

# KAYTUS

# KR2280V3 Series Servers

Powered by Intel Processors  
Full-scenario adaptable rack server



## Overview

Powered by the Intel® Xeon® 6 processors, the new generation KAYTUS 2U2S all-purpose server achieves exceptional design in terms of computing performance, storage performance, and scalability. Various business scenarios are covered, from general-purpose computing to heterogeneous computing, from storage-intensive to I/O-intensive, and from traditional rear access to innovative front access design. To optimize data center PUE, it fully supports cold-plated liquid cooling design and optimizes leak detection alert mechanisms to enhance system reliability. It provides computing power with differentiated optimal efficiency ratios for various segmented business scenarios. With its versatile forms, it achieves full coverage of general-purpose scenarios.

# Applicable Models

Model	Maintenance	Cooling
KR2280-X3-A0-R0-00	Rear I/O	Air cooling
KR2280-X3-A0-F0-00	Front I/O	Air cooling
KR2280-X3-C0-R0-00	Rear I/O	Cold-plated liquid cooling

## Product Features

### ■ Efficient computing and powerful performance

- > Powered by the Intel® Xeon® 6 processors, supporting 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 per CPU at up to 24GT/s per link.
- > Supports 32 DDR5 ECC DIMMs (6,400MT/s, RDIMMs) and additionally expanded up to 24 DDR4/DDR5 DIMMs when used with CXL AIC memory expansion devices.
- > Supports the latest CXL E3.S storage media, providing customers with high-speed cache media apart from traditional DIMMs, catering to the core demands of large-capacity cache businesses.
- > Supports 16 MCR DIMMs (8,000MT/s) to offer 25% higher memory bandwidth compared to RDIMMs, adapting to higher memory performance requirements.

### ■ Optimal design and versatile configurations

- > Provides ultimate computing, storage, and network performance with a modular design that allows for flexible combinations. In terms of storage, supporting up to 45 2.5-inch SFF drives or 22 3.5-inch LFF drives, supporting 48 E3.S SSDs, and offering optional rear SATA/NVMe M.2 SSD modules to meet diverse storage needs.
- > Fully upgraded to PCIe 5.0, supporting up to 21 PCIe expansion slots.
- > Supports 2 or 3 optional hot-swap OCP 3.0 cards with multiple network interface options (1/10/25/40/100/200/400 Gbps).
- > 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 transmission stability.

### ■ Agile, open, secure, and intelligent

- > Adopts the redundancy design of core components such as the BIOS and BMC, ensuring that the system can start by switching to 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, and refined early warning of power failures. Additionally, the supporting cloud-based O&M and online diagnose 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 efficient cooling solutions, such as cold-plated liquid cooling and EVAC, providing smarter motherboard power-on/off functions based on cold plate leak detection, and offering a full-stack liquid cooling solution for data centers.
- > Continuously optimizes the cooling strategies by integrating the unique solo-fan intelligent control technology, achieving energy-saving fan speed regulation and accurate air supply based on real-time regional load changes.
- > Follows the environmental protection concept. The key components of the server meeting the lead-free (RoHS) requirements, and all packaging materials recyclable.

## Product Specifications

Item	Description	
Form Factor	2U rack server	
Processor	1 or 2 Intel® Xeon® 6 processors SP E-core CPU configuration: Up to 144 cores and 144 threads. SP P-core CPU configuration: Up to 86 cores and 172 threads. 4 UPI links per CPU at up to 24GT/s per link Up to 350W TDP	
Memory	Up to 32/56 (with the CXL AIC module) DDR5 DIMMs Up to 16 DIMMs per CPU and 32 DIMMs for 2 CPUs; RDIMMs supported; Up to 16 MCR DIMMs (8,000MT/s) for the SP P-core CPU configuration 8 × CXL 2.0 E3.S SSD (SP E-core CPU configuration)/12 × CXL 2.0 E3.S SSD (SP P-core CPU configuration) 32x DIMM slots that support up to DDR5 DIMMs	
Storage	General	Front I/O
	<b>Front:</b> 12× 3.5-inch SAS/SATA/NVMe drives 24× 2.5-inch SAS/SATA/NVMe drives 25× 2.5-inch SAS/SATA drives (up to 4 NVMe drives) 24 (1/2T)/48 (1T)× E3.S SSDs	<b>Front:</b> 9× 3.5-inch SAS/SATA/NVMe drives 8/16× 2.5-inch SAS/SATA/NVMe drives
	<b>Rear:</b> 4× 3.5-inch SAS/SATA drives and 4× 2.5-inch SAS/SATA/NVMe drives 4× 3.5-inch SAS/SATA drives and 2× SATA M.2/NVMe M.2 SSDs (hot-swap) 4× 3.5-inch SAS/SATA drives and 8× E1.S SSDs 10× 2.5-inch SAS/SATA/NVMe drives	<b>Rear:</b> -
	<b>Internal:</b> Up to 1× TF card Up to 2× SATA M.2 SSDs or 2× NVMe M.2 SSDs Up to 6× 3.5-inch SAS/SATA drives, or 10× 2.5-inch SAS/SATA drives, or 8× E3.S SSDs	<b>Internal:</b> 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	2 optional hot-swap OCP 3.0 cards	3 optional hot-swap OCP 3.0 cards
I/O Expansion Slot	Up to 15x PCIe 5.0 expansion slots, including 2x hot-swap OCP 3.0 slots The liquid cooling configuration supports up to 11x PCIe 5.0 expansion slots, including 2x hot-swap OCP 3.0 slots	Up to 21x PCIe 5.0 expansion slots (front: 6x PCIe expansion slots and x OCP 3.0 slot; rear: 12x PCIe expansion slots and 2x OCP 3.0 slots)
Port	<p><b>Front:</b> 1× USB 2.0 port, 1× USB 3.0 port, 1× DB15 VGA port, and 1× USB Type-C port</p> <p><b>Rear:</b> 2× USB 3.0 ports, 1× DB15 VGA port, and 1× RJ45 management network port</p> <p><b>Internal:</b> 1× USB 3.0 port</p>	<p><b>Front:</b> 1× USB 2.0 port, 1× USB 3.0 port, 1× RJ45 management network port, and 1× DB15 VGA port</p> <p><b>Rear:</b> 2× USB 3.0 ports, 1× DB15 VGA port, and 1× RJ45 management network port</p> <p><b>Internal:</b> 1× USB 3.0 port</p>
Fan	6x 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 Feature	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)	482.2mm × 87mm × 809.5/879.5mm (with mounting ears) 435mm × 87mm × 780/850mm (without mounting ears)	
Weight	Full configuration: ≤33 kg (For details, please refer to the White Paper)	
Operating Temperature	5°C to 50°C (For details, please refer to the White Paper)	