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

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form Factor</strong></td>
<td>3U</td>
</tr>
<tr>
<td><strong>CPU</strong></td>
<td>Up to 4* Xeon Scalable Processor</td>
</tr>
</tbody>
</table>
| **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* PCIEx16 slots (4 FHFL + 6 FHHL)  
|                   | *Each x16 slot supports a M.2 riser which can hold 4* PCIEx4 M.2 SSD  
|                   | *Motherboard supports extra x8 Oculink connector and USB debug header |
| **Storage**       | Support 5*PCIEx4 M.2 onboard + 1* 3.5” HDD  
|                   | *Database SKU supports up to 45* PCIe4 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 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**

<table>
<thead>
<tr>
<th>Width</th>
<th>429.00mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth</td>
<td>578.50mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>2.36mm</td>
</tr>
</tbody>
</table>
4 Socket Olympus for GPU Application
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

Slot 9: Riser
Slot 1,2,3,4,5,6,7,8: GPU Riser Card
4x Socket Olympus System GPU Configuration Top View

- FPGA Riser Card
- MB
- 1x3.5"HDD
- Super CAP
- PSU
- Front
- Rear
- X8 QCU link
- Air Duct
- Super CAP

8*Fan (6056 Fan Hot Swap Service)
System Topology

Flexible CPU-GPU interconnection topologies based on different workloads.
4 Socket Olympus for Database Application
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 PCIex4 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

Slot 9: Riser
Slot 1, 2, 3, 4, 5, 6, 7, 8: M2 Riser Card

1x 3.5HDD
Super CAP
FPGA
Super CAP
Thank You