Mt. Jade Platform — Dual Socket Rack Server

The Ampere® Altra™ processor-based Mt. Jade platform provides 160 processor cores in a dual socket configuration, making it the platform with the highest core density in the industry. Mt. Jade provides the performance and scalability for a variety of workloads, including data analytics, database, AI, web-tier, and Android-in-the-Cloud (AIC).

Flexible I/Os
With 186 PCIe Gen 4 lanes in the system, Mt. Jade provides a multitude of I/O connectivity options for customization.

Each socket is enabled to support CCIX connector for external accelerators to support applications including memory expansion and cache coherent acceleration.

Memory and Storage
Mt. Jade supports 2 DIMMs per DDR4 channel at 3200 MHz (that is, 16 DIMMs per socket), providing a total maximum memory capacity of 4 TB per socket to address memory bound workloads.

Mt. Jade supports two internal M.2 slots for NVMe storage for ultra-fast reads/writes, and eliminates PCIe switch adapters.

Platform Management
Mt. Jade includes two BMC options: MegaRAC® and OpenBMC. Mt. Jade also includes two BIOS options – Aptio® V and EDK2.

Visit https://amperecomputing.com/altra/ to learn more about Ampere’s Mt. Jade platform.

Processor Subsystem
- 80 Arm v8.2+ 64-bit CPU cores up to 3.30 GHz with Sustained Turbo
- 64 KB L1 I-cache, 64 KB L1 D-cache per core
- 1 MB L2 cache per core
- 32 MB System Level Cache (SLC)
- 2x full-width (128b) SIMD
- Coherent mesh-based interconnect
  – Distributed snoop filtering

Memory
- 8x 72-bit DDR4-3200 channels
- ECC, Symbol-based ECC, and DDR4 RAS features
- Up to 16 DIMMs and 4 TB/socket

System Resources
- Full interrupt virtualization (GICv3)
- Full I/O virtualization (SMMUv3)
- Enterprise server-class RAS

Ordering Information
The Mt. Jade server Order Part Number is: AC-1WWXXA2Y1, where:
- XX: Server Manufacturing Level
  – 06: Level 6
  – 10: Level 10
- Y: Configuration
  – S: SATA
  – N: NVMe
### Specifications

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<th>Model</th>
<th>Mt. Jade</th>
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<td>Form Factor</td>
<td>2U Rack Server</td>
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<tr>
<td>Number of Processors</td>
<td>2x Ampere Altra CPUs, 80 Arm v8.2+ 64-bit CPU cores at 3.30 GHz with Sustained Turbo</td>
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| Memory         | • 8x 72-bit DDR4-3200 channels: up to 16 DIMMs per socket (2DPC)  
                   • Up to 4 TB of DRAM memory support per socket |
| USB Interfaces | 1 USB port on the front panel and 2 USB ports on the rear panel |
| I/O and Controls Layout | Up to 8x PCIe Gen4 slots:  
                                  • 1 x16 PCIe OCP  
                                  • 2 x16 PCIe (capable of CCIX support @ 25 Gbps)  
                                  • 6 x8 PCIe  
                                  • One DB-9 COM port at rear  
                                  • One D-Sub 15 pin VGA port at rear  
                                  • One TPM Module connector  
                                  • 2x on board M.2 NVMe SSDs  
                                  • 1x RJ45 for 1 GbE Management NIC  
                                  Front panel controls and buttons:  
                                  • One PWR / One RST / One UID button  
                                  • VGA connector  
                                  Rear panel controls and buttons:  
                                  • One PWR / One RST / One UID button  
                                  • VGA connector  
                                  • BMC UART connector |
| Storage Drive Bays (NVMe SSDs) | 2U Form Factor: 24x 2.5” NVMe U.2 SSD Slots, or 24x 2.5” SATA SSDs  
                                     2x Onboard M.2 NVMe SSDs |
| OCP NIC        | OCP 3.0 Mezzanine Card slot        |
| Network Interfaces | Onboard: Intel I210  
                          BMC: Realtek RTL8211E |
| Power Supply   | Dual 2000 W 80 PLUS Platinum redundant power supply |
| Expansion Slots | 3x 2U Riser Cards:  
                          • Riser 1: Three x8 PCIe slots  
                          • Riser 2: Two x8 PCIe slots + One x16 PCIe slot  
                          • Riser 3: One x8 PCIe slot + One x16 PCIe slot |
| Systems Management | IPMI 2.0, Redfish, and WebUI  
                          Serial-Over-LAN (SOL)  
                          Remote KVM  
                          Hardware health monitor |
| Installed Operating System | CentOS 8.0 |
| Firmware Support | • UEFI: Aptio® V, EDK2  
                             • BMC: MegaRAc®, OpenBMC |
| BMC            | ASPEED Technologies AST2500 Baseboard Management Controller |
| Dimensions     | 31.5” (Length) x 19” (Width) x 3.5” (Height) |

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Mt_jade PB_v0.6S_20201102