

# Vantageo 4440-RE Server

Flexible, Scalable, and Secure



Vantageo 4440-RE is a new-generation 4U 4 -socket compute intensive rack server, which supports 4 Intel ® Xeon ® 4th generation scalable processor (Sapphire Rapids). Vantageo 4440-RE uses a high-density, modular, and streamline design. It features high capability, large capacity, high reliability, easy expansion, and easy management, which is widely applicable to large scale databases, High Performance Computing, cloud, big data, CRM, ERP and virtualization.

## Overview

Vantageo 4440-RE is a highly versatile and powerful server designed for enterprise environments

## Key Specifications

- **Processor:** Supports up to four 4th Generation Intel Xeon Scalable processors (Eagle Stream), with up to 60 cores per processor.
- **Memory:** Supports up to 64 DDR5 DIMM slots, capable of up to 16 TB of memory using 256 GB DDR5 memory modules. It also supports Persistent Memory (PMem) modules.
- **Storage:** Provides a maximum of 50 2.5" slots or 8 3.5" slots + 2 M.2 to meet the requirements for largecapacity storage.

- **Networking:** OCP 3.0 slot for networking, providing options for 1GbE, 10GbE, 25GbE, and 40GbE network interfaces.
- **Expansion Slots:** Up to 22 PCIe 5.0 slots for expansion, allowing for various configurations of RAID controllers, GPUs, or additional networking cards.
- **Power Supply:** Redundant power supplies with options ranging from 550W/800W/1200W/1600W/2000W/2600W, depending on the configuration.
- **Management:** Integrated management port for server management, including remote management capabilities.
- **Virtualization:** Suitable for running multiple virtual machines (VMs) due to its high core count and memory capacity.

## Supports Details

- Supports standard interfaces such as IPMI, SNMP, and Redfish, so that the device can be integrated with third-party management systems.
- Supports automatic deployment, firmware upgrade, and remote operations to improve deployment and O&M efficiency.

## Vantageo 4440-RE Details

### Processor:

- CPU Options: Supports up to four 4 Generation Intel Xeon Scalable processors .
- Core Count: Up to 60 cores per processor.
- Cache: Up to 105 MB of L3 cache per processor.

### Memory:

- Memory Slots: 64 DIMM slots supporting DDR5 memory.
- Capacity: Supports up to 16 TB of total memory when using 256 GB DDR5 RDIMM modules.
- Memory Type: DDR5 at speeds of up to 4800 MT/s.

### Storage:

- Provides a maximum of 50 2.5" slots or 8 3.5" slots + 2 M.2
- Supports a maximum of 40 NVMe SSDs

### Networking:

- OCP 3.0 slot providing a range of options, including 1GbE, 10GbE, 25GbE, and 40GbE adapters.
- Additional PCIe slots can be used for further network expansion.
- Security: Silicon Root of Trust, and runtime firmware validation to ensure data and system integrity.

### Management:

- Provides advanced server management features, including remote console access, virtual media, and power management.
- Integrated with Vantageo server manager for predictive analytics and automated management.
- Vantageo Server Suite Provides enterprise-level management functions and reliability, automatic equipment on-duty observation, real-time monitoring of core components, and classification and reporting of faulty streamlines, providing comprehensive guarantee for data center O&M.
- Enhanced security with features like Secure Boot, Secure Erase etc...

### Power Supplies:

- Supports 2+2 hot/swappable redundant power supplies (Optional)550W/800W/1200W/1600W/ 2000W/2600W, high-efficiency platinum/titanium power supply

### Security Features:

- Silicon Root of Trust: Ensures firmware and BIOS integrity by anchoring the server to the hardware.
- Runtime Firmware Validation: Continually verifies firmware integrity during operation.
- Vantageo Secure Recovery: Automatically restores firmware to a known good state in case of corruption.
- Secure Boot: Protects against unauthorized firmware and software from running during the boot process.

Technical details

Vantageo 4440-RE Details

Form Factor	4U rack server	
Adaptable cabinet	19 inches ≥1,000mm-deep cabinet	
Chipset	Intel C741	
Processor	Supports 4 Intel® Xeon® 4th generation scalable processors (Sapphire Rapids), with up to 60 cores per processor with heatsink	
Memory slot	Supports 64 DDR5 memory slots with a maximum rate of 4800MT/s	
Memory Protection	Advanced ECC	
Memory DIMMS Supports	16GB DDR5-4800	128GB DDR5-4800
	32GB DDR5-4800	256GB DDR5-4800
	64GB DDR5-4800	
Hard disk controller	Supports RAID 0/1/5/6/10/50/60 and power-off protection	
Raid Controller	PCIe SAS Raid Card 12Gbps 2Gb caches, support Raid, 0, 1, 5, 6, 10, 50 ,60 with battery backup	
	PCIe SAS Raid Card 12Gbps 4Gb caches, support Raid, 0, 1, 5, 6, 10, 50 ,60 with battery backup	
	PCIe SAS Raid Card 12Gbps 8Gb caches, support Raid, 0, 1, 5, 6, 10, 50 ,60 with battery backup (Supports NVMe)	
Raid Manager	Raid controller cooling with heat sink	
	RAID Manager	
	(command-line interface)	
Key RAID Data Protection Feature	BIOS Configuration Utility	
	Online Capacity Expansion	
	Online RAID level Migration	
Hard disk	Fast initialization for quick array setup	
	Check consistency for background data integrity	
	S.M.A.R.T support	
Display	Global and dedicated Hot Spare with Revertible Hot Spare support	
	Automatic rebuild	
	Health Monitoring tool, Error indication alerts	
System management	Multi Raid array Support	
	Provides multiple front storage bays, hot swapping, HDDs, and SSDs.	
	50 x2.5 slots, supporting SAS/SATA/NVMe	
PCIe slot	8 x 3.5 slots+ 2 M.2 slots supporting SAS/SATA/NVMe	
	Support a maximum of 40 NVMe SSDs	
	Integrated display controller,supporting the optional configuration of PCIe standard display cards	
Onboard Ports	Web Management interface	
	Monitoring of critical components like Fan, Power ,CPU , HDD, Raid	
	Telemetry details	
External device interface	Support sending alarm notification securely to OEM / Personal for troubleshooting	
	Vantageo Server Suite Provides Comprehensive	
	Supporting up to 22 PCIe expansion slots: 1 OCP dedicated slots	
Power	1 OCP NIC 3.0	
	Four USB interfaces (Rare 2 USB3.0 Front 1 USB 3.0 + 1USB 2.0	
	Two VGA interfaces (one for front end and one back for end)	
Power	One serial port	
	Supports 2+2 hot/swappable redundant power supplies.	
	(Optional)550W/800W/1200W/1600W/2000W/2600W,high-efficiency platinum/titanium power supply	
Power	Supports 110V/220V AC, 240V/336V high-voltage DC, and -48V DC.	

Security	TPM 2.0(Trusted Platform Module), Authenticated BIOS, secure Boot, Silicon Root of Trust, Disk Encryption, Hardware Root of Trust Sign firmware updates and bios core / Scan for malicious firmware Malicious core free design
BIOS	UEFI compliant BIOS Flash EPROM update by software BIOS settings save and restore Local BIOS update from USB device Secure boot support
Remote Management	Remote management supports hardware components, Power on/off and boot process. Supports Management log , Audit Logs and dedicated Management roles bases on users Ports can be integrate with industry wide KVM solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Remote management supports telemetry streaming and Idle Server Detection. Supports Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory and HDD by SMTP.
Operating buttons	On/off switch ID button Reset button
Status LEDs	Power ON Customer self service Light path diagnostic led Hard disks access
Environment conditions	Operating temperature: +5 C to +40 C (depending on the configuration, refer to the technical document for details) Storage temperature: -40°C - 65°C Operating humidity: 8% 90% RH, no condensation Transportation and storage humidity: 5% 95% RH, no condensation Altitude: ≤3,000m, When the altitude is 900m higher, the operating temperatureis reduced by 1 C for every 300m higher. If the altitude is more than 3,000m, you cannot configure mechanical hard disks
System size	435mm x 175 mm x 836mm (W x H x D)
Fan	Six Fan modules / 12 hot-swappable dual rotor fans N+1 and intelligent heat dissipation system
Weight	60 kg in full configuration (excluding guide rails)

Supported Components

CPU	CPU-Intel-Xeon Gold-6416H-18Core-2.2GHz-165W-HeatSink CPU-Intel-Xeon Gold-6418H-24Core-2.1GHz-185W-HeatSink CPU-Intel-Xeon Gold-6434H-8Core-3.7GHz-195W-HeatSink CPU-Intel-Xeon Gold-6448H-32core-2.4GHz-250W-HeatSink CPU-Intel-Xeon Platinum-8444H-16Core-2.9GHz-270W-HeatSink CPU-Intel-Xeon Platinum-8450H-28Core-2.0GHz-250W-HeatSink CPU-Intel-Xeon Platinum-8454H-32Core-2.1GHz-270W-HeatSink CPU-Intel-Xeon Platinum-8460H-40Core-2.2GHz-330W-HeatSink CPU-Intel-Xeon Platinum-8468H-48Core-2.1GHz-330W-HeatSink CPU-Intel-Xeon Platinum-8490H-60Core-1.9GHz-350W-HeatSink
-----	---

SAS HDD	HDD-1.2TB-SAS-2.5"-10K-12Gb/s-2.5-inch hard disk box
	HDD-1.2TB-SAS-2.5"-10K-12Gb/s-SEAGATE-2.5-inch hard disk box
	HDD-1.2TB-SAS-2.5"-10K-12Gb/s-TOSHIBA-2.5-inch hard disk box
	HDD-2.4TB-SAS-2.5"-10K-12Gb/s-2.5-inch hard disk box
	HDD-600GB-SAS-2.5"-10K-12Gb/s-SEAGATE-2.5-inch hard disk box

SSD SATA	SSD-1.92TB-SATA-2.5"-6Gb/s-Intensive read type-Intel S4520-2.5-inch hard disk box
	SSD-1.92TB-SATA-2.5"-6Gb/s-Intensive read type-Intel/Solidigm S4520-2.5-inch hard disk box
	SSD-1.92TB-SATA-2.5"-6Gb/s-Intensive read type-Sage TE820-2.5-inch hard disk box
	SSD-1.92TB-SATA-2.5"-6Gb/s-Intensive read type-Samsung PM893-2.5-inch hard disk box
	SSD-1.92TB-SATA-2.5"-6Gb/s-Intensive read type-Solidigm S4520-2.5-inch hard disk box
	SSD-1.92TB-SATA-2.5"-6Gb/s-Intensive read type-DATSSD DTS510S20-2.5-inch hard disk box
	SSD-3.84TB-SATA-2.5"-6Gb/s-Intensive read type-Sage TE820-2.5-inch hard disk box
	SSD-480G-SATA-2.5"-6Gb/s-Intensive read type-Intel S4520-2.5-inch hard disk box
	SSD-480G-SATA-2.5"-6Gb/s-Intensive read type-Intel/Solidigm S4520-2.5-inch hard disk box
	SSD-480GB-SATA-2.5"-6Gb/s-Intensive read type-SAGE TE820-2.5-inch hard disk box
	SSD-480G-SATA-2.5"-6Gb/s-Intensive read type-Solidigm S4520-2.5-inch hard disk box
	SSD-480GB-SATA-2.5"-6Gb/s-Intensive read type-Samsung PM893-2.5-inch hard disk box
	SSD-480GB-SATA-M.2-2280-6Gb/s-Intensive read type-Solidigm S4520
	SSD-7.68TB-SATA-2.5"-6Gb/s-Intensive read type-Sage TE820A-2.5-inch hard disk box
	SSD-960GB-SATA-2.5"-6Gb/s-Read-write hybrid-Intel S4620-2.5-inch hard disk box
	SSD-960GB-SATA-2.5"-6Gb/s-Read-write hybrid-Intel/Solidigm S4620-2.5-inch hard disk box
	SSD-960GB-SATA-2.5"-6Gb/s-Read-write hybrid-Samsung PM897-2.5-inch hard disk box
	SSD-960GB-SATA-2.5"-6Gb/s-Read-write hybrid-Solidigm S4620-2.5-inch hard disk box
	SSD-960GB-SATA-2.5"-6Gb/s-Intensive read type-Intel S4520-2.5-inch hard disk box
	SSD-960GB-SATA-2.5"-6Gb/s-Intensive read type-Intel/Solidigm S4520-2.5-inch hard disk box
	SSD-960GB-SATA-2.5"-6Gb/s-Intensive read type-Sage TE820-2.5-inch hard disk box
	SSD-960GB-SATA-2.5"-6Gb/s-Intensive read type-Samsung PM893-2.5-inch hard disk box
	SSD-960GB-SATA-2.5"-6Gb/s-Intensive read type-Solidigm S4520-2.5-inch hard disk box
	SSD-960GB-SATA-2.5"-6Gb/s-Intensive read type-DATSSD DTS510S20-2.5-inch hard disk box

NVME SSD	SSD-1.6TB-NVMe PCIe-2.5"-PCIe 4.0*4-Read-write hybrid-Intel P5620-2.5-inch hard disk box
	SSD-1.92TB-NVMe PCIe-2.5"-PCIe 4.0*4-Intensive read type-Samsung PM9A3-2.5-inch hard disk box
	SSD-12.8TB-NVMe PCIe-2.5"-PCIe 4.0*4-Read-write hybrid-Intel P5620-2.5-inch hard disk box
	SSD-15.36TB-NVMe PCIe-2.5"-PCIe 4.0*4-Intensive read type-Intel P5520-2.5-inch hard disk box
	SSD-3.2TB-NVMe PCIe-2.5"-PCIe 4.0*4-Read-write hybrid-Memblaze P6536-2.5-inch hard disk box
	SSD-3.2TB-NVMe PCIe-2.5"-PCIe 4.0*4-Read-write hybrid-Micron 7450-2.5-inch hard disk box
	SSD-3.84TB-NVMe PCIe-2.5"-PCIe 4.0*4-Intensive read type-Memblaze P6530-2.5-inch hard disk box

SSD-3.84TB-NVMe PCIe-2.5"-PCIe 4.0\*4-Intensive read type-Intel P5520-2.5-inch hard disk box

SSD-3.84TB-NVMe PCIe-2.5"-PCIe 4.0\*4-Intensive read type-Micron 7450PRO-2.5-inch hard disk box

SSD-6.4TB-NVMe PCIe-2.5"-PCIe 4.0\*4-Read-write hybrid-Micron 7450-2.5-inch hard disk box

SSD-960GB-NVMe PCIe-2.5"-PCIe 4.0\*4-Intensive read type-Samsung PM9A3-2.5-inch hard disk box

**Fibre Channel Card**

PCIe FC HBA-LPe32002-2x32G SFP+ -PCIe3.0x8-with optical module

**NIC card**

OCP NIC-MCX623436AN-CDAB-Mellanox CX6-2x100G QSFP56-PCIe4.0x16-no optical module

PCIe NIC-E810CQDA2G2P5-Intel-2x100G QSFP28-PCIe4.0x16-no optical module

OCP NIC-NO127D-WX1860A2-2x1G-RJ45-PCIe2.0x4

PCIe NIC-EX710-Intel-4x10G SFP+ -PCIe3.0x8-FHHL-no optical module

PCIe NIC-EXL710-Intel-2x40G QSFP+ -PCIe3.0x8-including MPO optical module

PCIe NIC-I350-V4.0-GRT-2x1G-RJ45-PCIe3.0x8

PCIe NIC-MCX516A-CCAT-Mellanox CX5-2x100G QSFP28-PCIe3.0x16-no optical module

PCIe NIC-NS212-Mellanox CX4-2x10G SFP+ -PCIe3.0x8-no optical module

PCIe NIC-NS312-Mellanox CX4-2x10G SFP28-PCIe3.0x8-no optical module

PCIe NIC-NS214-Intel X710-2x10G SFP+ -PCIe3.0x8-no optical module

PCIe NIC-NS312-Mellanox CX4-2x25G SFP28-PCIe3.0x8-no optical module

PCIe NIC-NS313-Mellanox CX6-2x25G SFP28-PCIe4.0x8-no optical module

PCIe InfiniBand-MCX556A-EDAT-Mellanox-2\*100G EDR IB-PCIe4.0x16-HHHL-no optical module

**RAID Controller**

PCIe RAID card-LSI9361-8i-SAS3108-2GB Cache-RAID0,1,10,5,6,50,60-12Gb/s-no cache protection module

PCIe RAID card-SAS9560-8i-4GB Cache-RAID0,1,10,5,6,50,60-12Gb/s-no cache protection module

PCIe SAS HBA- RS243-18i-PM8238-no Cache-RAID0,1,10,5-12Gb/s

PCIe SAS RAID Card- RS241-18i-PM8236-2G Cache-RAID0,1,10,5,6,50,60-12Gb/s-no Cache Protection Module

PCIe SAS RAID Card- RS241\_V3-18i-PM8236-2G Cache-RAID0,1,5,6,10,50,60-12Gb/s-no Cache Protection Module

PCIe SAS RAID Card- RS242\_V3-18i-PM8236-4G Cache-RAID0,1,5,6,10,50,60-12Gb/s-no Cache Protection Module

**Certified or supported operating system & virtualization Software****Compatible with mainstream server operating systems:**

Microsoft Windows Sever - 2022 LTSC	Red Hat Enterprise Linux 8.4 LTS, 8.5 and Late
Microsoft Windows Sever - 2019 LTSC	SUSE Linux Enterprise Server 15 SP3 and Later
Microsoft-Hyper V	Ubuntu Server 21.10 & 22.04 LTS and Later
Red Hat Enterprise Linux 9.0 - 9.x	VMWare vSphere 8.0
	VMWare vSphere 7.0

### Recommended support

24x7 - 4 hours Response, Next Business Day Call to Resolution CTR

24x7 - 4 hours Response, 24 Hours Call to Resolution CTR

24x7 - 4 Hours Response, 6 Hours Call to Resolution CTR

Default support Next Business Day Consulting and deployment offerings are also available. Contact Vantageo representative for the more information.

Disclaimer: Technical data is subject to modification and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.