



Inspur Whistler 3U 4-Socket Olympus Server

Inspur 4 Socket Olympus Server

- **EFFICIENCY**

- ✓ High performance 4-socket system based on Intel Purley platform
- ✓ Driving GPU acceleration training workloads when serving as compute head node
- ✓ Support more CPU cores and memory capacity. Improved 42% training performance on certain deep learning framework comparing to 2S

- **SCALABILITY**

- ✓ To as head node provide High PEIC expansion ability to scale up build 8/16/32 GPU Cluster System
- ✓ Support varies of SKUs by changing the front panel and riser modules to support different AI and database application
- ✓ Support 2/4 socket configuration based on the workload
- ✓ Support Rack scale Management



- **Openness**

- ✓ Comply with standard 19" rack and Project Olympus rack specification
- ✓ Contribute the Mother Board, system design specification and related documents to OCP

- **IMPACT**

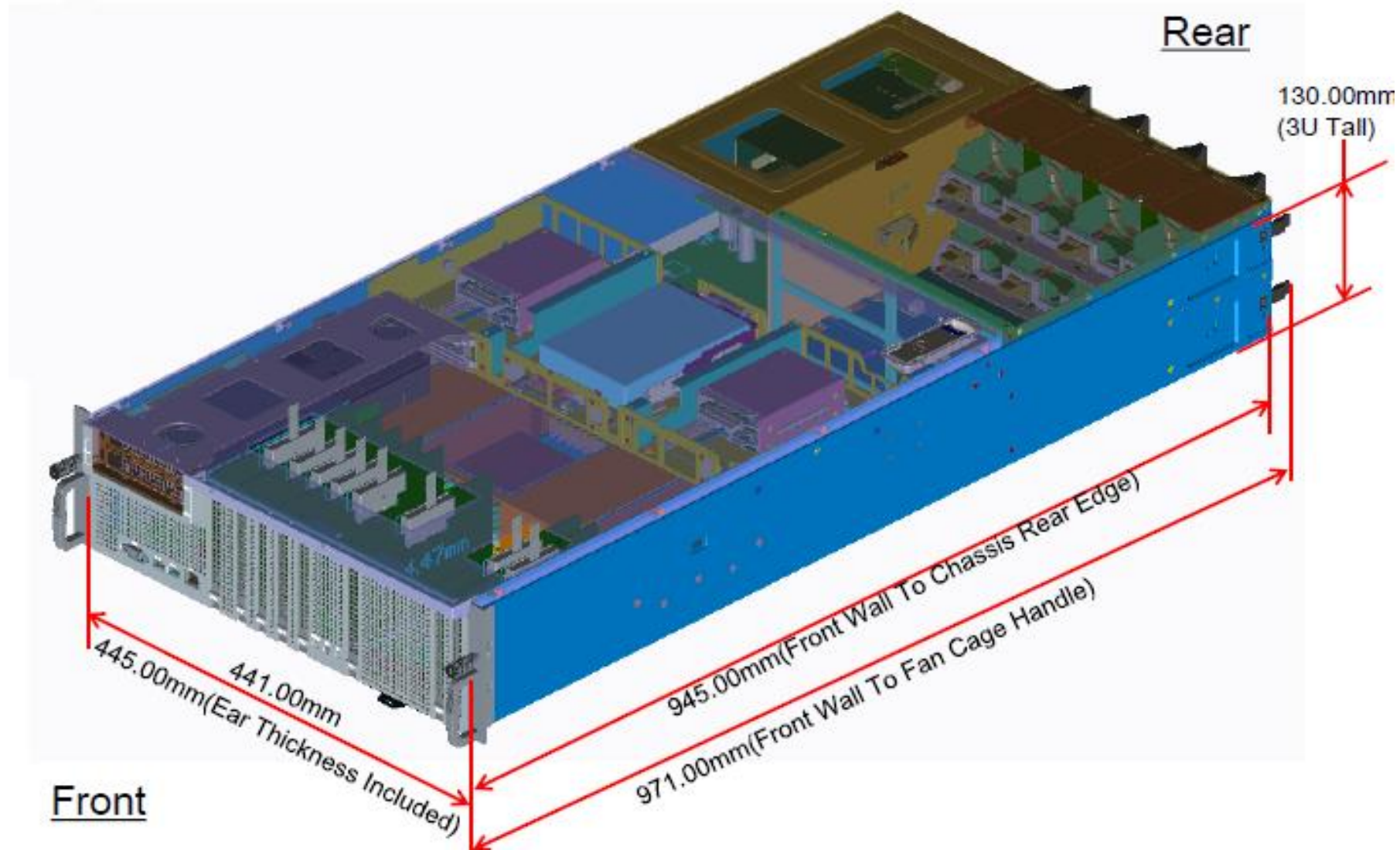
- ✓ Provide a high scale up architecture to use 4 Socket platform to connect 8/16/32 GPU system and drive GPU acceleration training workloads for AI scenario
- ✓ Enabling high density NVMe acceleration for real-time decision database applications
- ✓ The 4 Socket Olympus product contribute to OCP
- ✓ Take 4 Socket new technology and product to enriching the OCP ecosystem

Server Specification

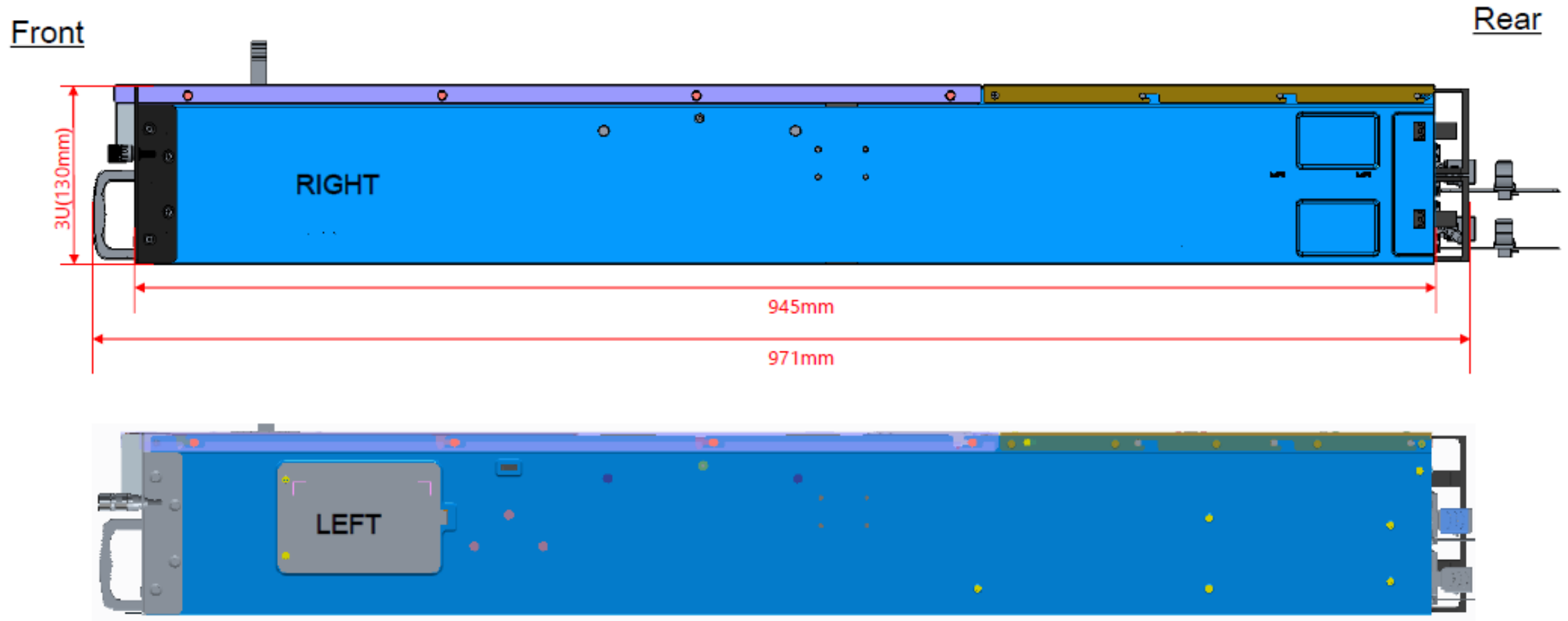
Specification	
Form Factor	3U
CPU	Up to 4* Xeon Scalable Processor
Memory	48*DDR4 DIMM slots, up to 2666/2933 RDIMM/LRDIMM, 6TB max
	Support 24*AEP
	Support 2* 16G NVDIMM
Chipset	Intel Lewisburg
Ethernet	1* Dedicated MGT 1GbE
Management	AST2500
PCIE Slot	GPU SKU: support 8*x16 sliver connector risers for GPU Box interconnection, 2*x16 slots for FPGA or other Add-in card Database SKU: support 10* PCIe x16 slots (4 FHFL + 6 FHHL) *Each x16 slot supports a M.2 riser which can hold 4* PCIe x4 M.2 SSD *Motherboard supports extra x8 Oculink connector and USB debug header
Storage	Support 5*PCIe x4 M.2 onboard + 1* 3.5" HDD *Database SKU supports up to 45* PCIe x4 NVMe M.2
Front I/O	2*USB3.0; 1*1G MGT RJ45; 1*VGA, System Power Button with LED; System Reset Button; System UID Button with LED
Fan	8*6056; N+1 Redundant; Hot-swap
TPM	TPM2.0(SPI)
PSU	CRPS 1600W PSU*4 (2+2 redundancy) + Power Management Connection to stand-alone rack manager

4 Socket Olympus Overview

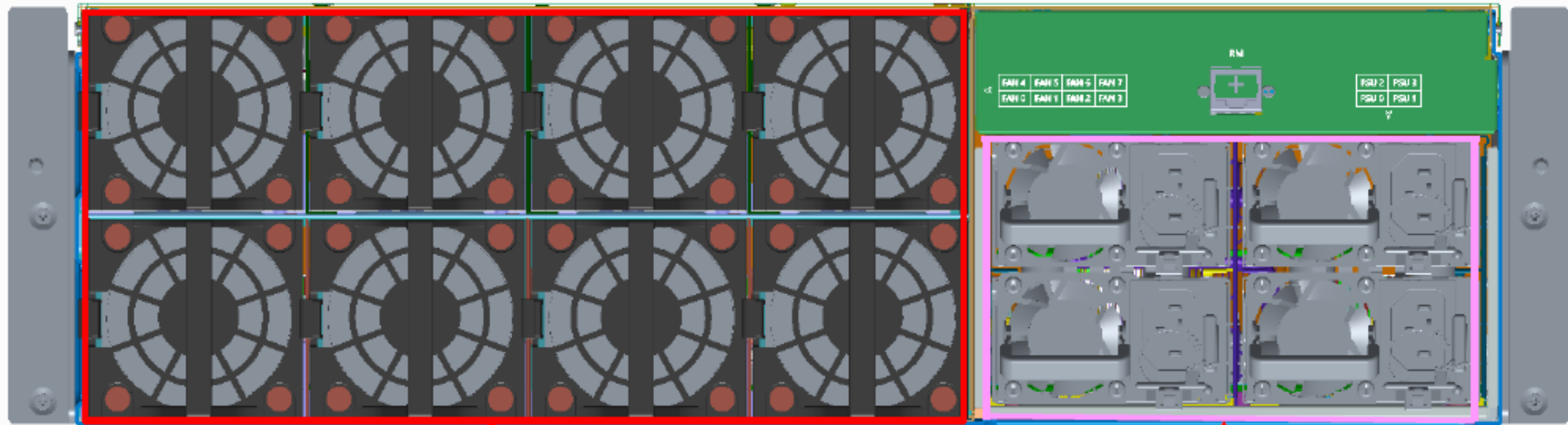
4 Socket Olympus System Overview



4 Socket Olympus System Side View



4 Socket Olympus System Rear View



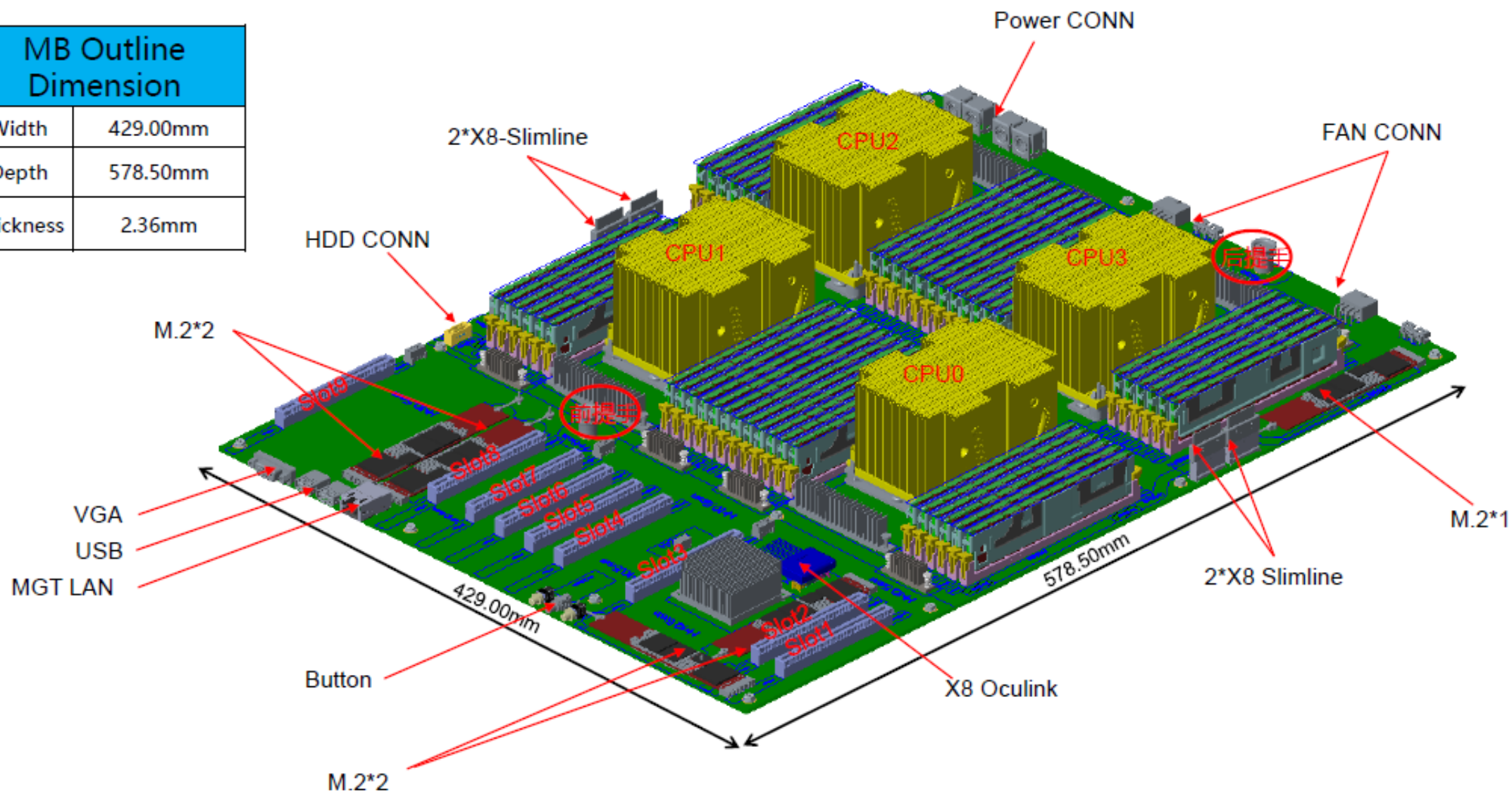
System Fan Module(8x 6056 Type)

4X CRPS PSU

4 Socket Olympus System MB Placement

MB Outline
Dimension

Width	429.00mm
Depth	578.50mm
Thickness	2.36mm



4 Socket Olympus for GPU Application

4 Socket Olympus System GPU Application Configuration

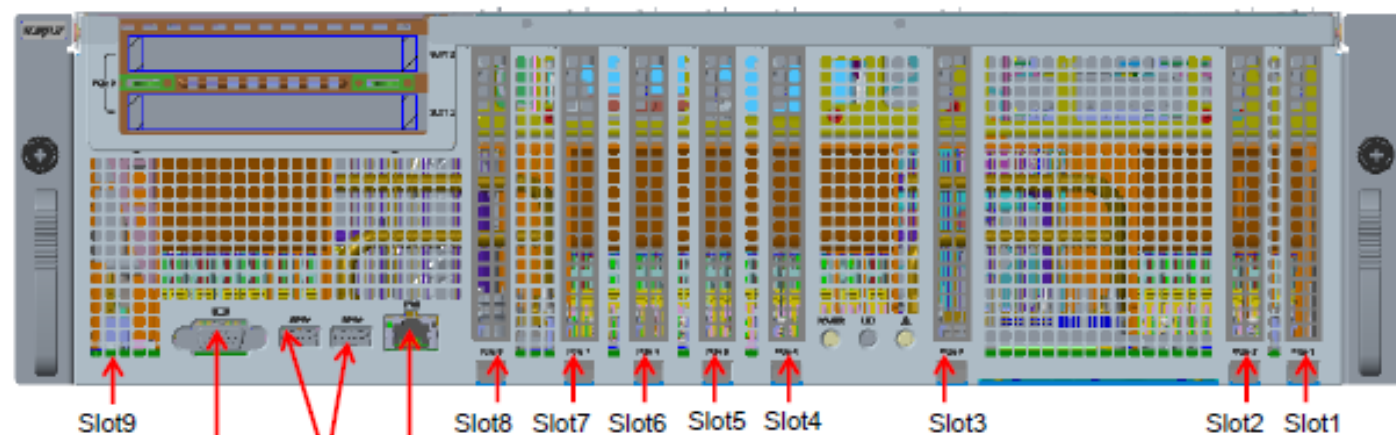


Olympus 4S system can serve as head node to connect with 1, 2 or 4 GPU expansion boxes (such as HGX-1).

Bring up to 8* PCIe x16 links for CPU-GPU communications. Great scale-up capacity for large neural network models.

Support more CPU cores and memory capacity. Improved 42% training performance on certain deep learning framework comparing to 2S.

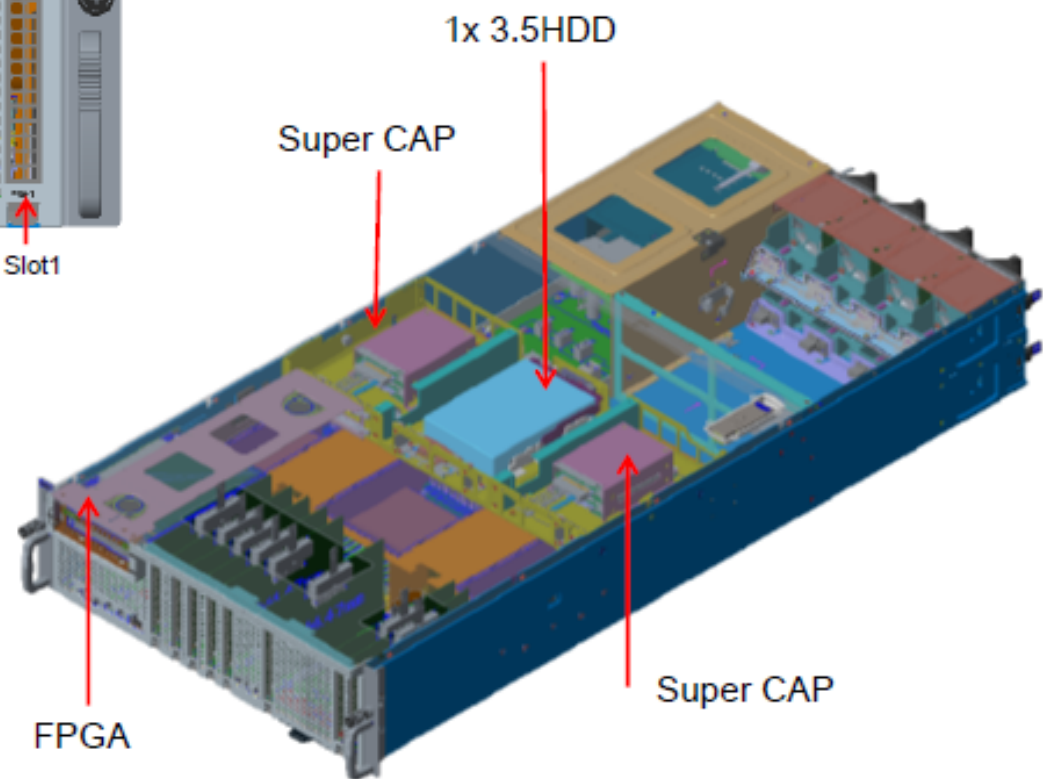
4 Socket Olympus System GPU Application Configuration



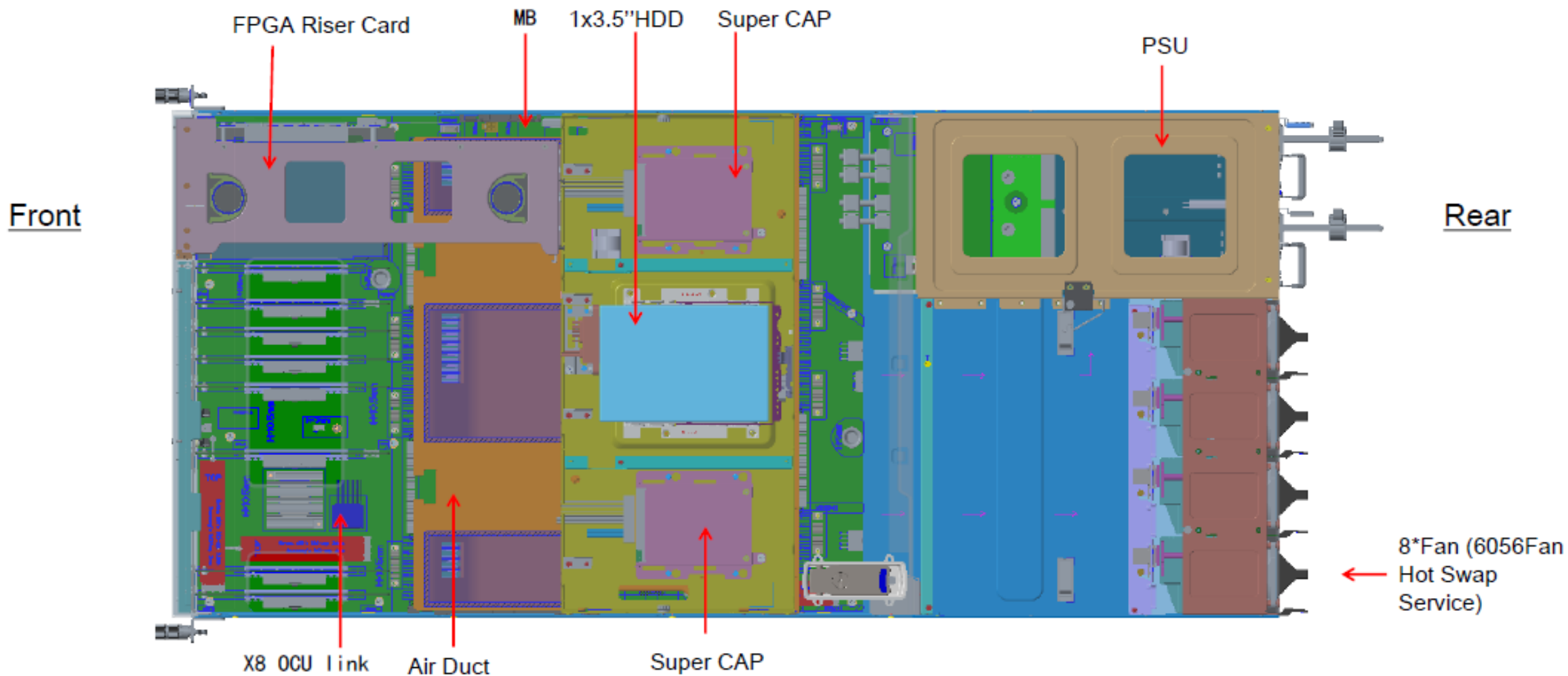
VGA USB RJ45

Slot 9: Riser

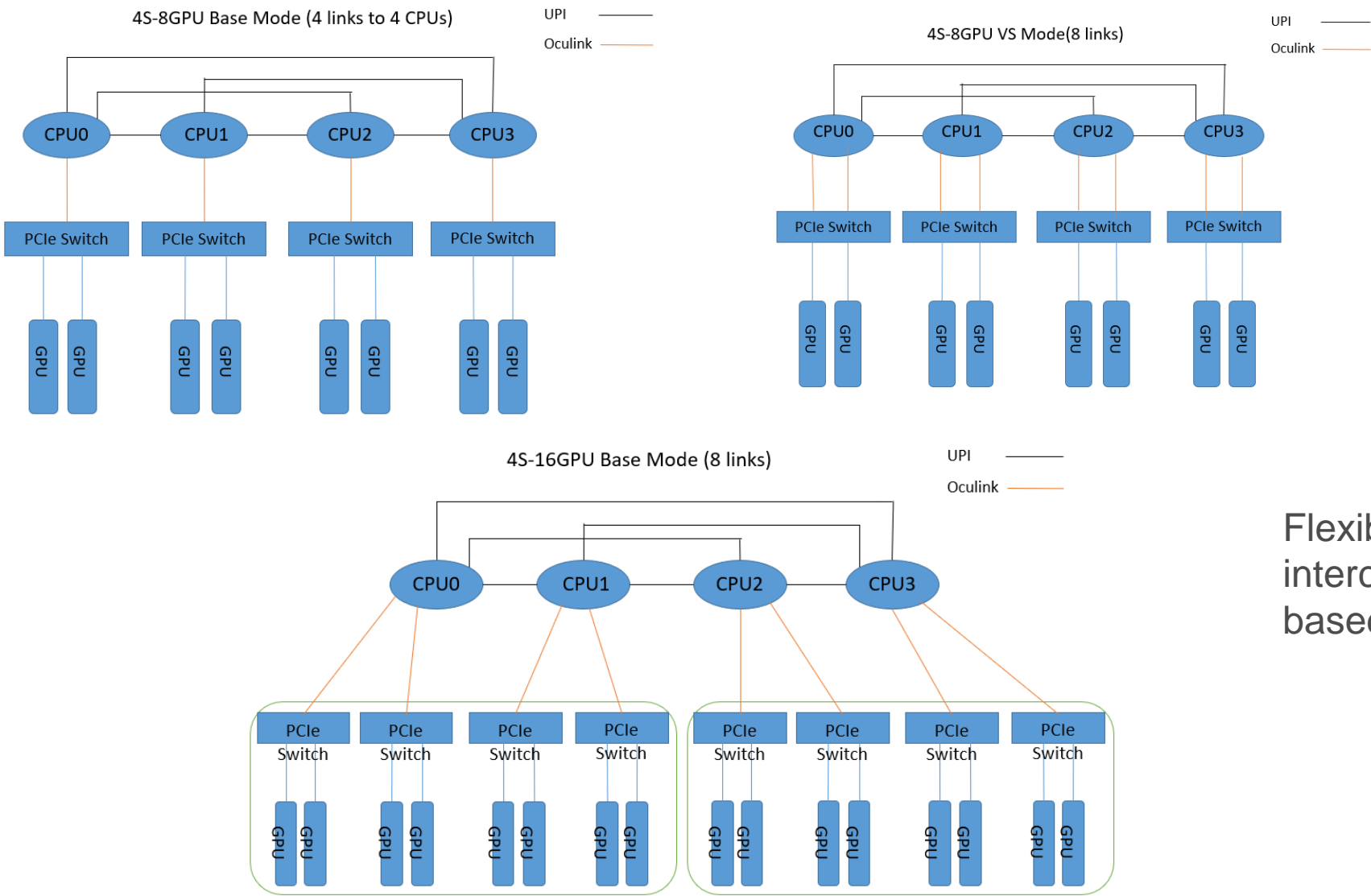
Slot 1,2,3,4,5,6,7,8: GPU Riser Card



4x Socket Olympus System GPU Configuration Top View



System Topology



Flexible CPU-GPU
interconnection topologies
based on different workloads


4 Socket Olympus for Database Application

4 Socket Olympus System Data Base Application Configuration

TPC-H Result Highlights As of 27-Jun-2019 at 9:25 PM [GMT]

inspur **Inspur NF8380M5**
Reference URL: <http://www.tpc.org/3334>

Benchmark Stats

Result ID:	118100101
Status: 	Accepted Result
Report Date:	10/01/18
TPC-H Rev:	2.17.3

System Information

Total System Cost:	825,114 USD
Performance	1,100,113 QphH@10000GB
Price/Performance	.76 USD per QphH@10000GB
TPC-Energy Metric	Not reported
Availability Date	12/03/18
Database Manager	Microsoft SQL Server 2017 Enterprise Edition
Operating System	Microsoft Windows Server 2016 Standard Edition

Server Specific Information

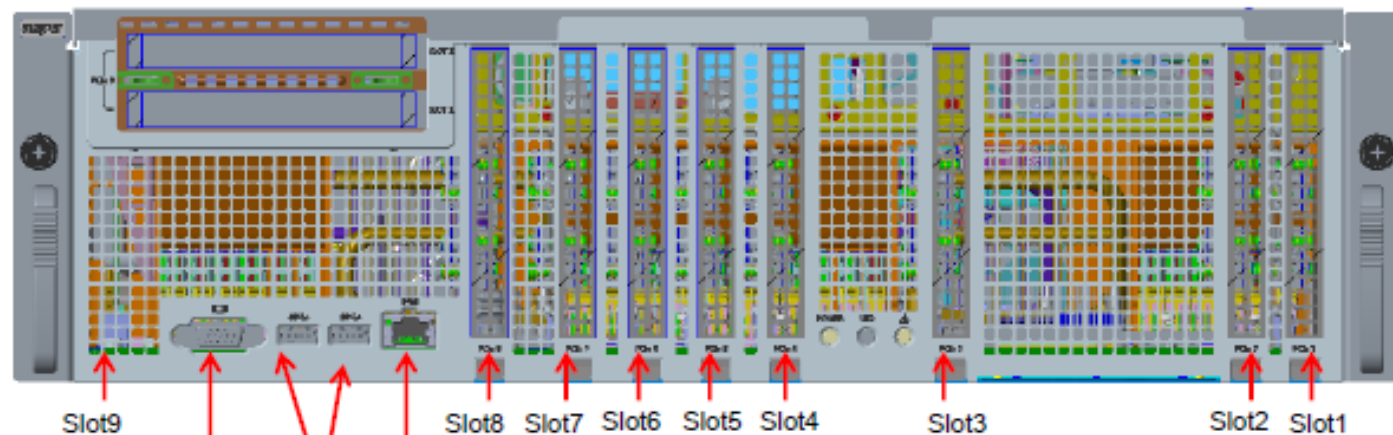
CPU Type:	Intel Xeon Platinum 8168 2.7GHz
Total # of Processors:	4
Total # of Cores:	96
Total # of Threads:	192
Cluster:	No
Load Time (hours):	5.97
Total Storage/Database Size Ratio:	3.71

Olympus 4S server can serve as stand-alone database server. Optimized for intensive data warehousing applications.

Using M.2 SSD riser cards, the system can support up to 37* 2280/22100 PCIe4 M.2 SSDs.

Demonstrated great I/O bandwidth and performance on industry database Decision Support Benchmark TPC-H

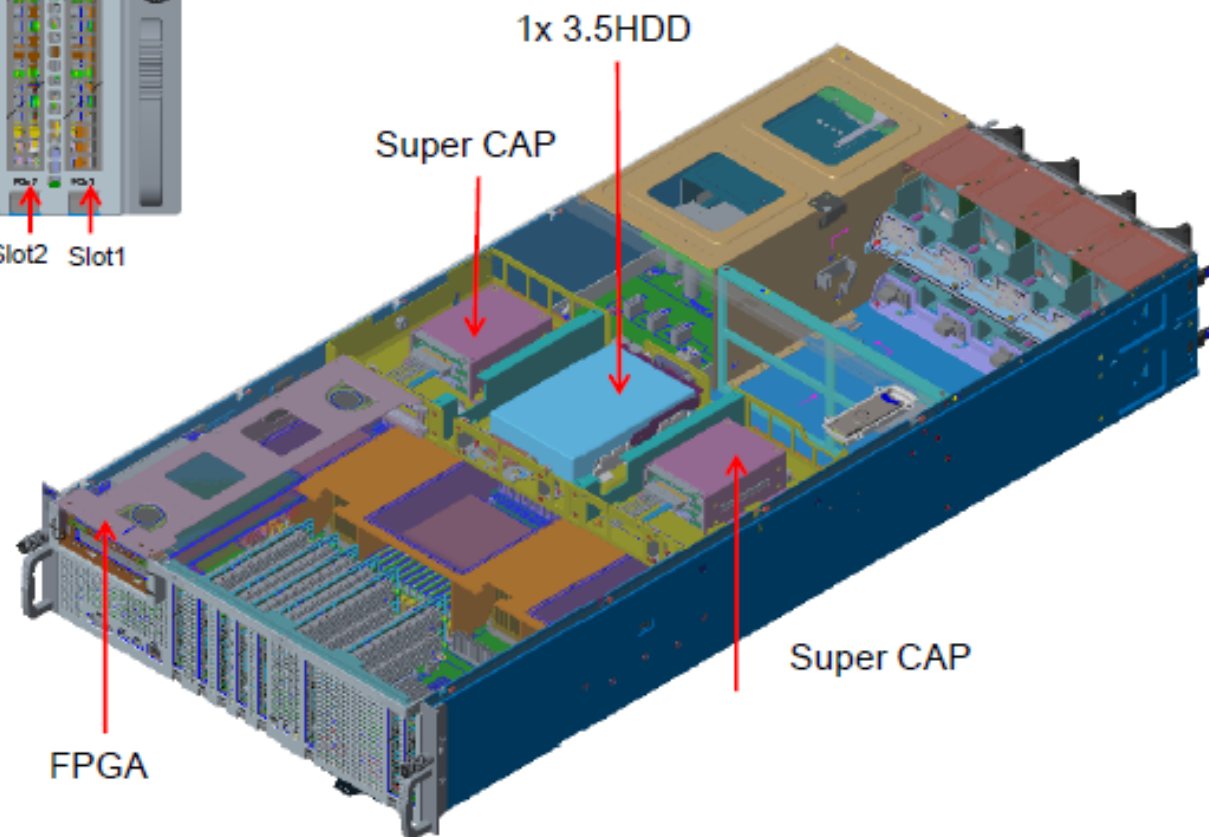
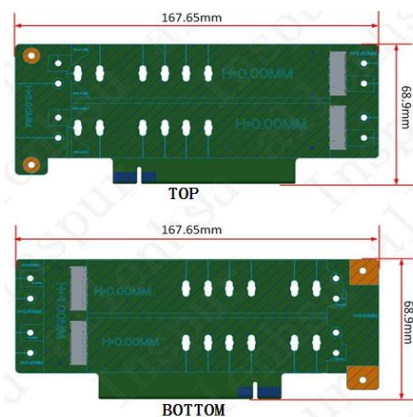
4x Socket Olympus System Data Base Application Configuration



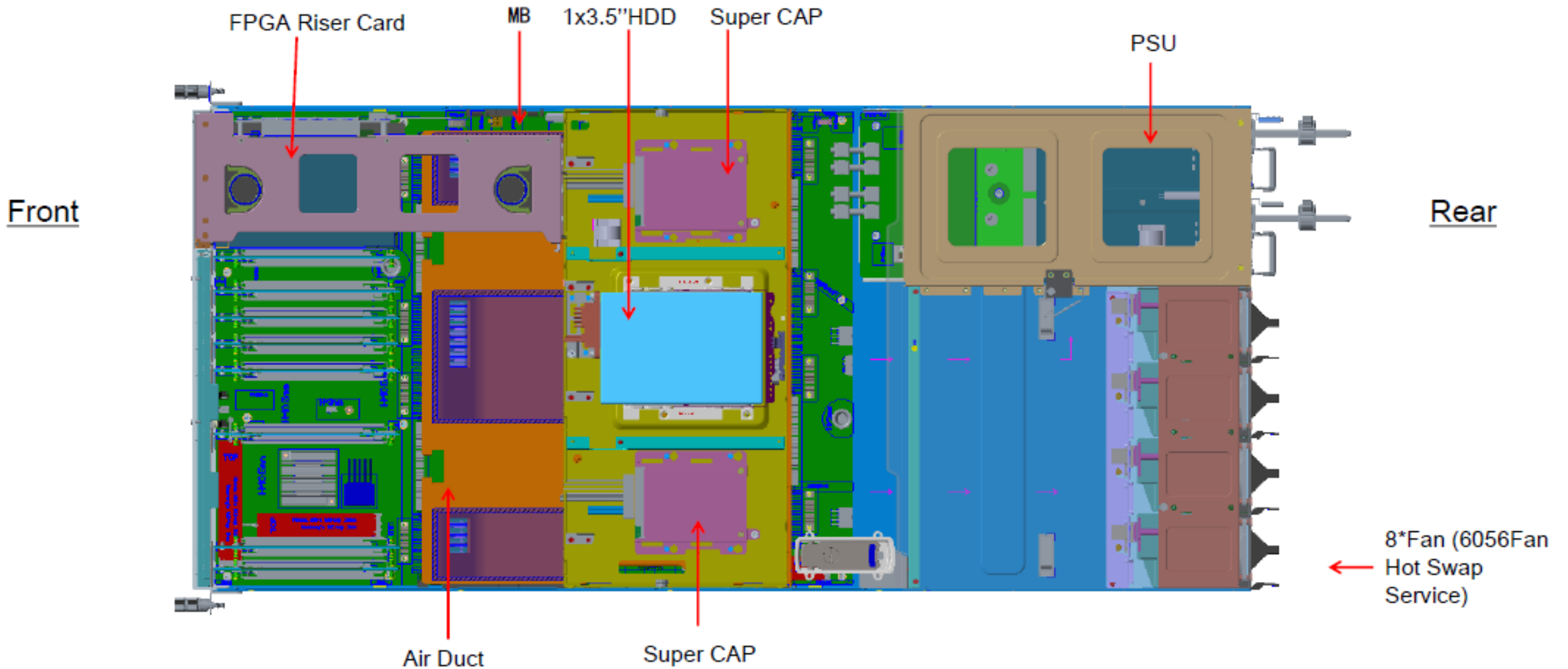
VGA USB RJ45

Slot 9: Riser

Slot 1,2,3,4,5,6,7,8: M2 Riser Card



4x Socket Olympus System DataBase Configuration Top View



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Thank You