

## H231-H60

High Density Server - DP 2U 2 Nodes Server



### Features

- Supports up to 2 x double slot GPU cards
- NVIDIA® validated GPU platform; Supports for NVIDIA® Tesla®
- 2U - 2 nodes with rear access to the node trays
- 2nd Gen. Intel® Xeon® Scalable Processors
- 6-Channel RDIMM/LRDIMM DDR4, 64 x DIMMs
- Supports Intel® Optane™ DC Persistent Memory
- 2 x Dedicated management ports
- 1 x CMC global management port
- 4 x 2.5" NVMe, 20 x 2.5" SATA/SAS hot-swap HDD/SSD bays
- 4 x Low profile PCIe Gen3 expansion slots
- 2 x OCP Gen3 x16 mezzanine slots
- Aspeed® AST2500 remote management controller
- 1+1 2200W 80 PLUS Platinum redundant PSU

### Intel® Xeon® Scalable Family Processors

GIGABYTE's Intel® Xeon® Scalable Processor family servers are available in dual socket configurations, and are compatible with the full family of different SKUs (Bronze, Silver, Gold and Platinum) that are workload optimized to support different applications, from enterprise IT database, cloud and storage to the most high-demand HPC workloads.

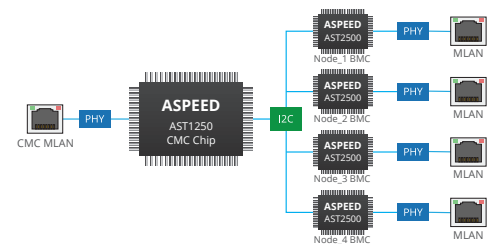


### NVIDIA® Tesla® V100 Support

GIGABYTE's Intel® Xeon® Scalable servers and motherboards are fully compatible and qualified to use with NVIDIA's Tesla® V100 GPU, an advanced data center GPU built to accelerate AI, HPC, and graphics. Powered by NVIDIA's Volta™ architecture and with 640 Tensor Cores, the Tesla® V100 has broken the 100 teraflops (TFLOPS) barrier of deep learning performance — enabling data scientists, researchers, and engineers to tackle challenges that were once impossible.

### CMC for Chassis Management & Multi-Node Monitoring

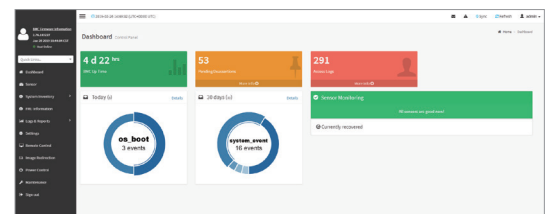
GIGABYTE's H-Series Servers feature an Aspeed CMC (Central Management Controller) for chassis-level management and node-level monitoring (by connecting internally to Aspeed BMCs integrated on each node). This results only in one MLAN connection required to perform monitoring of all four nodes\*, resulting in less ToR (Top of Rack) cabling and switch connections.



### GIGABYTE Management Console (AMI MegaRAC SP-X)

This GIGABYTE server product utilizes a AMI MegaRAC SP-X platform for BMC server management, with a feature rich and easy to use browser-based graphical user interface.

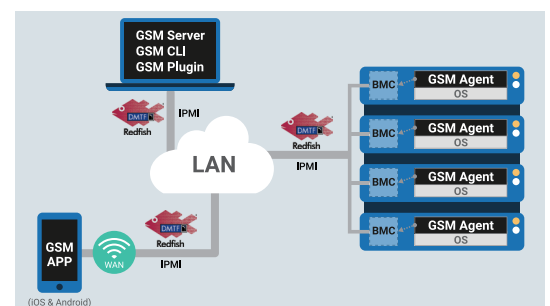
- **RESTful API support** (including the latest DMTF standards of Redfish) allows the administrator to integrate with 3rd party applications for server management
- **HTML5-based iKVM** remote management client included as a standard feature, no additional add-on license required to purchase
- **Detailed FRU information** from SMBIOS
- **Pre-event automatic video recording** feature from 10 to 30 seconds
- **SAS / RAID controller monitoring** feature



### GIGABYTE Server Management (GSM)

GIGABYTE Server Management (GSM) is GIGABYTE's proprietary multiple server remote management software platform, available as a free download from each GIGABYTE server product page. GSM is compatible with either IPMI or Redfish (RESTful API) connection interfaces, and comprises the following sub-programs:

- **GSM Server**
- **GSM CLI**
- **GSM Agent**
- **GSM Mobile**
- **GSM Plugin**



## Specification

<b>Dimensions (WxHxD)</b>	2U 2 Nodes - Rear access 440 x 87 x 820 mm	<b>Power Supply</b>	1+1 2200W 80 PLUS Platinum redundant PSUs  AC Input: - 100-127V~/ 14A, 47-63Hz - 200-240V~/ 12.6A, 47-63Hz  DC Output: - Max 1200W/ 100-127V~ +12.12V/ 95.6A +12Vsb/ 3.5A - Max 2200W/ 200-240V +12.12V/ 178.1A +12Vsb/ 3.5A  NOTE: The system power supply requires C19 type power cord 2000W 80 PLUS Titanium PSU as an option
<b>Motherboard</b>	MH61-HD5	<b>System Management</b>	Aspeed® AST2500 management controller GIGABYTE Management Console (AMI MegaRAC SP-X)  Dashboard JAVA Based Serial Over LAN HTML5 KVM Sensor Monitor (Voltage, RPM, Temperature, CPU Status ...etc.) Sensor Reading History Data FRU Information SEL Log in Linear Storage / Circular Storage Policy Hardware Inventory Fan Profile System Firewall Power Consumption Power Control LDAP / AD / RADIUS Support Backup & Restore Configuration Remote BIOS/BMC/CPLD Update Event Log Filter User Management Media Redirection Settings PAM Order Settings SSL Settings SMTP Settings
<b>CPU</b>	2nd Gen. Intel® Xeon® Scalable and Intel® Xeon® Scalable Processors Intel® Xeon® Platinum Processor, Intel® Xeon® Gold Processor, Intel® Xeon® Silver Processor and Intel® Xeon® Bronze Processor CPU TDP up to 165W NOTE: If only 1 CPU is installed, some PCIe or memory functions might be unavailable	<b>OS Compatibility</b>	For Cascade Lake processors: Windows Server 2012 R2 with Update Windows Server 2016 Windows Server 2019 Red Hat Enterprise Linux 7.6 (x64) or later Red Hat Enterprise Linux 8.0 (x64) or later SUSE Linux Enterprise Server 12.3 (x64) or later SUSE Linux Enterprise Server 15 (x64) or later Ubuntu 18.04 LTS (x64) or later VMware ESXi 6.0 Update3 or later VMware ESXi 6.5 Update2 or later VMware ESXi 6.7 Update1 or later Citrix XenServer 7.1.0 CU2 or later Citrix XenServer 7.5.0 or later Citrix Hypervisor 8.0.0 or later
<b>Socket</b>	Per node: 2 x LGA 3647 / Total: 4 x LGA 3647 Socket P	<b>Weight</b>	30 kg (full packaging)
<b>Chipset</b>	Intel® C621 Express Chipset	<b>System Fans</b>	8 x 80x80x38mm (16,300rpm)
<b>Memory</b>	Per node: 16 x DIMM slots / Total: 32 x DIMM slots DDR4 memory supported only 6-channel memory per processor architecture RDIMM modules up to 64GB supported LRDIMM modules up to 128GB supported Supports Intel® Optane™ DC Persistent Memory (DCPMM) 1.2V modules: 2933 (1DPC)/2666/2400/2133 MHz  NOTE: 1. 2933MHz for 2nd Generation Intel® Xeon® Scalable Processors only 2. Intel® Optane™ DC Persistent Memory for 2nd Generation Intel® Xeon® Scalable Processors only 3. The maximum number of DCPMM that can be installed is based on a maximum operating (ambient) temperature of 35°C 4. To enquire about installing a greater number of DCPMM, please consult with your GIGABYTE technical or sales representative	<b>Operating Properties</b>	Operating temperature: 10°C to 35°C Operating humidity: 8%-80% (non-condensing) Non-operating temperature: -40°C to 60°C Non-operating humidity: 20%-95% (non-condensing)  NOTE: Please contact Technical Support for more information about optimized GPU system operating temperature
<b>LAN</b>	Per node: 1 x Dedicated management port Total: 2 x Dedicated management ports 1 x 10/100/1000 *CMC global management port  * CMC: Chassis Management Controller, to monitor all status of computing nodes * Please contact FAE if NCSI function of OCP mezzanine card is needed	<b>Packaging Content</b>	1 x H231-H60, 4 x CPU heatsinks, 1 x VROC module 1 x Rail Kit, 4 x Non-Fabric CPU carrier
<b>Video</b>	Integrated in Aspeed® AST2500 2D Video Graphic Adapter with PCIe bus interface 1920x1200@60Hz 32bpp, DDR4 SDRAM Management chip in CMC board: Integrated in Aspeed® AST1250	<b>Part Numbers</b>	Barebone package: 6NH231H60MR-00 - Motherboard: 9MH61HD5NR-00 - VROC module: 25FD0-R181N0-10R - Rail kit: 25HB2-NJ2102-N1R - CPU heatsink: 25ST1-253203-F2R/25ST1-253204-F2R - Back plane board: 9CBPH000NR-00 - Power Supply: 25EPO-222001-D0S - C19 type power cord 125V/15A (US): 25CP1-018000-Q0R (in option) - C19 type power cord 250V/16A (EU): 25CP3-01830H-Q0R (in option) - C19 type power cord 250V/15A (US): 25CP1-018300-Q0R (in option) - Ring topology kit: 6NH23NR48SR-00 (in option)
<b>Storage</b>	Total: 24 x 2.5" SAS/SATA hot-swap HDD/SSD bays - 20 x 2.5" SAS/SATA hot-swap HDD/SSD bays - 4 x 2.5" NVMe or SAS/SATA hot-swap HDD/SSD bays 2 x Broadcom SAS35x24R expander Default configuration supports: 4 x U.2 and 0 x SAS/SATA drives SAS card is required to enable the drive bays	<b>Internal I/O</b>	Per node: 1 x COM header, 1 x TPM header, 1 x BMC SGPIO header, 1 x JTAG BMC header, 1 x PLD header, 1 x Clear CMOS jumper, 1 x IPMB connector, 1 x Buzzer
<b>RAID</b>	For SATA drives: Intel® SATA RAID 0/1/5/10 For NVMe drives: Intel® Virtual RAID On CPU (VROC) RAID 0, 1 NOTE: VROC module is for Intel® SSD only	<b>Front I/O</b>	Per node: 1 x Power button with LED, 1 x ID button with LED, 1 x Status LED Total: 2 x Power button with LED, 2 x ID button with LED, 2 x Status LED, 1 x CMC status LED
<b>Expansion Slots</b>	Per node: 1 x PCIe x16 slot (Gen3 x16) for GPU 1 x Half-length low-profile slot with PCIe x16 (Gen3 x16) 1 x Half-length low-profile slot with PCIe x8 (Gen3 x8) 1 x OCP mezzanine slot with PCIe Gen3 x16 Total: 2 x PCIe x16 slot (Gen3 x16) for GPU 2 x Half-length low-profile slot with PCIe x16 (Gen3 x16) 2 x Half-length low-profile slot with PCIe x8 (Gen3 x8) 2 x OCP mezzanine slot with PCIe Gen3 x16	<b>Rear I/O</b>	Per node: 2 x USB 3.0, 1 x VGA, 1 x RJ45 MLAN, 1 x ID LED Total: 4 x USB 3.0, 2 x VGA, 2 x RJ45 MLAN, 2 x ID LEDs, 1 x CMC global management port
<b>Internal I/O</b>	Per node: 1 x COM header, 1 x TPM header, 1 x BMC SGPIO header, 1 x JTAG BMC header, 1 x PLD header, 1 x Clear CMOS jumper, 1 x IPMB connector, 1 x Buzzer	<b>Backplane I/O</b>	24 x ports, 12Gb/s & 6Gb/s compatible PCIe Gen3 x4 U.2 port
<b>Front I/O</b>	Per node: 1 x Power button with LED, 1 x ID button with LED, 1 x Status LED Total: 2 x Power button with LED, 2 x ID button with LED, 2 x Status LED, 1 x CMC status LED	<b>TPM</b>	1 x TPM header with LPC interface Optional TPM2.0 kit: CTM000

\* All specifications are subject to change without notice. Please visit our website for the latest information.

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