

G481-HA1

HPC System - 4U 10 x GPU Single Root Server



Features

- Supports 5G network infrastructure
- Up to 10 x NVIDIA Tesla® V100 PCIe GPGPU cards
- 2nd Gen. Intel® Xeon® Scalable Processors
- Intel® Omni-Path architecture technology support as an option
- 6-Channel RDIMM/LRDIMM DDR4, 24 x DIMMs
- Supports Intel® Optane™ DC Persistent Memory
- 2 x 10Gb/s BASE-T LAN ports (Intel® X550-AT2)
- 2 x GbE LAN ports (Intel® I350-AM2)
- 8 x NVMe, 2 x SATA/SAS 2.5" hot-swappable HDD/SSD bays
- 12 x 3.5" SATA/SAS hot-swappable HDD/SSD bays
- 2 x low profile PCIe Gen3 expansion slots
- Aspeed® AST2500 remote management controller
- 3 x 80 PLUS Platinum 2200W 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.



Industry Leading GPU Density

Supports 10 x Computing Cards

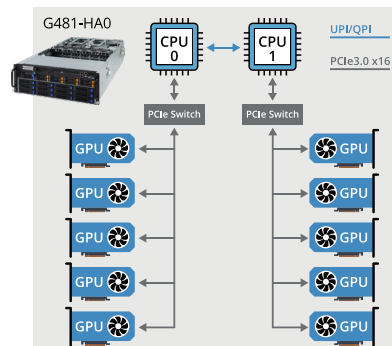
Using our expertise in thermal and mechanical design, GIGABYTE leads the HPC industry by offering some of the highest GPU density server products on the market.



Dual or Single Root Configuration Options

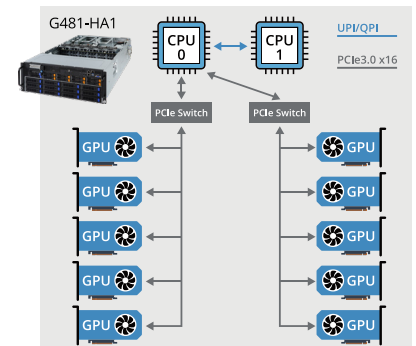
Dual-Root Configuration

Maximize efficiency for largescale deployments.



Single-Root Configuration

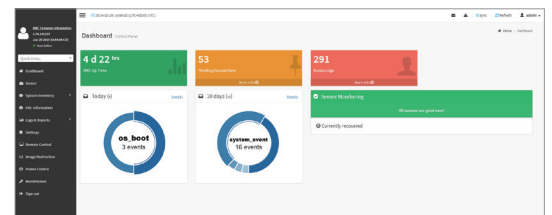
Minimize GPU to GPU latency for small scale deployments.



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.

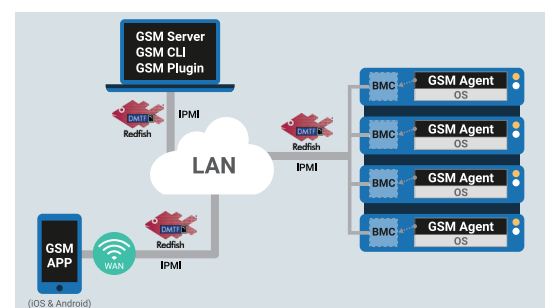
- **RESTful API support** (including the latest DMTF standards of Redfish) allows the administrator to integrate with 3rd party applications for server management
- **HTML5-based iKVM** remote management client included as a standard feature, no additional add-on license required to purchase
- **Detailed 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

| | | | |
|---------------------------|---|-----------------------------|---|
| Dimensions (WxHxD) | 4U 448 x 176 x 880 | Power Supply | 3 x 80 PLUS Platinum 2200W redundant PSUs AC Input: - 100-127V~/ 14A, 47-63Hz - 200-240V~/ 12.6A, 47-63Hz DC Output: - Max 1200W/ 100-127V~ - Max 2200W/ 200-240V +12.12V/ 95.6A +12.12V/ 178.1A +12Vsb/ 3.5A +12Vsb/ 3.5A NOTE: The system power supply requires C19 type power cord |
| Motherboard | MG61-G40 | System Management | 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 |
| CPU | 2nd Generation 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 205W NOTE: If only 1 CPU is installed, some PCIe or memory functions might be unavailable | OS Compatibility | 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 |
| Socket | 2 x LGA 3647, Socket P | Weight | Net Weight: 39 kg / Gross Weight: 58.1 kg |
| Chipset | Intel® C621 Express Chipset | System Fans | 4 x 40x40x28mm (25,000rpm), 6 x 60x60x76mm (21,700rpm) |
| Memory | 24 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 | Operating Properties | 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 operating temperature |
| LAN | Rear Side: 2 x 10Gb/s BASE-T LAN ports (Intel® X550-AT2) 1 x 10/100/1000 management LAN Front Side: 2 x 1Gb/s BASE-T LAN ports (Intel® I350-AM2) * 4 x QSFP28 LAN ports with Intel® Omni-Path Host Fabric Interface (as an option) - Provides 25Gb/s bandwidth per port, total 100Gb/s bandwidth with 4 QSFP28 LAN ports * NOTE: Please select Intel® Xeon processors with Omni-Path Architecture to enable Intel® Omni-Path Host Fabric Interface | Packaging Content | 1 x G481-HA0, 2 x CPU heatsinks, 1 x Rail kit, 1 x VROC module, 2 x Non-Fabric CPU carrier |
| Video | Integrated in Aspeed® AST2500 2D Video Graphic Adapter with PCIe bus interface 1920x1200@60Hz 32bpp, DDR4 SDRAM | Part Numbers | Barebone with rail kit: 6NG481HA1MR-00 - Motherboard: 9MG61G40NR-00 - VROC module: 25FD0-R181N0-10R - Rail kit: 25HB2-420100-CGR - CPU heatsink: 25ST1-323206-A0R - Fan module kit: 6NG481HAASR-00-100 - Storage adapter: 9CRA3338NR-00 - Power supply: 25EP0-222001-D0S - C19 type power cord 125V/15A (US): 25CP1-018000-Q0R (optional) - C19 type power cord 250V/16A (EU): 25CP3-01830H-Q0R (optional) - C19 type power cord 250V/15A (US): 25CP1-018300-Q0R (optional) |
| Storage | 12 x 3.5" hot-swappable HDD/SSD bays - Compatible with SATA/SAS devices only 10 x 2.5" hot-swappable HDD/SSD bays - 8 x amber HDD trays compatible with NVMe or SATA/SAS - 2 x blue HDD trays compatible with SATA/SAS devices only Pre-install with Broadcom SAS3008 storage adapter with IR mode and expander board Bandwidth: SATAIII 6Gb/s or SAS 12Gb/s per port | Internal I/O | 1 x TPM header, 1 x VROC connector, 1 x Front VGA header, 1 x Serial header |
| RAID | For SATA/SAS drives: Pre installed Broadcom SAS3008 SAS Card Software RAID, IR mode For NVMe drives: Intel® VROC RAID 0, 1, 10, 5 Note: VROC module is compatible for Intel®SSD only | Front I/O | 2 x USB 3.0, 1 x VGA, 2 x RJ45, 1 x MLAN (Reserved), 4 x Omni-Path QSFP28 LAN ports (Reserved), 1 x Power button with LED, 1 x ID button with LED, 1 x Reset button, 1 x NMI button, 1 x System status LED, 1 x HDD access LED, 1 x Omni-Path activity LED |
| Expansion Slots | 10 x PCIe x16 slots (Gen3 x16 bus) for GPUs 1 x PCIe x16 (Gen3 x8 bus) Half-length low-profile slot in front, occupied by CRA3338 HBA 1 x PCIe x16 (Gen3 x16 bus) Half-length low-profile slot at rear - System is validated for population with a uniform GPU model - Support is not provided for mixed GPU populations | Rear I/O | 2 x RJ45, 1 x MLAN (Primary port) |
| Internal I/O | 1 x TPM header, 1 x VROC connector, 1 x Front VGA header, 1 x Serial header | Backplane I/O | 12 x 3.5" ports and 10 x 2.5" ports |
| Front I/O | 2 x USB 3.0, 1 x VGA, 2 x RJ45, 1 x MLAN (Reserved), 4 x Omni-Path QSFP28 LAN ports (Reserved), 1 x Power button with LED, 1 x ID button with LED, 1 x Reset button, 1 x NMI button, 1 x System status LED, 1 x HDD access LED, 1 x Omni-Path activity LED | TPM | 1 x TPM header with SPI interface Optional TPM2.0 kit: CTM010 |

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

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