

KAYTUS

KR1280V3 Series Servers

Powered by Intel Processors

General-purpose high-density computing server



Overview

The latest generation KAYTUS 1U2S high-density computing server can accommodate 2 Intel® Xeon® 6 processors with the highest TDP in a 1U space. It features an exceptional design in computing performance, storage density, network load balancing, and scalability, making it ideally suitable for compute-intensive scenarios such as high-performance computing, high-frequency transactions, and virtualization. Meanwhile, to optimize data center PUE, multi-dimensional cooling solutions such as EVAC and cold-plated liquid cooling have been designed, catering to the low PUE requirements of data centers.

Applicable Models

Model	Maintenance	Cooling
KR1280-X3-A0-R0-00	Rear I/O	Air cooling
KR1280-X3-A0-F0-00	Front I/O	Air cooling
KR1280-X3-C0-R0-00	Rear I/O	Cold-plated liquid cooling

Product Features

- High-density deployment, ultimate computing efficiency

> Powered by the Intel® Xeon® 6 processors, the server supports up to 144 cores and 144 threads per SP E-core CPU, and up to 86 cores and 172 threads per SP P-core CPU, with up to 350W TDP, a maximum turbo frequency of 3.2GHz, and 4 UPI links/CPU at up to 24GT/s per link.

> Supports 32 DDR5 ECC DIMMs (6,400MT/s, RDIMMs).

> Supports 16 MCR DIMMs (8,000MT/s) to offer 25% higher memory bandwidth compared to RDIMMs, meeting higher memory performance requirements. Supports

> the latest CXL E3.S storage media, providing customers with high-speed cache media apart from traditional DIMMs, meeting the core demands of large-capacity cache businesses.
- Innovative configurations for versatile user experiences

> Supports up to 12 front 2.5-inch SAS/SATA/NVMe drives and up to 2 optional rear 2.5-inch SAS/SATA drives.

> Innovatively supports 32 PCIe 5.0 E1.S SSDs that are directly connected to the motherboard, achieving an ultimate flash memory density of 512TB in a 1U space, making it suitable for large model scenarios where data volumes are expanding rapidly and higher processing efficiency is required. With this server, data is stored quickly and computed even faster.

> Fully upgraded PCIe 5.0 expansion slots, supporting 2 or 3 optional hot-swap OCP 3.0 cards with multiple network interface options (1/10/25/40/100/200/400 Gbps).
- Agile, open and smart O&M

> Adopts the redundancy design of core components such as the BIOS and BMC, ensuring that the system can boot up through the standby chip. It also supports online BMC upgrades without suspending services, thus guaranteeing service continuity.

> Supports intelligent O&M with innovative features such as early warning of memory faults MUPR, seamless firmware update IRUT, integrated fault diagnosis DMPU module, refined early warning of power failures, and load status LED. Additionally, the server supports cloud-based O&M and online diagnosis functions, significantly reducing the O&M difficulty and costs of client data centers.

> Fully supports InBry BMC that is developed based on the OpenBMC Project community, achieving automated, refined, and secure O&M management.
- Efficient carbon emission reduction, eco-friendly and energy saving

> Supports front I/O, allowing O&M personnel to operate in the cold aisle, reducing O&M difficulty, extending the service life of thermo-sensitive components such as optical modules and smart NICs, and ensuring higher data stability.

> Supports efficient cooling solutions such as EVAC and cold-plated liquid cooling, providing a comprehensive liquid cooling solution for data centers. Featuring full-stack liquid cooling capabilities, the server can reduce data center PUE to below 1.1.

> Follows the environmental protection concept. The key components of the server meet the lead-free (RoHS) requirements, and all packaging materials are recyclable.

Product Specifications

Item	Description	
Form Factor	1U rack server	
Processor	1 or 2 Intel® Xeon® 6 processors The SP E-core CPU configuration supports up to 144 cores and 144 threads. The SP P-core CPU configuration supports up to 86 cores and 172 threads. 4x UPI links per CPU at up to 24GT/s per link Up to 350W TDP	
Memory	Up to 32x DDR5 DIMMs (6,400MT/s) 16x DIMMs per CPU and 32x DIMMs for 2 CPUs, RDIMMs supported Up to 16x MCR DIMMs (8,000MT/s) (SP P-core)	
Storage	General	Front I/O
	Front: 8/10/12× 2.5-inch SAS/SATA/NVMe drives 4× 3.5-inch SAS/SATA/NVMe drives + 4× E3.S SSD 32× E1.S SSD	Front: 4× E3.S SSDs (1/2TB) 4× 2.5-inch SAS/SATA/NVMe drives 12× E1.S SSD
	Rear: 2× 2.5-inch SAS/SATA drives	Rear: -
	Internal: Up to 1× TF card Up to 2× SATA M.2 SSDs or 2× NVMe M.2 SSDs	Internal: Up to 1× TF card Up to 2× SATA M.2 SSDs or 2× NVMe M.2 SSDs
Storage Controller	RAID controller and SAS controller IOH controller supports 16x SATA ports Onboard Intel NVMe controller, with optional Intel NVMe RAID key	

Network	2x optional hot-swap OCP 3.0 cards	3x optional hot-swap OCP 3.0 cards
I/O Expansion Slot	Up to 7x PCIe expansion slots, including 2x hot-swap OCP 3.0 slots. Front: 2x PCIe expansion slots; Rear: 3x PCIe expansion slots and 2x OCP 3.0 slots Up to 5x PCIe expansion slots for the liquid cooling configuration, including 1x hot-swap OCP 3.0 slots	Up to 7x PCIe expansion slots. Front: 2x PCIe expansion slots and 1x OCP 3.0 slot; Rear: 2x PCIe expansion slots and 2x OCP 3.0 slots
Port	Front: 1× USB 2.0 port, 1× USB 3.0 port, 1× DB15 VGA port, and 1× USB Type-C port	Front: 1× USB 2.0 port, 1× USB 3.0 port, 1× RJ45 management network port, and 1× DB15 VGA port
	Rear: 2× USB 3.0 ports, 1× DB15 VGA port, and 1× RJ45 management network port	Rear: 2× USB 3.0 ports, 1× DB15 VGA port, and 1× RJ45 management network port
	Internal: 1× USB 3.0 port	Internal: 1× USB 3.0 port
Fan	8 hot-swap dual-rotor fans with N+1 redundancy	
Power Supply	1+1 redundant Titanium/Platinum CRPS PSUs with an output power of 800W/1,300W/1,600W/2,000W/2,700W/3,200W	
System Management	Integrated with 1 independent 1,000Mbps network port, dedicated to IPMI remote management	
Security	Two-factor authentication, TPM 2.0, front bezel, intrusion alert, BMC/BIOS chip-level redundancy, power capping, early warning of memory faults, intelligent firmware update, intelligent fault diagnosis module, etc.	
Operating System	Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS, etc.	
Dimensions (W × H × D)	With mounting ears: 482mm × 43.05mm × 810/880mm Without mounting ears: 438mm × 43.05mm × 780/850mm	
Weight	Gross weight with full configuration: ≤29 kg (For details, please refer to the White Paper)	
Environment Temperature	5°C to 50°C (For details, please refer to the White Paper)	