VIKING
Enterprise Solutions
A Sanmina Division

PRODUCT BRIEF | 2U NVMe PCIe 5.0 High Availability Shared Storage Server

VSS2320

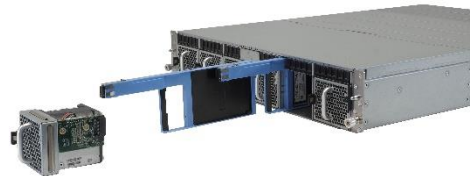### Ultra-Fast 2U Storage Server Using Gen 5 PCIe NVMe SSDs and 4th Generation AMD EPYC™ CPUs

The Viking Enterprise Solutions VSS2320 is a high-density, high-performance storage server. Packed into a compact form factor, it houses 32 EDSFF E3.S SSDs connected via the lightning-fast PCIe Gen 5 NVMe interface. Powered by 4th generation AMD EPYC™ CPUs, each with direct access to all drives, the VSS2320 delivers exceptional storage performance and high availability.

The VSS2320 is a high-performance 2U storage server featuring dual hot-swappable server modules. Each module boasts an AMD EPYC™ Genoa CPU, four HHHL PCIe Gen5 slots for high-speed expansion, and up to 12 DIMM channels for robust memory. This powerful system supports 128 PCIe lanes per module, delivering exceptional performance and low latency. Designed for flexibility, the VSS2320 fits into a standard 19-inch rack and can be deployed in a variety of applications.

The VSS2320 delivers blazing-fast read speeds of 495GB/s and write speeds of 195GB/s, eliminating I/O bottlenecks that often hinder high-performance applications. Ideal for demanding workloads in edge computing, analytics, AI, machine learning, databases, financial trading, and scientific research, the VSS2320 accelerates job pipelines and maximizes efficiency.

FEATURES

- Dimensions: 3.44 in. H X 17.52 in. W X 30.73 in. D (87 mm H X 445 mm W X 780 mm D)
- Latest AMD CPU technology provides 128 Gen 5 PCIe lanes per CPU
- 32x hot-pluggable Gen 5 PCIe NVMe EDSFF E3.S SSDs
- DDR5-4800 DIMMs up to 6TB of memory
- High availability system, each server accessing all drives
- Management interface for drive access and provisioning
- Hot-pluggable servers, power supplies, fans, and drives
- Up to 32 EDSFF SSDs utilizing PCIe and NVMe protocols, (up to 25W per drive)
- Environmental operation up to 35°C ambient inlet
- Standard chassis customization and branding available
- Optional TPM (trusted platform modules)

VES offers a broad portfolio of product offerings:

- Leading-edge performing SSD arrays, SAS & NVMe
- Leading-edge high performance and high availability solutions
- Industry leading cold storage & object storage solutions
- Purpose-built compute and storage platforms

Working with VES provides accelerated time-to-market for all server and storage product needs, and enables customers to leverage Viking Enterprise Solutions' portfolio of proven product designs. Customers are also backed by an industry- leading design team and world-class electronics manufacturing services organization.

A front load enclosure with 32 EDSFF E3.S NVMe drives. Each server has access to all 32 drives providing a highly available system.

VSS2320

AC Power

▸ Nominal input range: 200-240V AC

▸ Input frequency: 50-60 Hz

▸ Power source: dual redundant **2600W**

▸ Input current: 15 A max @ 180V AC per PSU

▸ Inrush current: 40 A peak per PSU

Hot-swappable Components

▸ Two server modules

▸ Six fans (5+1 redundant)

▸ Two AC to DC **2600W** power modules

▸ Two independent AC power inputs

▸ x32 EDSFF E3.S SSDs (hot pluggable)

Firmware

▸ OpenBMC - IPMI and Redfish (R) management

▸ CLI **and GUI control** for drive management & status of the enclosure

▸ 10G/1GbE Shared Host / Management Port

▸ 1GbE Dedicated Management Port

2U Enclosure

▸ Dimensions: 3.44 in. H X 17.52 in. W X 30.73 in. D (87 mm H X 445 mm W X 780 mm D)

▸ Weight with drives and rail kit: 67 lbs (30.4 kg) max

▸ **Optional** TPM (trusted platform module)

Failure Notifications

▸ Status LEDs for the enclosure, drives, servers, and fans

Performance

▸ 32-drive capacity utilizing Gen 5 PCIe & NVMe technology

▸ Dual port drive support

▸ Up to **25W** per drive

Operating Environment

▸ Temperature: 5°C to 35°C

▸ Relative humidity: 20% to 80% (non-condensing)

▸ Altitude: -200 ft to 10,000 ft

▸ Shock: 5G at 11ms, 1/2 sine wave pulse

▸ Vibration: 0.10G at 5 Hz to 500 Hz

Non-Operating Environment

▸ Temperature: -40°C to 60°C

▸ Relative humidity: 10% to 90% (non-condensing)

▸ Altitude: -200 ft to 40,000 ft

▸ Shock: 10G at 11ms, half sine wave pulse

▸ Vibration: 0.5G at 5 Hz to 500 Hz

Drive Partitioning

▸ Management software controls the visibility and access to each drive

▸ Drives may be mapped to either or both servers

Safety Standards

▸ IEC 62368 -1:2018

Quality Standards

▸ Manufactured under an ISO 9002 registered quality system

Servers

▸ 4th Generation AMD EPYC™ processors

▸ 12x DDR5 RDIMMs up to 3TB of memory

▸ 4x PCIe HHHL x16 Gen 5 Add-In-Cards

▸ Highly available system

▸ Each CPU sees all 32 drives

▸ Each drive is dual ported and connected to each server module

Electromagnetic Emissions & Immunity Standards

▸ CNS 15936:2016

▸ EN 55035:2017+A11:2020

▸ VCCI- CISPR 32:2016

▸ EN55032:2015+A11:2020

▸ FCC Part 15 Subpart B:2023

▸ ICES-003 Issue 7

Monitoring & Reporting

▸ Monitors temperature, power, cooling (including fan speed control), drives, as well as error rates and quality of service

▸ Reporting of all serial number, part number, and revisions of the server modules, power supplies, drives & chassis

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