

R281-T91 (rev. 100) | ARM Servers - GIGABYTE U.S.A.

13–16 minutes

2U 24-bay ARM server system

- **Supports blockchain infrastructure**
- 2 x Marvell® ThunderX2® CN9975 28-core ARM processors
- 8-Channel RDIMM DDR4 per processor, total 24 x DIMMs
- Dual 10Gb/s SFP+ LAN ports (QLogic® QL41102)
- Onboard Broadcom® SAS3008 controller
- 2 x 2.5" SATA in rear side, 24 x SAS/SATA hot-swappable HDD/SSD bays
- SAS expander with 12Gb/s transfer speed
- 8 x PCIe Gen3 expansion slots
- 2 x OCP Gen3 x16 mezzanine slots
- Aspeed® AST2500 remote management controller
- Dual 1200W 80 PLUS Platinum redundant power supply



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SPECIFICATIONS

Dimensions (WxHxD, mm)

2U

438 x 87.5 x 730

CPU

2 x Marvell® ThunderX2® CN9975 ARM processors

64bit ARMv8 architecture

28 cores per processor, 2.0GHz, TDP 150W

16nm technology

Memory

24 x DIMM slots

DDR4 memory supported only

8-channel memory architecture per processor

RDIMM modules up to 64GB supported

1.2V modules: 2666/2400/2133 MHz

- NOTE: GIGABYTE recommends that you follow the QVL when selecting memory modules to avoid any system compatibility issues

- NOTE: DDR4 2666 Mhz with 1DPC, DDR4 2400 with 2DPC

LAN

2 x 10Gb/s SFP+ LAN ports (QLogic® QL41102)

1 x 10/100/1000 management LAN port

Video

Integrated in Aspeed® AST2500

2D Video Graphic Adapter with PCIe bus interface

1920x1200@60Hz 32bpp, DDR4 SDRAM

Storage

Front side: 24 x 2.5" SATA/SAS hot-swappable HDD/SSD bays

Rear side: 2 x 2.5" SATA only hot-swappable HDD/SSD bays

Onboard Broadcom® SAS3008 controller

Onboard Broadcom® SAS35x36R expander

Bandwidth: SATAIII 6Gb/s or SAS 12Gb/s per port

- NOTE: GIGABYTE recommends that you follow the QVL when selecting hard drives, to avoid any system compatibility issues

Expansion Slots

Riser Card CRS2131:

- 1 x PCIe x16 slot (Gen3 x16 or x8), Full height half-length

- 1 x PCIe x8 slots (Gen3 x0 or x8), Full height half-length

- 1 x PCIe x8 slots (Gen3 x8), Full height half-length

Riser Card CRS2132:

- 1 x PCIe x16 slot (Gen3 x16 or x8), Full height half-length

- 1 x PCIe x8 slots (Gen3 x0 or x8), Full height half-length
- 1 x PCIe x8 slots (Gen3 x8), Full height half-length

Riser Card CRS2124:

- 1 x PCIe x8 slots (Gen3 x0 or x8), Low profile half-length
- 1 x PCIe x16 slot (Gen3 x16 or x8), Low profile half-length

2 x OCP mezzanine slots

- PCIe Gen3 x16
- Type1, P1, P2, P3, P4

Internal I/O

- 2 x Power supply connectors
- 2 x SlimSAS connectors
- 2 x SATA 7-pin connectors
- 1 x USB 3.0 header
- 1 x Front panel header
- 1 x HDD back plane board header
- 1 x PMBus connector
- 1 x IPMB connector
- 1 x Clear CMOS switch
- 1 x BIOS recovery switch

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 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 (RJ45 type)
- 2 x SFP+
- 1 x MLAN
- 1 x ID button with LED

Backplane I/O

- Front side_CBP2002: 24 x SATA/SAS ports
- Rear side_CBP2020: 2 x SATA/SAS ports
- Bandwidth: SATAIII 6Gb/s or SAS 12Gb/s per port

Power Supply

- 2 x 1200W redundant PSUs
- 80 PLUS Platinum

AC Input:

- 100-240V~/ 12-7A, 50-60Hz

DC Input:

- 240Vdc/ 6A

DC Output:

- Max 1000W/ 100-240V~

+12V/ 80.5A

+12Vsb/ 3A

- Max 1200W/ 200-240V~ or 240Vdc input

+12V/ 97A

+12Vsb/ 3A

System Management

Aspeed® AST2500 management controller

Avocent® MergePoint IPMI 2.0 web interface:

- Network settings
- Network security settings
- Hardware information
- Users control
- Services settings
- IPMI settings
- Sessions control
- LDAP settings
- Power control
- Fan profiles
- Voltages, fans and temperatures monitoring
- System event log
- Events management (platform events, trap settings, email settings)
- Serial Over LAN
- vKVM & vMedia (HTML5)

OS Compatibility

Compatible OS

RHEL 7.5 64bit (ARM64)**

Ubuntu 18.04 (ARM64)

SUSE SLES 15 (ARM64)

CentOS 7.6 64bit (ARM64)

Oracle Linux 7.4 (ARM64)

** GIGABYTE recommends to contact with us or our partners for further details

Weight

Net Weight: 19.5 kg

Gross Weight: 28.92 kg

System Fans

4 x 80x80x38mm (16'300rpm)

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

982 x 588 x 268 (mm)

Packaging Content

1 x R281-T91 system

1 x Rail kit

Part Numbers

Barebone package: 6NR281T91MR-00

Part Numbers:

- Motherboard: 9MT91FS1NR-00

- Rail kit: 25HB2-3A0202-K0R

- CPU heatsink: 25ST1-353207-J1R

- Back plane board_24-port: 9CBP2002NR-00

- Back plane board_2-port: 9CBP2020NR-00

- Expander board: 9CEP2600NR-00

- Front panel board: 9CFP2001NR-00

- Power supply: 25EP0-212002-F3S

- RJ45 type COM cable: 25CR0-200400-Y4R **(as an option)**

- Riser card - CRS2131: 9CRS2131NR-00

- Riser card - CRS2132: 9CRS2132NR-00

- Riser card - CRS2124: 9CRS2124NR-00

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* Advertised performance is based on maximum theoretical interface values from respective Chipset vendors or organization who defined the interface specification. Actual performance may vary by system configuration.

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* Due to standard PC architecture, a certain amount of memory is reserved for system usage and therefore the actual memory size is less than the stated amount.

SUPPORT

BIOS

Description

Version

Size

Date

See Relnotes.doc for more details

Version : F34

22.4 MB

2020/08/20