G191-H44
HPC Server - 1U 4 x PCIe GPU Server

The G191-H44 provides powerful parallel computing capabilities with a dense capacity of 4 x dual slot active or passive-cooled GPU cards.

- Supports 5G network infrastructure
- Up to 4 x NVIDIA Tesla® PCIe GPGPU cards
- NVIDIA NGC Ready server
- 2nd Gen. Intel® Xeon® Scalable Processors
- 6-Channel RDIMM/LRDIMM DDR4, 24 x DIMMs
- Supports Intel® Optane™ DC Persistent Memory
- Dual 1Gb/s LAN ports (Intel® I350-AM2)
- 2 x 2.5" hot-swap + 2 x 2.5" internal fixed HDD/SSD bays
- 2 x low profile PCIe Gen3 expansion slots
- 2 x 80 PLUS Platinum 2000W redundant PSUs

**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.

**Compute:**
- Up to 28 cores / 56 threads per socket
- Up to 38.5 MB L3 cache (non-inclusive)
- Up to 3x UPI socket interconnects @ 10.4 GT/s
- CPU TDP 70W – 205W

**Memory:**
- 6 channels, 2 DIMMs per channel
- Up to 12 DIMMS per socket
- Up to 2933MHz max memory speed
- Intel Optane DC Persistent Memory ready

**I/O:**
- 48 PCIe 3.0 lanes per socket

**NVIDIA NGC Ready Server**
Supercharged with NVIDIA Tesla V100 or T4 accelerator cards, this GIGABYTE server has been fully validated and is ready to be used with NGC. NGC containers can be quickly and easily deployed onto this server to run GPU-accelerated workloads for deep learning, machine learning, and HPC. NGC takes care of all the plumbing so data scientists, developers, and researchers can focus on building solutions, gathering insights, and delivering business value.

**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
**Specifications**

**Dimensions**
- 1U
- (WxHxD): 430 x 43.5 x 975 mm

**Motherboard**
- MD71-HB1

**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

**Socket**
- 2 x LGA 3647, Socket P

**Chipset**
- Intel® C621 Express Chipset

**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)
- 1,2 V modules: 2933(10/PCIE)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 ensure about installing a greater number of DCPMM, please consult with your GIGABYTE technical or sales representative

**LAN**
- 2 x GbE LAN ports (Intel® i350-AM2)
- 1 x 10/100/1000 management LAN

**Video**
- Integrated in Aspeed® AST2500
- 2D Video Graphic Adapter with PCIe bus interface
- 1920x1200@60Hz 32bpp, DDR4 SDRAM

**Storage**
- 2 x 2.5" SATA/SAS hot-swappable HDD/SSD bays
- 2 x 2.5" internal fixed HDD/SSD bays
- SAS card is required to enable the drive bays

**SATA**
- 4 x SATA III 6Gb/s ports

**SAS**
- Depends on SAS add-on Card

**RAID**
- Intel® SATA RAID 0/1/5/10
- Depends on SAS add-on Card

**Expansion Slots**
- 4 x full-length full-height x16 slots (Gen3 x16) for GPU cards
- 2 x half-length low-profile x16 slots (Gen3 x16)*
  * PCIe Gen3 x8 shared with 2 x U.2 ports (optional)
- System must be operated under 30°C when 4 x Tesla PCIe GPUs are installed with a 173W or higher CPU
- System is validated for a uniform GPU model
- Support is not provided for mixed GPU populations

**Internal I/O**
- 2 x CRPS power connectors, 2 x RJ45 LAN connectors,
  1 x TPM header, 1 x Front VGA header, 1 x Clear CMOS jumper,
  1 x ME update jumper

**Front I/O**
- 2 x USB 3.0, 2 x RJ45, 1 x MLAN, 1 x VGA, 1 x Serial,
  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 activity LED

**Rear I/O**
- -

**Backplane I/O**
- 2 x SATA/SAS ports
- Bandwidth: SATAll 6Gb/s or SAS 12Gb/s or PCIe Gen3 x4 per port

**TPM**
- 1 x TPM header with SPI interface
  Optional TPM2.0 kit: C7M010

**System Fans**
- 10 x 40x40x56mm (25,000rpm)
- 3 x 40x40x28mm (25,000rpm)

**Weight**
- Net Weight: 15.7 kg
- Gross Weight: 26.84 kg

**Power Supply**
- 2 x 80 PLUS Platinum 2000W redundant PSUs
- AC Input:
  - 100-120V~/ 12A, 50-60Hz
  - 180-240V~/ 10A, 50-60Hz
- DC Input:
  - 240Vdc/ 10A

**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/BIOS/PLD Update
  - Event Log Filter
  - User Management
  - Media Redirection Settings
  - PAM Order Settings
  - SSL Settings
  - SMTP Settings

**OS**
- For Cascade Lake processors:
  - Windows Server 2016 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

**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)

**Packaging Dimensions**
- 1145 x 195 x 748 mm

**Packaging Content**
- 1 x G191-H44
- 2 x CPU heatsinks
- 1 x Rail kit

**Part Numbers**
- Barebone package: 6NG191H44MR-00-200
- Spare parts list:
  - Rail kit: 25HB2-NJ2101-N1R
  - CPU heatsink: 25ST1-253100-F2R
  - Backplane board: 9CBPG021NR-00
  - Front IO board: 9CFPG013NR-00
  - Fan module (40x28): 25ST2-442827-D0R
  - Fan module (40x56): 25ST2-405620-D0R
  - Power supply: 25EP0-22009-L0S
  - NVMe cable for U.2 support: 25CFM-300801-A4R (as an option)

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