R281-G30
Rack Server - 2U DP 24-Bay GPU sku

Features

- Supports up to 3 x double slot GPU cards
- NVIDIA® validated GPU platform; Supports for NVIDIA® Tesla®
- 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)
- 1 x Dedicated management port
- Onboard 12Gb/s SAS expander
- 24 x 2.5" SATAIII hot-swappable HDD/SSD bays
- 8 x PCIe Gen3 expansion slots
- 2 x OCP Gen3 x16 mezzanine slots
- Aspeed® AST2500 remote management controller
- 1+1 2000W 80 PLUS Platinum redundant power supply

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 PCle 3.0 lanes per socket

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.

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
**Specication**

**Dimensions**
- 2U
- 438 x 87.5 x 730

**Motherboard**
- MR91-FS0

**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

**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 84GB supported
- LRDIMMs modules up to 128GB supported
- Supports Intel® Optane™ DC Persistent Memory (DCPMM)
- 1.2V modules: 2933(1DPC)/2666/2400/2133 MHz
- 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

**LAN**
- 2 x 1Gb/s BASE-T 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
- Bandwidth: 1920x1200@88Hz 32bpp, DDR4 SDRAM

**Storage**
- 24 x 2.5" SATA/SAS hot-swappable HDD/SSD bays
- LSI SAS35x36 expander
- Bandwidth: SATAIII 6Gb/s or SAS 12Gb/s per port
- Default configuration supports: 0 x SAS/SATA drives
- SAS card is required to enable the drive bays

**SATA**
- 2 x 7-pin SATA III 6Gb/s with SATA DOM supported
- By using pin_8 or external cable for power function

**SAS**
- Supported via add-on SAS Card

**RAID**
- Depends on RAID card

**Expansion Slots**
- Riser Card CRS2131: 1 x PCIe x16 slot (Gen3 x8 or x16), FHFL
- 1 x PCIe x8 slots (Gen3 x8 or x8), FHFL
- 1 x PCIe x4 slots (Gen3 x4 or x4), FHFL

**Riser Card CRS2132: 1 x PCIe x16 slot (Gen3 x16 or x8), FHFL**
- 1 x PCIe x8 slots (Gen3 x8 or x8), FHFL
- 1 x PCIe x4 slots (Gen3 x4 or x4), FHFL

**Riser Card CRS2133: 1 x PCIe x8 slots (Gen3 x8 or x8), FHFL**
- 1 x PCIe x4 slots (Gen3 x4 or x4), FHFL

**Expansion Slots**
- 2 x OCP mezzanine slots
- 1 x PCIe Gen3 x16, Type1, P2, P3, P4, K2, K3

**Internal I/O**
- 2 x Power supply connectors, 4 x SimSAS connectors, 2 x SATA 7-pin connectors, 2 x CPU fan headers, 1 x USB 3.0 header, 1 x TPM header, 1 x VROC connector, 1 x Front panel header, 1 x HDX back plane board header, 1 x IPMB connector, 1 x Clear CMOS jumper, 1 x BIOS recovery jumper

**Front I/O**
- 2 x USB 3.0, 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, 2 x LAN activity LEDs

**Rear I/O**
- 2 x USB 3.0, 1 x VGA, 1 x COM (RS45 type), 2 x RJ45, 1 x MLAN, 1 x USB 3.0, 1 x ID button with LED

**Backplane I/O**
- Front side_CBP2002: 24 x SATA/SAS ports
- Bandwidth: SATAIII 6Gb/s or SAS 12Gb/s per port

**TPM**
- 1 x TPM header with LPC interface
- Optional TPM2.0 kit: C7M000

**Power Supply**
- 1+1 2000W 80 PLUS Platinum redundant PSUs
- AC Input:
  - 100-127V+ / 12.5A, 50-60Hz
  - 200-240V~ / 12.5A, 50-60Hz
- DC Output:
  - Max 1008W 120-127V:
    - +12V/ 84A
    - +12Vb/ 2A
  - Max 2004W 200-240V
  - +12V/ 167A
  - +12Vb/ 2A

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

**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 Xendesktop 7.1.0 CU2 or later
  - Citrix Xendesktop 7.5.0 or later
  - Citrix Hypervisor 8.0.0 or later

**Weight**
- 21 kg

**System Fans**
- 4 x 80x80x38mm (14900rpm)

**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

**Packaging**
- 1 x R281-G30, 2 x CPU heatsinks, 1 x Rail kit, 2 x Non-Fabric CPU carrier

**Part Numbers**
- Barebone package: 6NR281G30MR-00
  - Motherboard: 9MR91F3060R-00
  - Rail kit: 25HB2-300220-00R
  - CPU heatsink: 25ST1-253100-2FR
  - Back plane board: 24-port 9CBP200200-00R-00
  - Front panel board: 9CFP20011RNR-00
  - Power supply: 25EP0-220005-00R
  - CPU type COM: 25CR0-200400-0Y4R (optional)
  - SAS Expander module: 9CEP200300-00R
  - Riser card: CRS2131: 9CRS2131-00R-00
  - Riser card: CRS2132: 9CRS2132-00R-00
  - Riser card: CRS2133: 9CRS2133-00R-00
  - C19 type power cord 120V/15A (US): 25CP1-018000-Q0R (optional)
  - C19 type power cord 200-240V: 25CP1-018015-Q0R (optional)
  - C19 type power cord 200-240V: 25CP1-018030-Q0R (optional)

* 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.