

Multi-Node Servers | 2nd Gen Xeon[®] SP

Compact, high-density solutions carrying two fixed segments per chassis. Each segment houses its own CPUs, memory, and networking capabilities to quickly process, retrieve, and transfer data in the face of ever-evolving workloads.



MAXIMUM COMPUTE POWER

Unlock unprecedented levels of computing power with two dual-CPU segments, tackling demanding workloads to achieve exceptional processing capabilities.



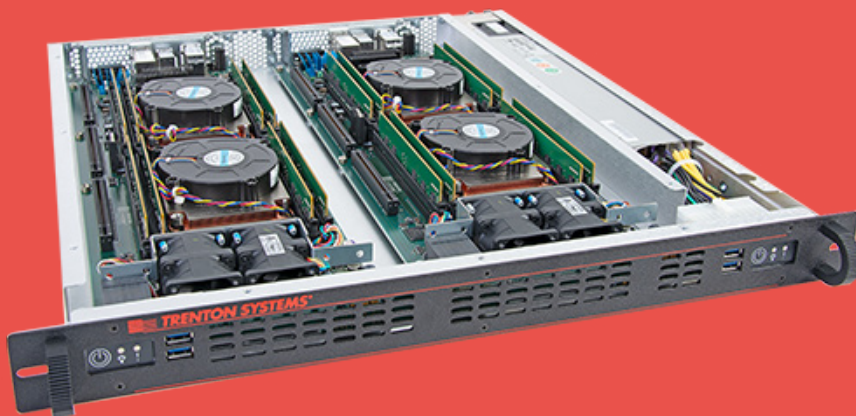
SWAP-C OPTIMIZED

Consolidated computing power and maximum space utilization within a multi-node architecture greatly reduce hardware costs while enhancing performance.



RUGGEDIZED FOR EXTREMES

Certified to the most stringent military and industrial standards, rapidly deploy reliable and resilient computing systems within harsh and austere environments.



Overview

1U chassis with two fixed, dual CPU segments allow you to run multiple applications on the same piece of hardware to reduce compute footprint and total cost of ownership.

Dedicate and isolate resources for complex, evolving workloads to optimize performance in real-time. Each segment functions like a half-rack server, essentially giving you two systems in one!



SOLUTION HIGHLIGHTS



Multi-layer cybersecurity creates a secure computing platform while enhancing resilience against sophisticated cyberthreats.



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



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



Five-year warranty means we will repair, replace, or refund for any potential defects in material, workmanship, and design.



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



TAA compliance is achieved because Trenton manufactures Multi-Node Servers, and its other solutions, in the United States.



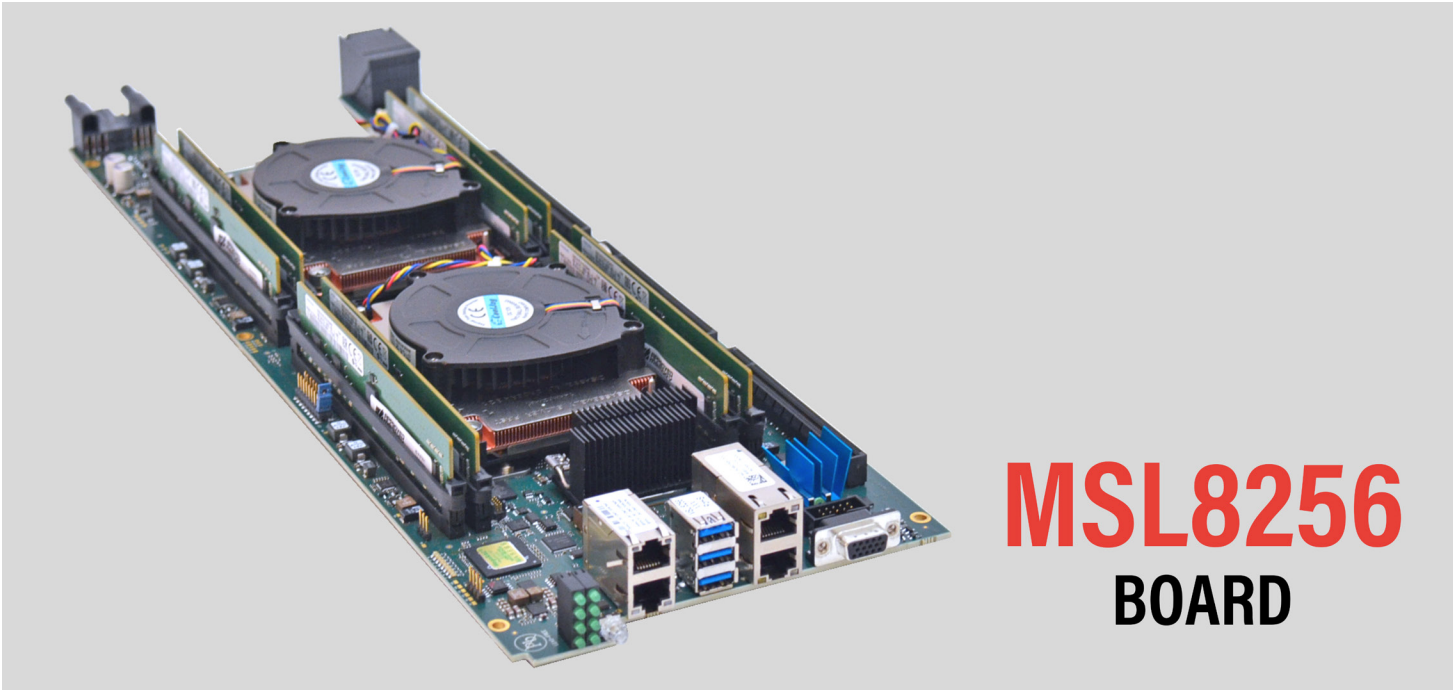
Lifetime support gives you unlimited access to our team of experts that help troubleshoot problems and offer solutions.



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



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



MSL8256 BOARD

Technical Overview

SPECIFICATION	DETAILS
CPUs	Dual Intel® 2 nd Gen Xeon® SP (Cascade Lake), per segment
Memory	8x DDR4-2933 ECC RDIMM slots (4x per CPU)
Storage	Up to 2x SATA or 4x M.2 NVMe SSDs, per segment (FIPS 140-2/3 available)
Form Factors	1U rack server at 19" depth
Network Interface	4x 1GbE ports, 1x supporting IPMI, per segment
PCIe Interconnect	2x PCIe 3.0 x16 slots via riser card
Power	1x 1200W, non-redundant, non-461, removable

The Multi-Node Servers can be customized to your most complex technical, performance, and environmental specifications in consultation with our team.

Contact us for pricing and availability.

770.287.3100 | info@trentonsystems.com



PROCESSORS (UP TO 20 CORES PER CPU, UP 40 TOTAL)

Dual Intel® 2nd Gen Xeon® Scalable Processors (Cascade Lake) up to 125W
Chipset: Intel® C622 Lewisburg

MEMORY (UP TO 1.5 TB)

8x DDR4-2933 ECC RDIMM slots, single DIMM per channel (4x per CPU)

PCI GEN 3 SLOTS (CAN SUPPORT FHFL GPUS)

2x PCIe Gen 3 x16 slots via riser card

I/O

- ▶ **SATA:** 2x SATA ports
- ▶ **USB:** 3x USB3 via on-board header, 4x USB3 via I/O board
- ▶ **IPMI:** IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
- ▶ **Graphics:** ASPEED AST2400 BMC
- ▶ **Video:** 1x VGA port
- ▶ **LAN:** 4x 1GbE RJ-45 ports, 2x driven from a dual Intel® i350 controller, 2x driven from a dual Intel® i210 controller (1x Shared IPMI)
- ▶ **Serial:** 1x RS232 serial port

SECURITY

- ▶ **TPM 2.0**

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

COOLING (BMC Controlled)

6x 4 pin system fan headers, 2x 4 pin CPU fan headers

SYSTEM BIOS

- ▶ InsydeH20 UEFI BIOS from Insyde
 - Plug and Play (PnP)
 - PCI 2.2
 - ACPI 1.0 / 2.0
 - USB Keyboard Support
 - SMBIOS 2.3
 - UEFI

SYSTEM MANAGEMENT (BMC)

ASPEED AST2400 baseboard management controller: rKVM, system monitoring, out-of-band management

OS COMPATIBILITY

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

*Contact us for the full compatibilities list

DIMENSIONS

6.18 in. x 17.6 in. (15.7 cm x 44.7 cm)

ENVIRONMENTAL SPECIFICATIONS

- ▶ Operating Temperature: 0°C - 40°C
- ▶ Storage Temperature: -40°C - 70°C
- ▶ Operating Humidity: 8% - 90% non-condensing
- ▶ Non-Operating Humidity: 5% - 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-1310
- ▶ MIL-STD-464C
- ▶ DO-160F
- ▶ 2014/35/EU (LVD)
- ▶ 2014/30/EU (EMC)

*Environmental specifications and compliance apply within Trenton 1U/2U chassis.

SYSTEM VARIATIONS

#	SYSTEM	SEGMENTS	BOARD	DEPTH	POWER	STORAGE	SLOTS
1	TRC1001 (1U)	UP TO 2X 1U, DUAL-CPU SEGMENTS	8256	19"	1X 1200W NON-REDUNDANT, NON-461, REMOVABLE	UP TO 4X M.2 NVME DRIVES VIA OPTIONAL RISER (PER SEGMENT)	-
2	TRC1002 (1U)	1X 1U, DUAL-CPU SEGMENT	8256	19"	1X 1200W NON-REDUNDANT, NON-461, REMOVABLE	UP TO 2X FRONT-REMOVABLE SATA DRIVES	2X FHFL PCIe 3.0 X16 VIA RISER
3	1U-2U	1U OR 2U SINGLE- OR DUAL-CPU SEGMENTS	COTS, MOTS, CUSTOM	18"-28"	LOW/MID/HIGH WATTAGE, REDUNDANT OR NON-REDUNDANT, 461-OPTIONAL, FIXED OR REMOVABLE	SAS/SATA/NVME DRIVES (INTERNAL, FRONT-REMOVABLE, VIA RAID CONTROLLER, OR VIA RISER)	HALF-HEIGHT AND FHFL PCIe 3.0/4.0/5.0

If you need a different system variation not listed above, please contact a Trenton Systems engineer to configure a system or solution to your specific application or program requirements.