

G481-S80

HPC System - 4U 8 x SXM2 GPU Server

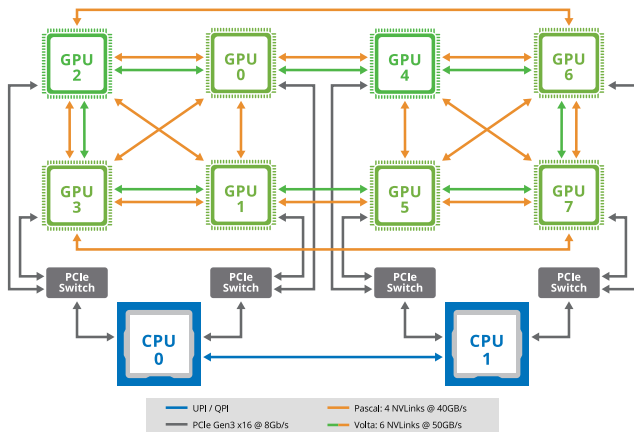


Features

- Up to 8 x NVIDIA Tesla® V100 SXM2 modules
- Up to 300GB/s GPU interconnection by NVIDIA® NVLINK™
- 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 GbE LAN ports (Intel® I350-AM2)
- 1 x dedicated management port
- 4 x 2.5" NVMe, 6 x 2.5" SATA/SAS hot-swap HDD/SSD bays
- 5 x low profile PCIe Gen3 expansion slots
- 1 x OCP Gen3 x8 mezzanine slot
- Aspeed® AST2500 remote management controller
- 4 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.



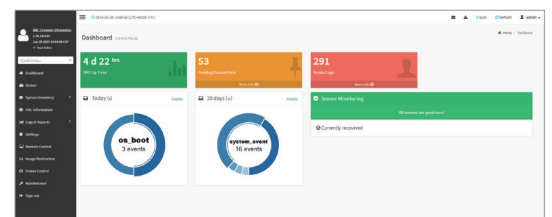
NVIDIA® NVLink™ for Maximum Throughput and GPU-to-GPU Acceleration

NVIDIA's NVLink™ interconnection technology for SXM2 form factor GPUs allows for higher bandwidth, more links, and improved scalability of multi-GPU server systems. For example, a single NVIDIA Tesla® Volta Series GPU can support up to six NVLink links @ 25 GB/s per link in each direction, equalling a total bandwidth of 300 GB/s – 10 times the bandwidth of PCIe 3.0.

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.

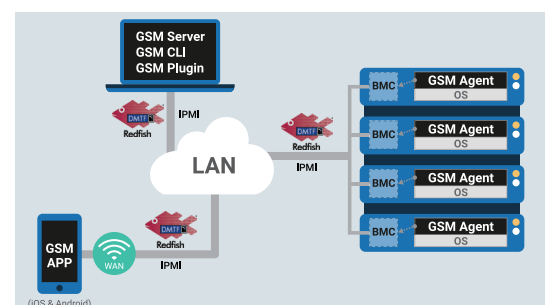
- **RESTful API support** (including the latest DMTF standards of Redfish) allows the administrator to integrate with 3rd party applications for server management
- **HTML5-based iKVM** remote management client included as a standard feature, no additional add-on license required to purchase
- **Detailed 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	4 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 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, TDP up to 205W	Weight	Net Weight: 39 kg / Gross Weight: 58.1 kg
Chipset	Intel® C621 Express Chipset	System Fans	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)
LAN	Rear Side: 2 x 1Gb/s BASE-T LAN ports (Intel® I350-AM2) 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-S80, 8 x SXM2 heatsinks, 2 x CPU heatsinks, 1 x Rail kit, 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: 6NG481S80MR-00 - Motherboard: 9MG61G40NR-00 - VROC module: 25FD0-R181N0-10R - Rail kit: 25HB2-420100-CGR - SXM2 heatsink: 25ST1-353208-F2R (Front Side) / 25ST1-353209-F2R (Rear Side) - CPU heatsink: 25ST1-323206-A0R - Fan module kit: 6NG481HAASR-00-100 - Power supply: 25EP0-222001-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)
Storage	10 x 2.5" hot-swappable HDD/SSD bays - 2 x amber HDD trays compatible with NVMe devices only - 2 x amber HDD trays compatible with NVMe, SATA/SAS devices - 6 x blue HDD trays compatible with SATA/SAS devices only SAS card is required to enable SAS devices support	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: Intel® SATA RAID 0/1/10/5 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, 3 x RJ45, 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	8 x SXM2 sockets (Gen3 x16) for NVIDIA Tesla® V100 SXM2 GPU Rear Side: 4 x PCIe x16 (Gen3 x16) Half-length low-profile slots 1 x OCP mezzanine slot - PCIe Gen3 x8, Type1, P1, P2, P3, P4, K2, K3 - Dedicated for GIGABYTE LAN Cards only Front Side: 1 x PCIe x16 (Gen3 x8) Half-length low-profile slot	Rear I/O	1 x MLAN (Reserved)
Backplane I/O	2 x ports compatible with NVMe only 2 x hybrid ports compatible with NVMe, SATA/SAS 6 x ports compatible with SATA/SAS only	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.

* Intel, the Intel logo, the Intel Inside logo, Xeon, and Optane are trademarks of Intel Corporation or its subsidiaries.

* NVIDIA, the NVIDIA logo and Tesla are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries.

