HUAWEI Tecal X8000
High-Density Rack Server

HUAWEI TECHNOLOGIES CO., LTD.

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HUAWEI Tecal X8000 High-Density Rack Server

(X8000)

High density and innovative architecture design

- Provides excellent computing density by deploying up to 80 compute nodes or 40 storage nodes in a fully utilized, high-density rack at a height of 44U.
- Supports up to 160 Intel® Xeon® processors when the X8000 is fully configured with compute nodes, providing computing density twice that of a conventional high-density 1U 2-socket rack server and four times that of a 2U 2-socket rack server.
- Supports a storage capacity of up to 2 PB when the X8000 is fully configured with storage nodes, meeting requirements for server storage resource expansion as data increases.

Energy efficiency

- Uses 12 large fan modules in two server zones for high-efficiency cooling.
- Features intelligent processor frequency and voltage adjustment, hard disk hibernation, and power capping, which reduces energy consumption by 15% compared to conventional rack servers with the same configuration.

Stable and reliable system design

- Provides redundant modules such as N+N redundant PSUs and N+1 redundant fan modules.
- Uses a highly reliable passive backplane, which prevents any single point of failure and ensures stable system operations.

Quick delivery and accelerated service rollout

- Supports factory pre-installation and integrated rack delivery, which shortens onsite delivery time and accelerates service rollout.

The X8000 is a new-generation rack server designed for data centers and Internet applications. Featuring high density, energy efficiency, simple maintenance, and multiple applications, the X8000 is an ideal choice for data centers in large or group enterprises, governments, energy industries, and Internet enterprises.

Technical Specifications

Form factor	44U high-density rack server
Server node	80 server nodes
PSU	8 hot-swappable 3,000 W AC PSUs in N+N redundancy mode
Fan module	Twelve 172 mm fan modules in N+1 redundancy mode
Management	Remote Management Console (RMC)
Power supply	• 220 V single-phase AC or 380V three-phase AC • 280 V HVDC
Operating temperature	DH310 V2: 5°C to 40°C DH320 V2, DH321 V2, and DH628 V2: 5°C to 35°C
Certification	CE, FCC, VCCI, RoHS
Dimensions	Height: 2,100 mm (82.68 in.) Width: 600 mm (23.62 in.) Depth: 1,175 mm (46.26 in.)
Installation Reference	Rack power supply: 12,000 W Maximum weight: 1,200 kg

Product specifications are subject to change. Contact your local sales personnel for details.

HUAWEI Tecal DH310 V2 Server Node

(DH310 V2)

Simplified configuration for web applications

- Web access applications do not require high-performance servers. Even a 1U rack server with a minimal configuration may waste rack space and server resources when used for web applications. The DH310 V2 is a cost-efficient solution designed specifically for web applications.

Low energy consumption and high density

- Uses one Intel® Xeon® E3-1200 v2 series processor and supports one 3.5-inch SATA HDD and four DDR3 DIMMs. It consumes less power than a conventional 2-socket rack server with one processor.
- Deploys two server nodes in 1U of space, offering computing density twice that of a conventional 1U rack server and four times that of a 2U rack server.

Rich management features and simple O&M

- Provides a built-in BMC that supports IPMI specifications, SOL, and remote KVM, startup, and shutdown, facilitating management and service O&M.

DH310 V2

The DH310 V2 is a new-generation, half-width single-socket server node for the Huawei X8000 server. It supports one Intel® Xeon® E3-1200 v2 series processor, four DDR3 DIMMs, and one 3.5-inch SATA hard disk. The DH628 V2 is your best choice for web access servers.

Technical Specifications

Form factor	1U half-width server node
Number of processors	1
Processor	Intel® Xeon® E3-1200 v2 series 4-core processor L3 cache: 8 MB
Memory	4 DDR3 UDIMMs
Internal storage	One 3.5-inch SATA hard disk
LOM network port	2 GE ports
USB port	3 (3 USB ports provided by a high-density connector)
Management	Built-in BMC, supporting IPMI, SOL, KVM over IP, and virtual media One 10/100 Mbit/s RJ45 management network port
Operating systems supported	Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server
Operating temperature	5°C to 40°C (50°F to 104°F)
Certification	CE, FCC, VCCI, RoHS
Dimensions	Height: 41 mm (1.61 in.) Width: 210 mm (8.27 in.) Depth: 540 mm (21.26 in.)

HUAWEI Tecal DH320 V2 Server Node

(DH320 V2)

Massive computing density

- Deploys two half-width 2-socket server nodes in 1U of space, providing twice the number of servers of a conventional 1U rack server.
- Deploys four half-width 2-socket server nodes in 2U of space, providing four times the computing density of a conventional 2U two-socket rack server.
- Supports 80 DH320 V2 server nodes in a rack and up to 160 processors, providing excellent computing density for large-scale cloud computing, data center, and Internet application server deployments with efficient utilization of equipment room space.

Outstanding energy efficiency control

- Lowers server operating power consumption by dynamically adjusting the processor frequency and voltage according to service loads.
- Monitors system power consumption in real time and implements energy-saving policies according to consumption levels.
- Adopts power capping to control server node power consumption, achieving maximum power efficiency.

Robust scalable system for multiple services

- Supports two Intel® Xeon® E5-2400 or E5-2400 v2 processors, providing powerful computing performance and ensuring high-speed system operation.
- Supports twelve DDR3 DIMMs, two 2.5-inch hot-swappable SAS/SATA HDDs or SSDs, and one standard PCIe card, enabling flexible expansion of computing, storage, and I/O resources for growing service applications.

DH320 V2

The DH320 V2 is a new-generation, half-width 2-socket server node for the Huawei X8000 server. It uses Intel® Xeon® E5-2400 or E5-2400 v2 series processors and supports twelve DDR3 DIMMs and two 2.5-inch SAS/SATA HDDs or SSDs. High density and low energy consumption make the DH320 V2 an excellent choice for cloud computing, data center, and Internet application scenarios.

Technical Specifications

Form factor	1U half-width server node
Number of processors	1 or 2
Processor	Intel® Xeon® E5-2400 or E5-2400 v2 series Core options: 4, 6, 8, and 10 L3 cache: Up to 25 MB
Memory	12 DDR3 DIMMs
Internal storage	2 x 2.5-inch SAS/SATA HDDs or SSDs
RAID support	RAID 0 or 1 RAID cache: 512 MB or 1 GB Optional BBU or supercapacitor
LOM network port	2 GE ports
Expansion slot	Up to 2 PCIe slots
USB port	5 (3 USB ports provided by a high-density connector, 1 internal USB port, and 1 built-in USB flash port)
Management	Built-in BMC, supporting IPMI, SOL, KVM over IP, and virtual media One 10/100 Mbit/s RJ45 management network port
Operating systems supported	Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server Citrix XenServer VMware
Operating temperature	5°C to 35°C (50°F to 95°F)
Certification	CE, FCC, VCCI, RoHS
Dimensions	Height: 41 mm (1.61 in.) Width: 210 mm (8.27 in.) Depth: 540 mm (21.26 in.)

Configuration note: Number of server nodes in an X8000 rack = Maximum power (12,000 W) of the X8000 rack/Power of a single server node. If 80 server nodes are deployed in an X8000 rack, use the power capping technology to reduce the power of each server node to 150 W or less.

HUAWEI Tecal DH321 V2 Server Node

(DH321 V2)

High density

- Deploys two half-width 2-socket server nodes in 1U of space, providing twice the computing density of a conventional 1U two-socket rack server.
- Deploys four half-width 2-socket server nodes in 2U of space, providing four times the computing density of a conventional 2U two-socket rack server.
- Supports 80 DH321 V2 server nodes in a rack and up to 160 processors for high-density application scenarios.

Outstanding performance

- Supports a maximum of two Intel® Xeon® E5-2600 or E5-2600 v2 series processors with up to 10 cores, and 25 MB L3 cache capacity, enhancing performance and accelerating service running.
- Supports a maximum of 16 DDR3 DIMMs and two 2.5-inch SAS/SATA HDDs, or SSDs to provide a large memory capacity and storage capacity, which satisfies requirements for computing resources in various computing scenarios.

High reliability

- Supports multiple RAID levels and uses a supercapacitor to protect cache data from power failures, ensuring reliable data storage.
- Supports Trusted Platform Module (TPM) encryption to prevent viruses and unauthorized operations, improving system reliability and service security.

DH321 V2

The DH321 V2 is a new-generation, half-width 2-socket server node for the Huawei X8000 high-density server. It uses Intel® Xeon® E5-2600 or E5-2600 v2 series processors, and supports a maximum of 16 DDR3 DIMMs and two 2.5-inch SAS/SATA HDDs or SSDs. High density, performance, and reliability make the DH321 V2 an excellent choice for various computing scenarios.

Technical Specifications

Form factor	1U half-width server node
Number of processors	1 or 2
Processor	Intel® Xeon® E5-2600 or E5-2600 v2 series Core options: 4, 6, 8, and 10 L3 cache: 25 MB
Memory	16 DDR3 DIMMs
Internal storage	2 x 2.5-inch SAS/SATA HDDs or SSDs
RAID support	RAID 0 or 1 RAID cache: 512 MB Optional supercapacitor
LOM network port	2 GE ports
Expansion slot	1 PCIe slot
Management	BMC, supporting IPMI, SOL, KVM over IP, and virtual media One 10/100M RJ45 management network port
Operating systems supported	Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server Citrix XenServer VMware
Operating temperature	5°C–35°C (41°F–95°F)
Certification	CE, FCC, VCCI, and RoHS
Dimensions	Height: 41 mm (1.61 in.) Width: 210 mm (8.27 in.) Depth: 540 mm (21.26 in.)

Configuration note: Number of server nodes in an X8000 rack = Maximum power (12,000 W) of the X8000 rack/Power of a single server node. If 80 server nodes are deployed in an X8000 rack, use the power capping technology to reduce the power of each server node to 150 W or less.

HUAWEI Tecal DH628 V2 Server Node

(DH628 V2)

Large storage capacity
- Supports twelve 3.5-inch SATA/SAS HDDs or 2.5-inch SATA/SAS HDDs or SSDs and two 2.5-inch SATA HDDs or SSDs.
- Provides unique 1/4 width server nodes for massive storage server applications; deploys up to forty DH628 V2 server nodes in a 44U rack, providing up to 2 PB storage capacity.

Exceptional system design with high reliability
- Uses the Intel® Xeon® E5-2400 or E5-2400 v2 series processor platform. The processor memory supports Error Checking and Correcting (ECC), ensuring high reliability for system operations.
- Supports RAID 0, 1, 10, 5, 50, 6, and 60, providing a RAID cache of 512 MB or 1 GB.
- Provides a BBU or supercapacitor for power-off protection, ensuring security and reliability for the storage system.
- Supports delivery of the integrated rack with hard disks, facilitating service rollout; supports integrated rack migration, without affecting system reliability after migration.

Rich management features and simple O&M
- Provides a built-in BMC that supports IPMI specifications, SOL, and remote KVM, startup, and shutdown, facilitating management and service O&M.

DH628 V2

The DH628 V2 is a new-generation 2-socket server node for the Huawei X8000 server. It supports Intel® Xeon® E5-2400 or E5-2400 v2 series processors, eight DDR3 DIMMs, twelve 3.5-inch SATA/SAS HDDs or 2.5-inch SATA/SAS HDDs or SSDs and two 2.5-inch SATA HDDs or SSDs.. The DH628 V2 is ideal for large-capacity distributed storage server applications.

Technical Specifications

Form factor	4U 1/4 width server node
Number of processors	1 or 2
Processor	Intel® Xeon® E5-2400 or E5-2400 v2 series Core options: 4, 6, 8, and 10 L3 cache: 25 MB
Memory	8 DDR3 DIMMs
Internal storage	12 x 3.5-inch hot-swappable SATA/SAS HDDs or 2.5-inch hot-swappable SATA/SAS HDDs or SSDs 2 x 2.5-inch SATA HDDs or SSDs
RAID support	RAID 0, 1, 10, 5, 50, 6, and 60 RAID cache: 512 MB or 1 GB Optional BBU or supercapacitor
LOM network port	2 GE ports
Expansion slot	Up to 2 PCIe slots
USB port	5 (3 USB ports provided by a high-density connector, 1 internal USB port, and 1 built-in USB flash port)
Management	Built-in BMC, supporting IPMI, SOL, KVM over IP, and virtual media One 10/100 Mbit/s RJ45 management network port
Operating systems supported	Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server Citrix XenServer VMware
Operating temperature	5°C to 35°C (50°F to 95°F)
Certification	CE, FCC, VCCI, RoHS
Dimensions	Height: 169.6 mm (6.68 in.) Width: 109.5 mm (4.31 in.) Depth: 805 mm (31.70 in.)

Product specifications are subject to change. Contact your local sales personnel for details.

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