TRENTON SYSTEMS®

MADE IN USA

RDY SERVERS
1U PT.1 | 12th or 13th Gen Core®

A highly scalable, compact, secure, rugged rack server with the latest high-performance computing technologies to ensure peak performance and adaptability for a variety of ever-changing applications.

MAXIMUM CONFIGURABILITY, FLEXIBILITY, AND SCALABILITY

Quickly adjust your system's performance to meet the constantly fluctuating demands of diverse data environments and ensure operational efficiency.

ENHANCED COMPUTE + CONNECTIVITY

Process, analyze, store, retrieve, and transfer large amounts of actionable intelligence in seconds to improve decision-making and reduce response times.

RUGGEDIZED FOR EXTREMES

Tested to meet the toughest military and industrial standards to ensure the quality and reliability of our solutions within harsh and austere conditions.

Overview

A configurable, SWaP-C optimized 1U RDY Server supporting various option cards that delivers maximum processing, AI/ML/DL, networking, security, and storage alongside evolving workloads.

Designed in consultation with our team, the PT.1 Server meets and exceeds the most complex technical, performance, and environmental requirements for on-premise, cloud, and edge deployments.

intel.

NVIDIA.

SOLUTION HIGHLIGHTS

Intel® TME, TXT, and Boot Guard create a secure computing platform and enhance software/firmware resilience.

Next-gen PCIe slots enable you to easily expand your board's capabilities to meet the demands of your application or program.

Intel® QAT accelerates data compression and cryptography, freeing up the host processor and enhancing data storage/transfer.

Strict revision control is achieved through Trenton's approved vendor list (AVL), ensuring engineer-vetted parts.

Counterfeit Protection Program (CPP) helps Trenton detect, remove, and destroy counterfeit parts and components.

Vetted supply chain helps protect your system from potentially compromised counterfeit electronic parts and components.

In-house engineers (hardware, software, mechanical, and electrical) control the design of your system down to the board and chip level.

TAA compliance is achieved because Trenton manufactures BAM servers, and its other solutions, in the United States.

CSfC, ITAR, ISO9001, and AS9100 adherence and compliance allow Trenton to consistently provide secure, high-quality computing solutions.

Technical Overview

SPECIFICATION	DETAILS
CPUs	Single Intel® 12th or 13th Gen Core®
Memory	4x DDR5-4000/4400 ECC or non-ECC UDIMM slots
Storage	Up to 9x SATA SSDs, NVMe w/RAID controller (FIPS 140-2/3 available)
Form Factors	1U rack server (19" x 1.75" x 20" | 48.26cm x 4.44cm x 50.8cm)
Network Interface	4x 1GbE ports supporting IPMI
PCIe Interconnect	1x PCIe 5.0 x16 slot for FHFL option cards
Power	2x 500W, redundant, non-461, removable

PROCESSORS (UP TO 16 CORES PER CPU)

Single Intel® 12th or 13th Gen Core® CPU up to 125W TDP

Chipset: Intel® W680

MEMORY (UP TO 2 TB)

4x DDR5-4000/4400 ECC or non-ECC UDIMM slots

PCIE GEN 5.0 SLOT (CAN SUPPORT FHFL GPUs)

1x PCIe Gen 5.0 x16 slot

I/O

- **SATA:** 4x SATA3 ports
- **USB:** 4x USB3 ports, (optional: 6x USB2 headers, 2x USB3 headers)
- **IPMI:** IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
- **Graphics:** Intel® Integrated Graphics & ASPEED AST2600 BMC
- **Video:** 1x VGA port, 1x DVI port, 1x HDMI port
- **Audio:** 2x Mic-in, Line-out
- **LAN:** 4x 1GbE RJ-45 ports, 3x via Intel® i210-AT controller, 1x via Intel® i219 controller
- **Serial:** 1x RS232 port (optional)

SECURITY

- **TPM 2.0**

*For a comprehensive list of cybersecurity features, please contact one of our team members.

COOLING (BMC Controlled)

4x 4 pin system fan headers, 1x 4 pin CPU fan headers

SYSTEM BIOS

- AMI SPI 256 Mbit BIOS
  - Plug and Play (PnP)
  - PCI 2.2
  - ACPI 1.0 / 2.0
  - USB Keyboard Support
  - SMBIOS 2.3
  - UEFI

SYSTEM MANAGEMENT (BMC)

ASPEED AST2600 baseboard management controller: rKVM, system monitoring, out-of-band management

OS COMPATIBILITY

- Windows Enterprise, Server
- Linux
  - RHEL
  - Ubuntu
  - SUSE

Contact us for the full compatabilities list

DIMENSIONS

Board: 12" x 9.6" (30.48cm x 24.40cm)

Chassis: 19" x 1.75" x 20" (48.26cm x 4.44cm x 50.8cm)

ENVIRONMENTAL SPECIFICATIONS

- Operating Temperature: 0°C - 50°C (up to 60°C per configuration)
- Storage Temperature: -40°C - 85°C
- Operating Humidity: 10% - 95% non-condensing
- Non-Operating Humidity: 10% - 95% non-condensing
- Shock: 3 axis, 35g, 25ms
- Vibration: 4.76Grms, 10Hz to 2000 Hz (SSD)
- Altitude: 0 to 10,000 ft (3,048m)
- Non-Operating Altitude: 0 to 30,000 ft (9,144m)

Preliminary numbers noted. Final numbers expected to outperform current specifications.
Conformal coating available upon request.

COMPLIANCE

Designed to meet the following standards/certifications:

- MIL-STD-810H
- MIL-STD-461G
- DO-160F
- MIL-STD-704

The PT.1 Server can support multiple GPUs and other FHFL option cards. To configure a system per your requirements, reach out to a member of our team.

Contact us for pricing and availability.

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