GIGABYTE™

G492-Z50

HPC System - 4U DP 10 x Gen4 GPU Server

**AMD EPYC** | **AMD RADEON INSTINCT** | **NVIDIA**

Features

The G492-Z50 can support ten PCIe Gen4 GPGPU cards in balanced mode, with each five GPU cards connected to one CPU downstream via a PCIe switch to minimize GPU to GPU communication latency.

- Dual AMD EPYC™ 7002 series processor family
- 8-Channel RDIMM/LRDIMM DDR4 per processor, 32 x DIMMs
- 2 x 10Gb/s BASE-T LAN ports (Intel® X550-AT2)
- 1 x dedicated management port
- 8 x 3.5" NVMe/SATA, 4 x SATA/SAS 3.5" hot-swap HDD/SSD
- 10 x FHFL Gen4 expansion slots for GPU cards
- 3 x low profile PCIe Gen4 expansion slots
- 1 x OCP 3.0 Gen4 x16 mezzanine slot in rear side
- AST2500 Graphics & Remote Management controller
- 3 x 80 PLUS Platinum 2200W redundant PSU

AMD EPYC™ 7002 Series Processor (Rome)

The next generation of AMD EPYC has arrived, providing incredible compute, IO and bandwidth capability – designed to meet the huge demand for more compute in big data analytics, HPC and cloud computing.

- ✓ Built on **7nm** advanced process technology, allowing for denser compute capabilities with lower power consumption
- ✓ Up to **64 core** per CPU, built using Zen 2 high performance cores and AMD's innovative chiplet architecture
- ✓ Supporting **PCIe Gen 4.0** with a bandwidth of up to 64GB/s, twice of PCIe Gen 3.0
- ✓ **Embedded security protection** to help defend your CPU, applications, and data
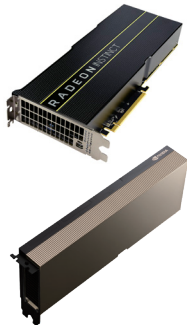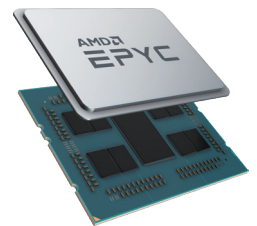
AMD Radeon Instinct™ MI50 Support

This GIGABYTE server features support for AMD's Radeon Instinct™ MI50 compute card, designed to deliver high levels of performance for deep learning, high performance computing (HPC), cloud computing, and rendering systems.

NVIDIA® A100 Tensor Core GPU Support

The NVIDIA® A100 Tensor Core GPU delivers unprecedented acceleration at every scale for AI, data analytics, and high-performance computing (HPC) to tackle the world's toughest computing challenges. As the engine of the NVIDIA data center platform, A100 can efficiently scale to thousands of GPUs or, with NVIDIA Multi-Instance GPU (MIG) technology, be partitioned into seven GPU instances to accelerate workloads of all sizes. And third-generation Tensor Cores accelerate every precision for diverse workloads, speeding time to insight and time to market.

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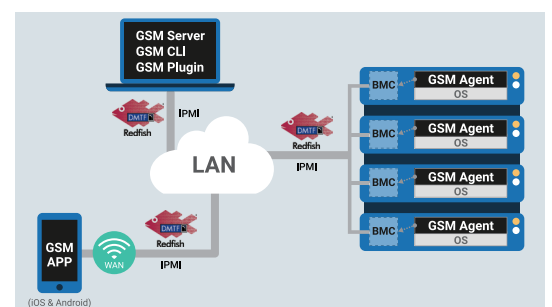
- **RESTful API support** (including the latest DMTF standards of Redfish) allows the administrator to integrate with 3rd party applications for server management
- **HTML5-based iKVM** remote management client included as a standard feature, no additional add-on license required to purchase
- **Detailed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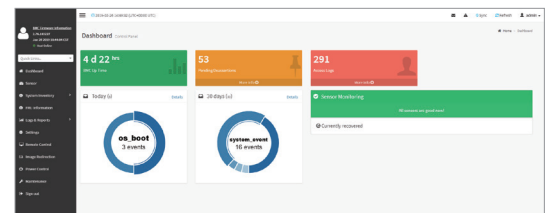
GIGABYTE Server Management (GSM)

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 mm
		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~
			  +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

Motherboard	MZ52-G40		
CPU	AMD EPYC™ 7002 series processor family Dual processors, 7nm Up to 64-core, 128 threads per processor TDP up to 225W, cTDP up to 240W Fully support 280W NOTE: If only 1 CPU is installed, some PCIe or memory functions might be unavailable Compatible with AMD EPYC™ 7001 series processor		

Socket	Socet SP3	**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
Chipset	System on Chip		
Memory	32 x DIMM slots DDR4 memory supported only 8-Channel memory architecture RDIMM modules up to 64GB supported LRDIMM modules up to 128GB supported Memory speed: Up to 3200*/ 2933 MHz * Follow BIOS setting and memory QVL list if running 3200 Mhz with 2DPC		
LAN	2 x 10Gb/s BASE-T LAN ports (Intel® X550-AT2) 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	12 x 3.5" hot-swappable HDD/SSD bays - 8 x amber HDD trays compatible with NVMe or SATA/SAS devices - 4 x blue HDD trays compatible with SATA/SAS devices only SAS card is required for SAS devices support		
SATA	Supported	**OS Compatibility**	Windows Server 2016 (X2APIC/256T not supported) 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 SP4 (x64) or later SUSE Linux Enterprise Server 15 SP1 (x64) or later Ubuntu 16.04.6 LTS (x64) or later Ubuntu 18.04.3 LTS (x64) or later Ubuntu 20.04 LTS (x64) or later VMware ESXi 6.5 EP15 or later VMware ESXi 6.7 Update3 or later VMware ESXi 7.0 or later Citrix Hypervisor 8.1.0
SAS	Supported		
RAID	In option		
Expansion Slots	10 x PCIe x16 slots (Gen4 x16) for GPUs (Microchip solution) 2 x PCIe x16 (Gen4 x16) low-profile slot in front side 1 x PCIe x16 (Gen4 x16) low-profile slot in rear side# # Non-supported SAS Card with internal cable due to cable routing limitation 1 x OCP 3.0 mezzanine slot with PCIe Gen4 x16 in rear side - System is validated for population with a uniform GPU model - Support is not provided for mixed GPU populations		
Internal I/O	1 x TPM header, 1 x Front panel header	**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
Front I/O	2 x USB 3.0, 1 x VGA, 2 x RJ45, 1 x MLAN, 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		
Rear I/O	-	**Weight**	Net Weight: 30.5 kg / Gross Weight: 48.5 kg
Backplane I/O	12 x 3.5" ports Speed and bandwidth: PCIe Gen3 or SAS 12Gb/s or SATA 6Gb/s	**Part Numbers**	Barebone with rail kit: 6NG492Z50MR-00 - Motherboard: 9MZ52G40NR-00 - Rail kit: 25HB2-A96100-K0R - CPU fan-sink: 12SF2-01A067-00R - Back plane board_12-port: 9CBP20C2NR-00 - Front panel board: 9CFPG015NR-00 - Fan module kit: 6NG481HAASR-00-100 - Power supply: 25EP0-222003-D0S - C19 type power cord 125V/15A (US): 25CP1-018000-Q0R (an as option) - C19 type power cord 250V/16A (EU): 25CP3-01830H-Q0R (an as option) - C19 type power cord 250V/15A (US): 25CP1-018300-Q0R (an as option)
TPM	1 x TPM header with SPI interface Optional TPM2.0 kit: CTM010		
System Fans	4 x 40x40x28mm (25,000rpm) 6 x 60x60x76mm (21,700rpm)		
Packaging Content	1 x G492-Z50, 2 x CPU fan-sinks, 1 x Rail kit		