

BAM Servers | 4th Gen Xeon[®] SP

Configurable and SWaP-C optimized with maximum storage capacity, processing power, and intelligence, our ruggedized, TAA-compliant BAM servers are the perfect solutions to accelerate and sustain ever-evolving applications.



LEADING PERFORMANCE CPUs

Supports dual Intel[®] 4th Gen Xeon[®] SP CPUs with hardware-based encryption for enhanced compute and networking.



HIGH-END GPUs AND FPGAs

Supports multiple double-wide, high-end Intel[®] and NVIDIA[®] GPUs and FPGAs to accelerate AI/ML/DL workloads at the edge.



FAST NVMe SSDs

Supports up to 8 high-speed NVMe or 9 SAS/SATA SSDs to increase read/write speeds (FIPS 140-2/3 available).



Overview

The BAM servers, in 2U and 3U height, provide enhanced processing, AI/ML/DL, networking, security, and storage when and where it matters most.

Supporting the latest in edge computing technology, these servers are highly flexible and configurable to meet your most complex application or program needs.

Deliver enhanced compute and connectivity for a wide variety of use cases across the military, commercial, industrial, and critical infrastructure sectors!



SOLUTION HIGHLIGHTS



Intel[®] PFR protects against firmware attacks using an Intel[®] MAX 10 Field-Programmable Gate Array (FPGA).



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



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



Intel[®] SGX includes predefined portions of memory that can better protect sensitive information.



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



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



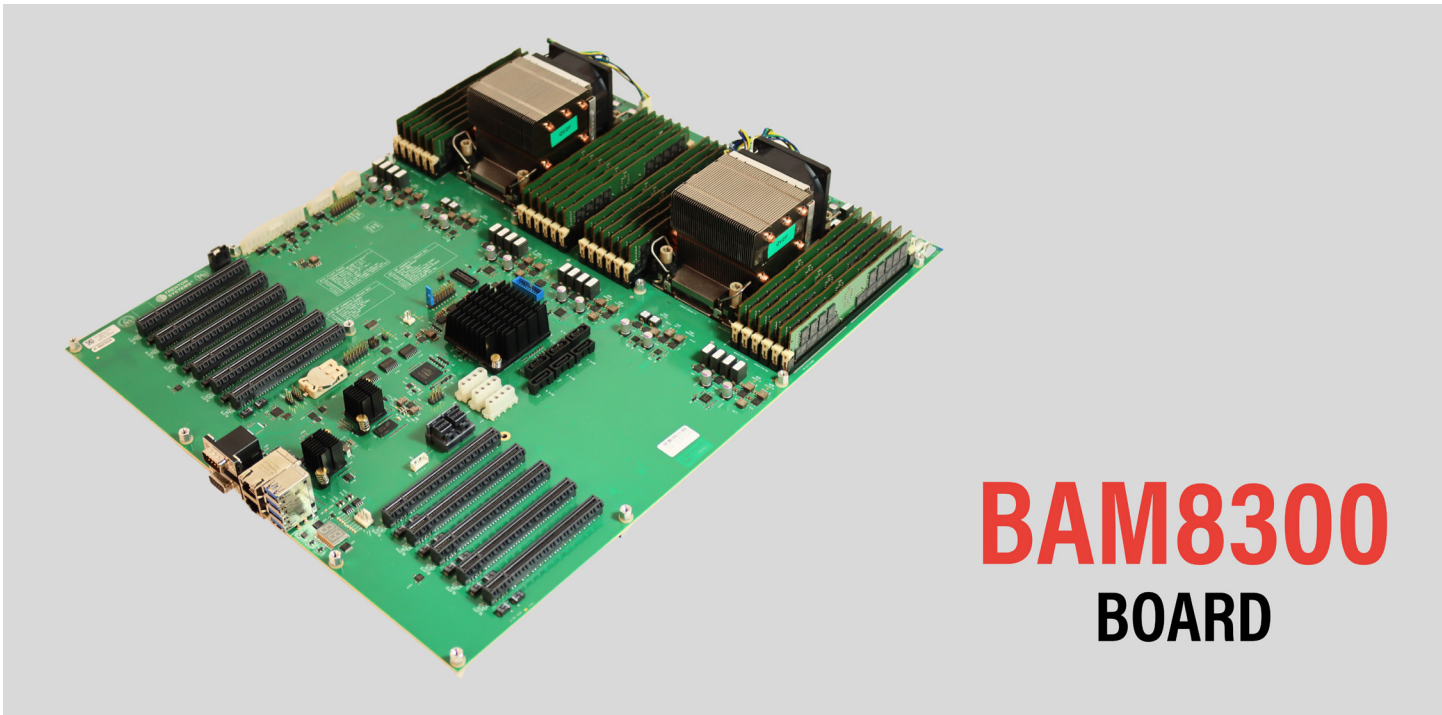
Intel[®] Total Memory Encryption provides encryption of a computer system's physical memory.



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.



BAM8300 BOARD

Technical Overview

SPECIFICATION	DETAILS
CPUs	Dual Intel® 4 th Gen Xeon® SP (Sapphire Rapids)
Memory	24x high-frequency DDR5-4800/5600 ECC RDIMM slots (12x per CPU)
Storage	Up to 8x U.2 NVMe or 9x SATA/SAS SSDs (FIPS 140-2/3 available)
Form Factors	2U/3U rack servers ranging from 20-24" depth
Network Interface	2x 1GbE ports, 1x supporting IPMI
PCIe Interconnect	Up to 11x PCIe 5.0 slots
Power	Up to 2x, up to 1900W, non-redundant, 461-filtered, removable

BAM Servers can be customized to your most complex technical, performance, and environmental specifications in consultation with our team. Ensure maximum reliability when and where it matters most.

Contact us for pricing and availability.

770.287.3100 | info@trentonsystems.com

TECH SPECS - 8300 BOARD

PROCESSORS (UP TO 56 CORES PER CPU, UP TO 112 TOTAL)

Dual Intel® 4th Gen Xeon® Scalable Processors (Sapphire Rapids)
up to 235W (up to 350W electrical max)
Chipset: Intel® C741 Emmitsburgh

MEMORY (UP TO 2 TB)

24x DDR5-4800/5600 ECC RDIMM slots (12x per CPU)

PCIe GEN 5 SLOTS (CAN SUPPORT UP TO 3 NVIDIA 80GB A100 GPUS)

- ▶ Up to 11x PCIe Gen 5 x16 mechanical slots
 - 9x PCIe Gen 5 x16 electrical slots
 - 2x PCIe Gen 5 x8 electrical slots

I/O

- ▶ **SATA:** 6x SATA ports
- ▶ **USB:** 6x USB3 headers (2 front, 4 rear)
- ▶ **IPMI:** IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
- ▶ **Graphics:** ASPEED AST2600 VGA
- ▶ **Video:** 1x VGA port, 1x DisplayPort (mirrored)
- ▶ **LAN:** 2x 1GbE RJ-45 ports (1x Shared IPMI) driven from an Intel® i350 controller
- ▶ **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)

7x 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 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 compatibilities list

DIMENSIONS

15in. x 17in. (38.1cm x 43.18cm)

ENVIRONMENTAL SPECIFICATIONS

- ▶ Operating Temperature: 0°C - 50°C
- ▶ Storage Temperature: -20°C - 70°C
- ▶ Operating Humidity: 5% - 95% 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-461G
- ▶ MIL-STD-1310
- ▶ MIL-STD-464C
- ▶ DO-160F
- ▶ 2014/35/EU (LVD)
- ▶ 2014/30/EU (EMC)

*Environmental specifications and compliance apply within Trenton 2U/3U chassis.

SYSTEM VARIATIONS

#	SYSTEM	BOARD	DEPTH	POWER	COOLING	STORAGE	CD/DVD	SLOTS
1	BAC2000 (2U)	8300	22"	1X 1200W NON-REDUNDANT, 461-FILTERED, REMOVABLE	AIR FANS	UP TO 3X FRONT-REMOVABLE SATA DRIVES OR 2X FRONT-REMOVABLE U.2 NVME DRIVES (REQUIRES RAID CONTROLLER)	NO	6X HALF-HEIGHT & 1X FHFL PCIE 5.0
2	BAC2001 (2U)	8300	22"	1X 1200W NON-REDUNDANT, 461-FILTERED, REMOVABLE	AIR FANS	UP TO 3X FRONT-REMOVABLE SATA DRIVES OR 2X FRONT-REMOVABLE U.2 NVME DRIVES (REQUIRES RAID CONTROLLER)	NO	11X HALF-HEIGHT PCIE 5.0
3	BAC3000 (3U)	8300	20"	2X 1900W NON-REDUNDANT, 461-FILTERED, REMOVABLE	AIR/OPT MID FANS	UP TO 6X FRONT-REMOVABLE SATA DRIVES OR 4X FRONT-REMOVABLE U.2 NVME DRIVES (REQUIRES RAID CONTROLLER)	YES	11X FHFL PCIE 5.0
4	BAC3001 (3U)	8300	20"	2X 1900W NON-REDUNDANT, 461-FILTERED, REMOVABLE	AIR/OPT MID FANS	UP TO 9X FRONT-REMOVABLE SATA DRIVES (REQUIRES RAID CONTROLLER) OR 6X FRONT-REMOVABLE U.2 NVME DRIVES (REQUIRES RAID CONTROLLER)	NO	11X FHFL PCIE 5.0
5	BAC3008 (3U)	8300	24"	2X 1900W NON-REDUNDANT, 461-FILTERED, REMOVABLE	AIR/OPT MID FANS	UP TO 8X FRONT-REMOVABLE NVME U.2 DRIVES (REQUIRES RAID CONTROLLER)	NO	11X FHFL PCIE 5.0
6	1U-5U	COTS, MOTS, CUSTOM	18"-28"	LOW/MID/HIGH WATTAGE, REDUNDANT OR NON-REDUNDANT, 461-OPTIONAL, FIXED OR REMOVABLE	AIR FANS OR OPT MID FANS	SAS/SATA/NVME DRIVES (INTERNAL, FRONT-REMOVABLE, VIA RAID CONTROLLER, OR VIA RISER)	YES/NO	HALF-HEIGHT OR 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.