Reference Network Design Architecture MI3XX series

8K GPU

Version 4.0 – August 2025

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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.

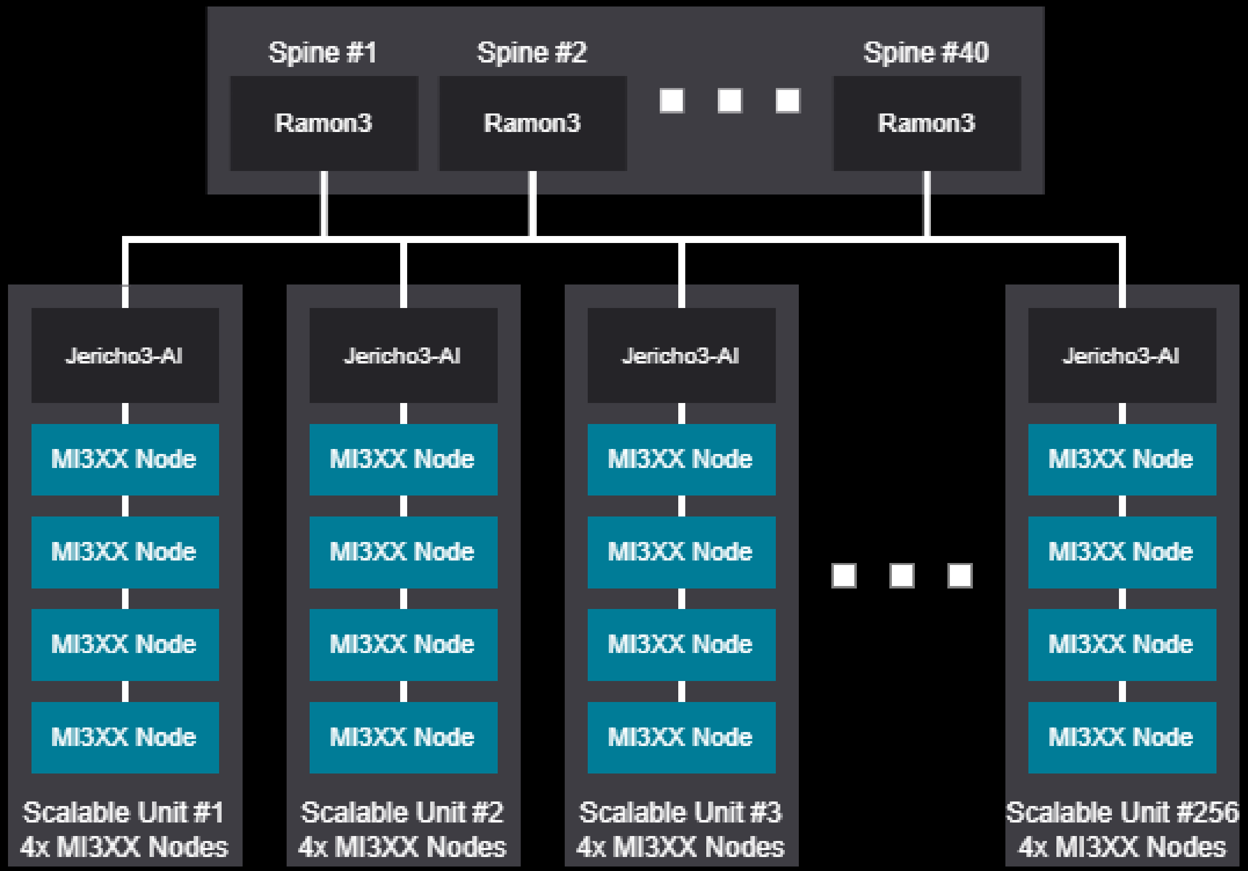
Certain ML/AI workloads may require change of scalable unit size. Please consult with AMD Architecture as required.

8K GPU Topology Design Examples
Jericho/Ramon

Network Diagram - 8192 GPU (1024 Nodes)

Tree Design

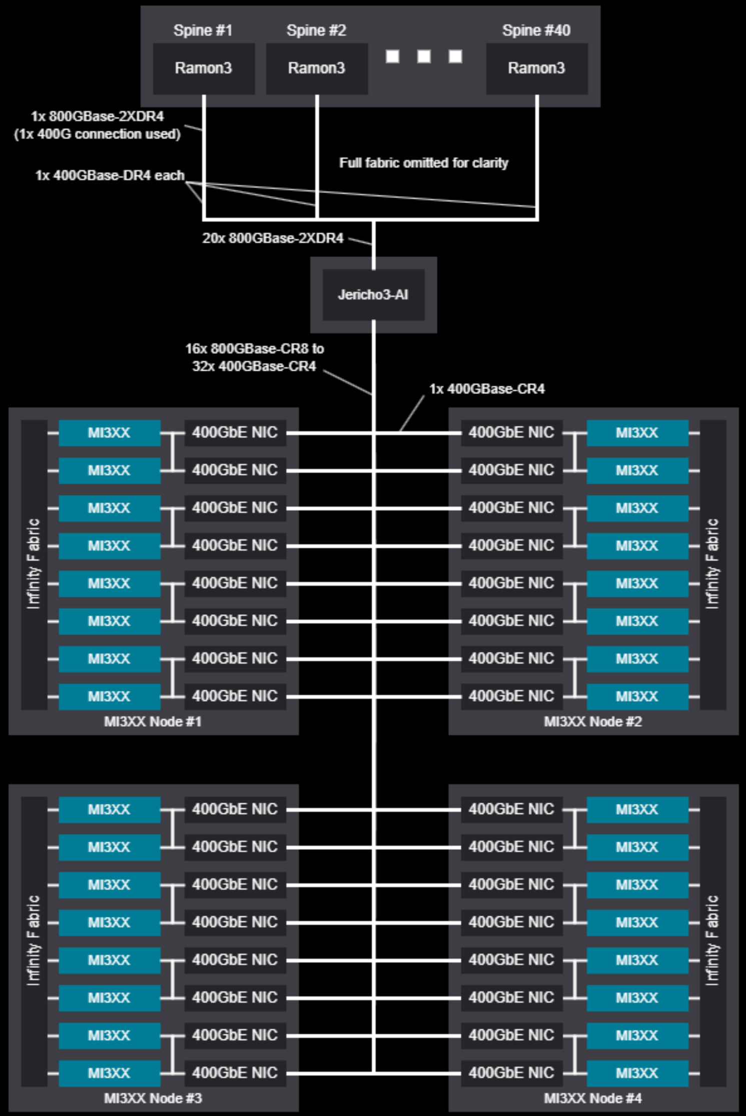
Jericho/Ramon



Network Diagram - 8192 GPU (1024 Nodes)

Tree Scalable Unit

Jericho/Ramon



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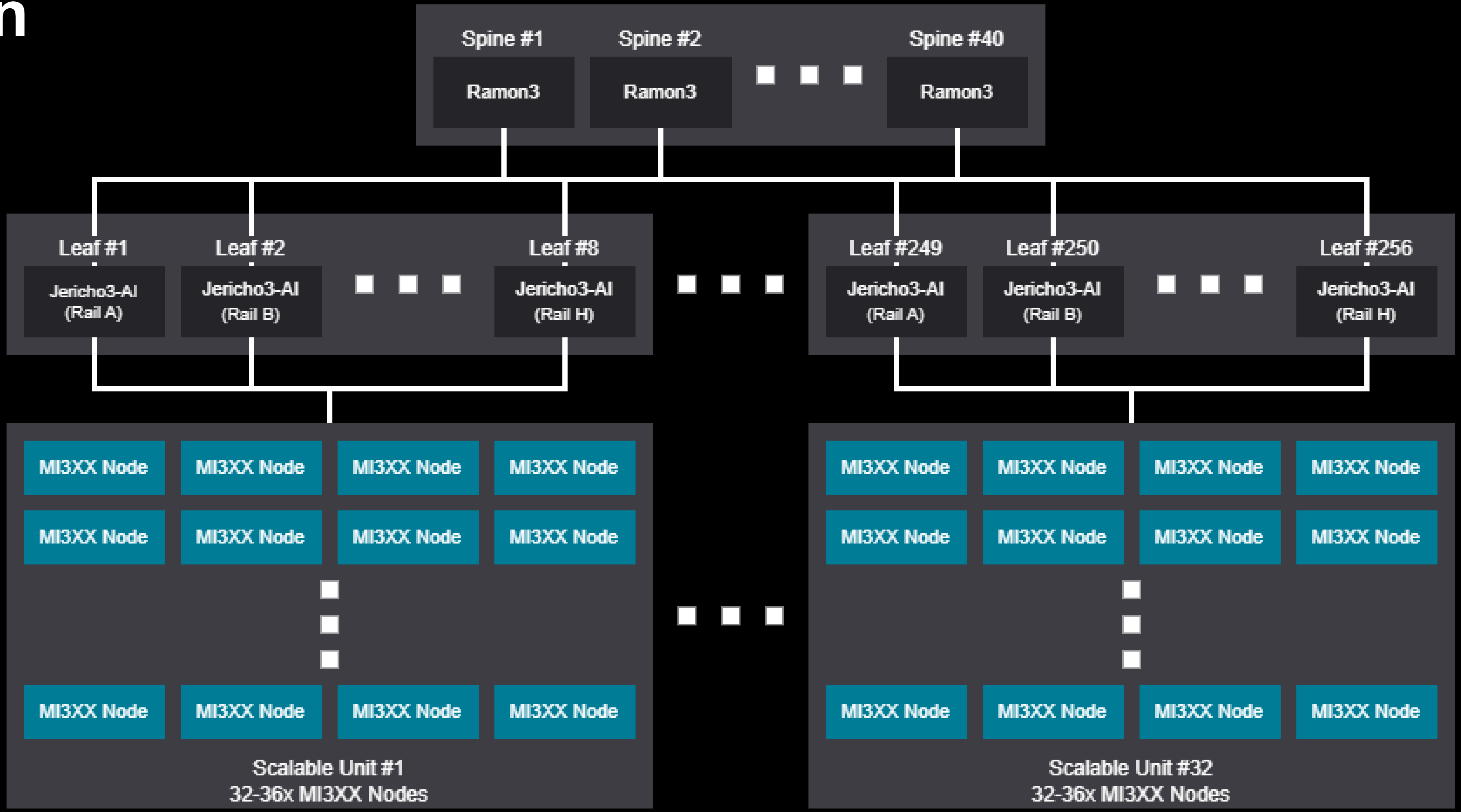
Network Diagram - 8192-9216 GPU (1024-1152 Nodes)

Rail Design

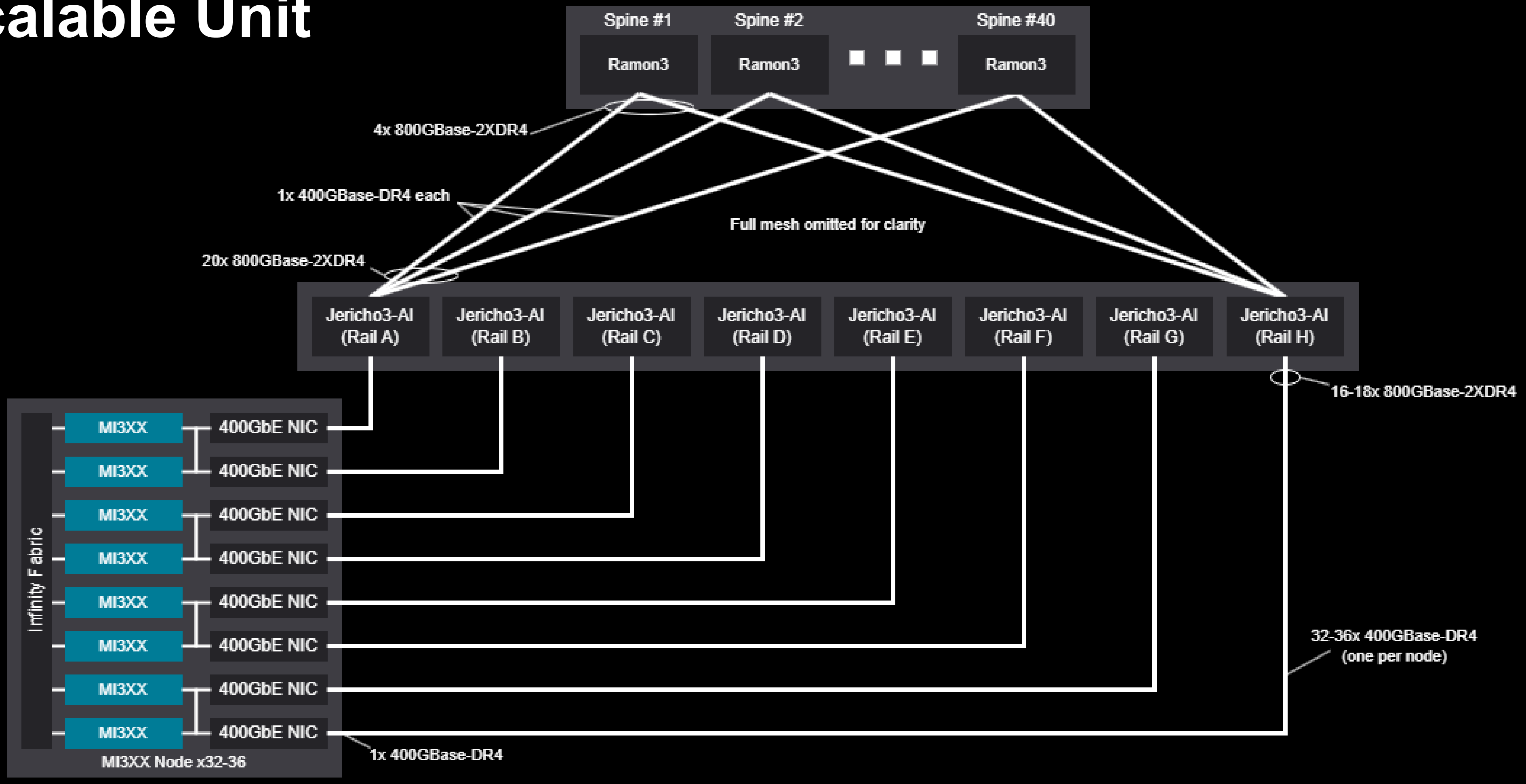
Jericho/Ramon



Network Diagram - 8192-9216 GPU (1024-1152 Nodes)

Rail Scalable Unit

Jericho/Ramon



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