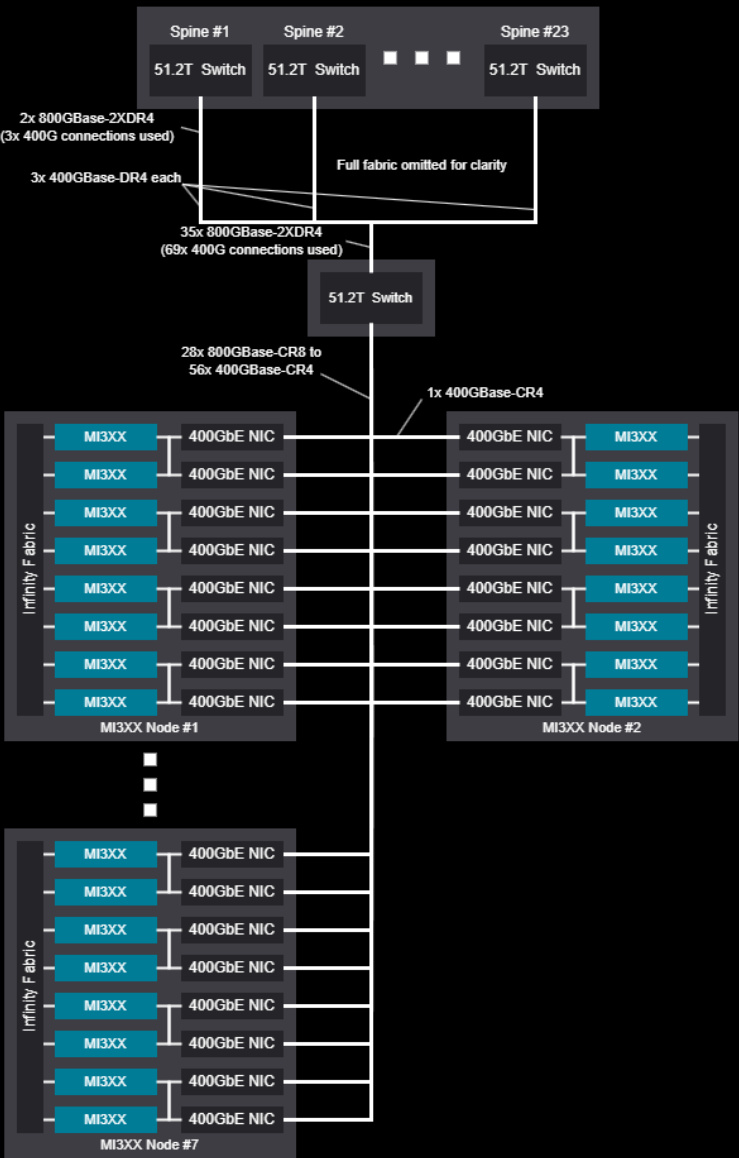
51.2T



Network Diagram - 2072 GPU (259 Nodes)

Tree Scalable Unit

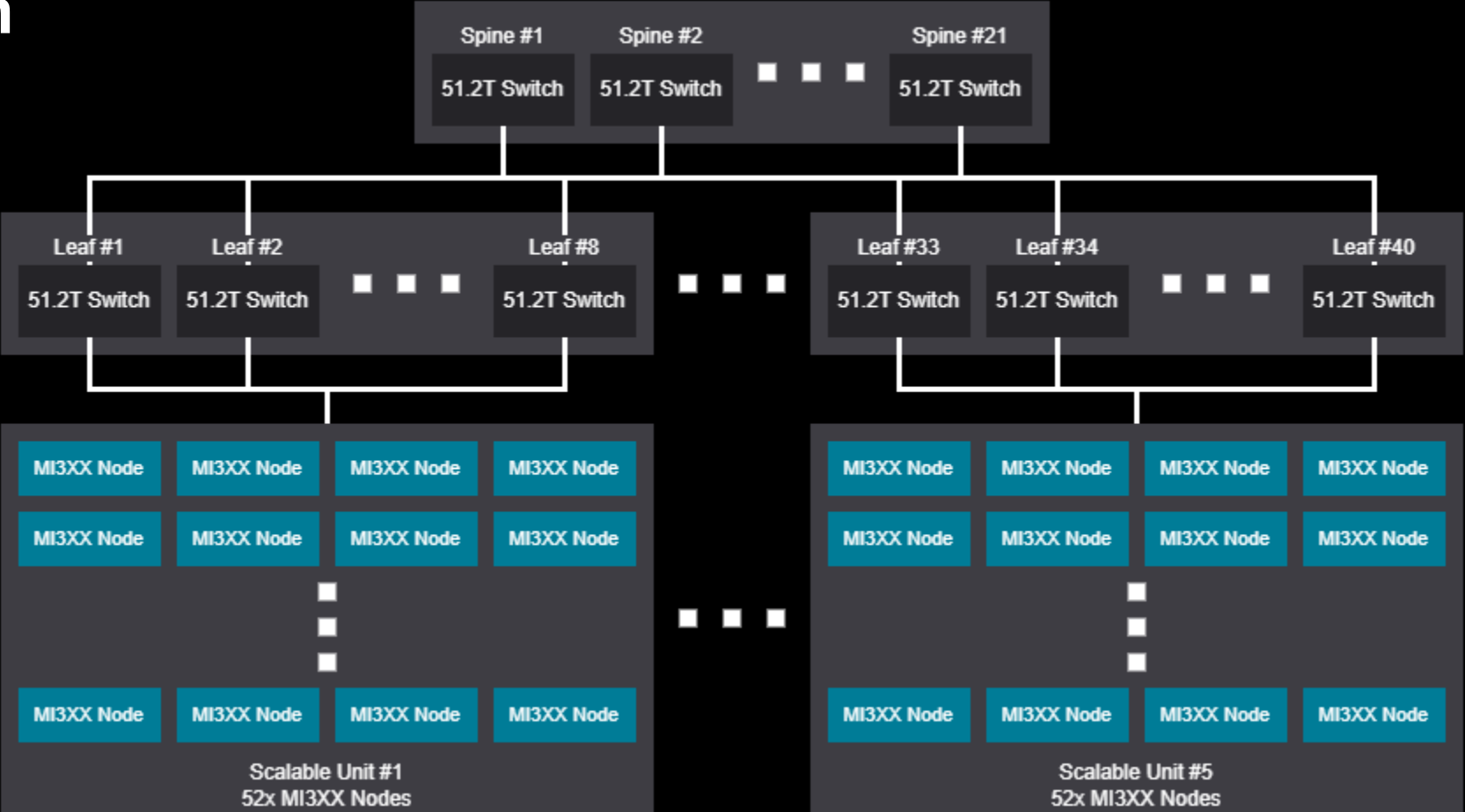
51.2T



Network Diagram - 2080 GPU (260 Nodes)

Rail Design

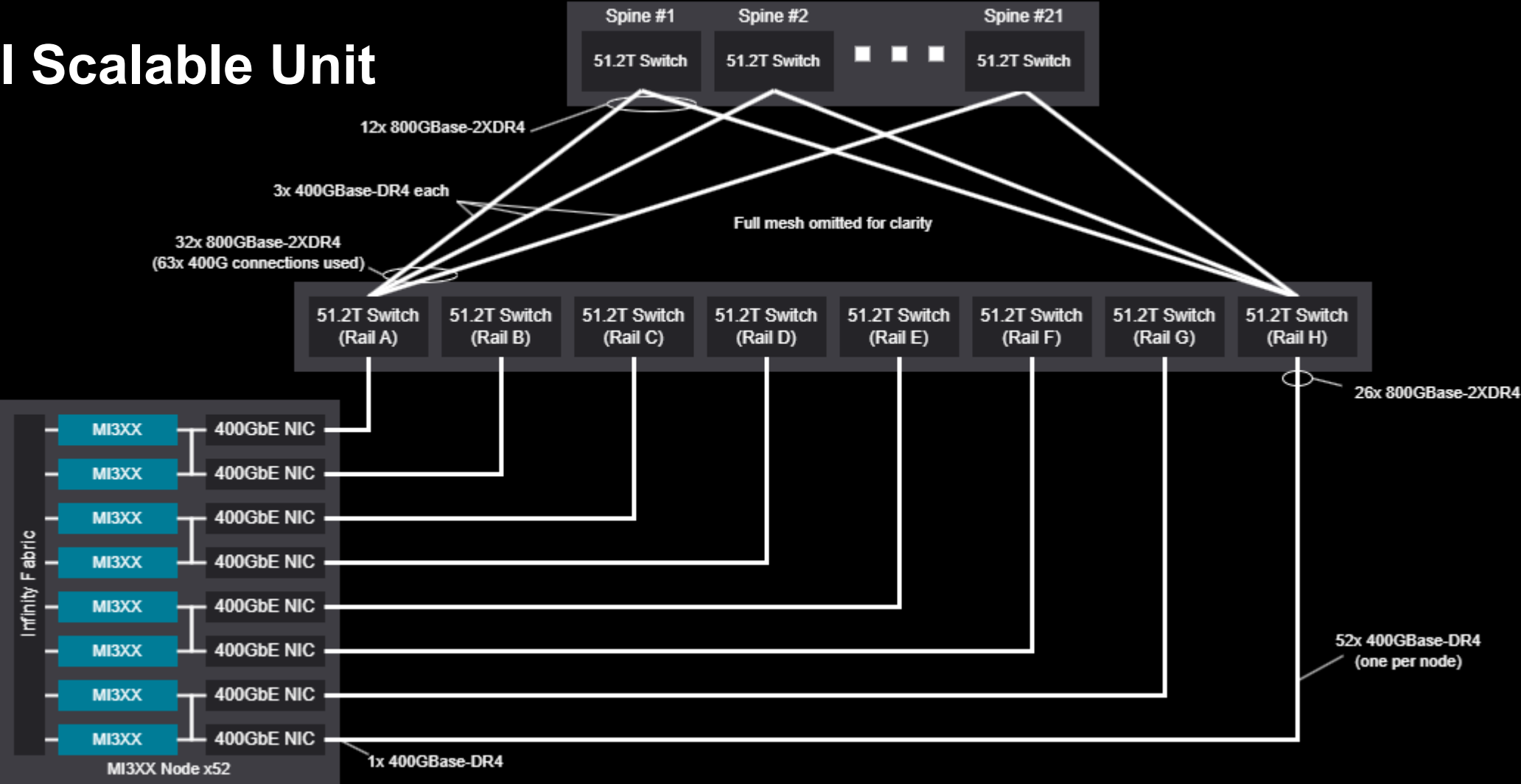
51.2T



Network Diagram - 2080 GPU (260 Nodes)

Rail Scalable Unit

51.2T





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