HUAWEI Tecal X6000
High-Density Server

Professional • Trusted • Future-oriented

HUAWEI TECHNOLOGIES CO., LTD.

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HUAWEI Tecal X6000 High-Density Server

(X6000)

High computing density

- The X6000 is 2U high and features centralized power supply and cooling. It can accommodate four half-width or two full-width server nodes. It offers a density four times that of a conventional 2U rack server, allowing a rack to hold up to 80 half-width server nodes.
- The X6000 allows quick deployment and easy maintenance by using front maintaining design, rear cabling, and hot-swappable server nodes.

Rich server node options

- The X6000 provides three half-width server nodes and one full-width server node. The server nodes support Intel® Xeon® E3-1200 v2 series, Intel® Xeon® E5-2400 series, Intel® Xeon® E5-2600 series and Intel® Xeon® E5-2600 v2 series processors, allowing you to achieve optimal performance based on service requirements.
- The X6000 also provides customized server nodes for customers.

Excellent energy efficiency control

- The 80 Plus® Platinum PSUs provide up to 94% power efficiency under a 50% load, which reduces power losses and optimizes power utilization.
- The X6000 comes with highly efficient fan modules and an optimized cooling architecture that isolates power air ducts from server nodes, increasing cooling efficiency and reducing energy consumption.
- The X6000 uses various energy-saving technologies, such as fan speed control by area, intelligent fan speed adjustment, and intelligent CPU frequency adjustment, which decreases power consumption and offers you green and energy-saving solutions.

X6000

The HUAWEI Tecal X6000 server is a high-density server designed for cloud computing, data centers, and Internet applications. With its optimized architecture, the X6000 offers you high density, rich server node options, and high energy efficiency. It is an ideal choice for large-scale server deployments.

Technical Specifications

Form factor	2U node server
Server node	Half-width server nodes: XH310 V2, XH311 V2, and XH320 V2 Full-width server node: XH621 V2
I/O module	One removable I/O module with up to four PCIe 2.0 x8 slots
PSU	Two hot-swappable PSUs working in 1+1 redundancy mode Options: • AC: 750 W, 800 W, 1200 W • DC: 800 W
Fan module	Three fan modules working in N+1 redundancy mode
Power supply	110/220 V AC or –48 V DC
Operating temperature	XH310 V2 and XH311 V2: 5°C to 40°C XH320 V2 and XH621 V2: 5°C to 35°C
Dimensions	Height: 87.5 mm (3.44 in.), width: 448 mm (17.64 in.), depth: 760 mm (29.92 in.)

HUAWEI Tecal XH310 V2 Server Node

(XH310 V2)

Designed for web applications to maximize return on investment (ROI)

- Web access applications do not require high-performance servers. Even a 1U rack server with low-level configuration may waste rack space and server resources when used for web applications. The XH310 V2 is a cost-efficient solution designed specifically for web applications.

Low energy consumption and high density

- The XH310 V2 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 single-socket rack server.
- A 2U server can hold four XH310 V2 server nodes, offering computing density four times that of a conventional rack server.

Easy installation and O&M

- The XH310 V2 is easy to install and remove, and deploying services on it is a snap.
- The BMC module provides functions such as SOL and remote KVM, startup, and shutdown, facilitating management and maintenance of the XH310 V2.

XH310 V2

The HUAWEI Tecal XH310 V2 server node is a new-generation, half-width, single-socket server node for the X6000. The XH310 V2 uses Intel® Xeon® E3-1200 v2 series processors and supports four DDR3 DIMMs and one 3.5-inch SATA HDD. It is your best choice for web access servers.

Technical Specifications

Form factor	Half-width server node
Number of processors	1
Processor	Intel® Xeon® E3-1200 v2 series 4-core L3 cache: 8 MB
Memory	4 DDR3 UDIMMs, up to 32 GB
Internal storage	One 3.5-inch SATA HDD
LOM network port	2 onboard GE ports
Expansion slot	1 PCIe 2.0 x8 slot
USB port	3 (3 USB ports provided by a high-density connector)
Management	Built-in BMC, which supports IPMI, SOL, KVM over IP, and virtual media features 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
Dimensions	Height: 41 mm (1.61 in.), width: 210 mm (8.27 in.), depth: 540 mm (21.26 in.)

HUAWEI Tecal XH311 V2 Server Node

(XH311 V2)

High reliability for web applications

- The XH311 V2 supports four 2.5-inch SAS/SATA HDDs or SSDs and RAID. It provides higher reliability than the XH310 V2.

Low energy consumption and high density

- The XH311 V2 uses one Intel® Xeon® E3-1200 v2 series processor and supports four DDR3 DIMMs and four 2.5-inch hard disks. It consumes less power than a conventional single-socket rack server.
- A 2U server can hold four XH311 V2 server nodes, offering computing density four times that of a conventional rack server.

Easy installation and O&M

- The XH311 V2 is easy to install and remove, and deploying services on it is a snap.
- The BMC module provides functions such as SOL and remote KVM, startup, and shutdown, facilitating management and maintenance of the XH311 V2.

XH311 V2

The HUAWEI Tecal XH311 V2 server node is a new-generation, half-width, single-socket server node for the X6000. The XH311 V2 uses Intel® Xeon® E3-1200 v2 series processors and supports four 2.5-inch SAS/SATA HDDs or SSDs and four DDR3 DIMMs. It is your best choice when you need access servers with a high degree of data reliability.

Technical Specifications

Form factor	Half-width server node
Number of processors	1
Processor	Intel® Xeon® E3-1200 v2 series 4-core L3 cache: 8 MB
Memory	4 DDR3 UDIMMs, up to 32 GB
Internal storage	4 hot-swappable 2.5-inch SAS/SATA HDDs or SSDs
RAID support	RAID 0, 1, 10, 5, and 6 RAID cache: 512 MB or 1 GB Power-off protection: BBU or supercapacitor
LOM network port	2 onboard GE ports
Expansion slot	1 PCIe 2.0 x8 slot and 1 PCIe slot for installing a RAID controller card
USB port	3 (3 USB ports provided by a high-density connector)
Management	Built-in BMC, which supports IPMI, SOL, KVM over IP, and virtual media features 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
Dimensions	Height: 41 mm (1.61 in.), width: 210 mm (8.27 in.), depth: 540 mm (21.26 in.)

HUAWEI Tecal XH320 V2 Server Node

(XH320 V2)

Industry-leading computing density

- An X6000 server can hold four XH320 V2 server nodes, offering computing density four times that of a conventional rack server.
- A rack can hold 80 XH320 V2 server nodes with up to 160 processors, which is perfect in large-scale server deployment scenarios, such as cloud computing systems and data centers.

Outstanding energy efficiency

- The XH320 V2 can dynamically adjust the processor frequency and voltage based on service loads.
- The XH320 V2 supports real-time monitoring of the system power consumption, which helps you adjust energy-saving policies in a timely manner.
- The XH320 V2 controls power consumption with its power capping technology, yielding the industry-leading records in SPEC testing.

High scalability

- The XH320 V2 supports up to two Intel® Xeon® E5-2400 series 4-core, 6-core, or 8-core processors to achieve high performance.
- The XH320 V2 supports up to 12 DDR3 DIMMs, four 2.5-inch hot-swappable SAS/SATA HDDs or SSDs, and standard PCIe cards, allowing you to flexibly expand computing, storage, and I/O resources based on service requirements.

XH320 V2

The HUAWEI Tecal XH320 V2 server node is a new-generation, half-width, 2-socket server node for the X6000. The XH320 V2 uses Intel® Xeon® E5-2400 series processors and supports four 2.5-inch SAS/SATA HDDs or SSDs and 12 DDR3 DIMMs. It is ideal for cloud computing deployment and data centers that require a large number of servers.

Technical Specifications

Form factor	Half-width server node
Number of processors	1 or 2
Processor	Intel® Xeon® E5-2400 series Core option: 4, 6, or 8 L3 cache: up to 20 MB
Memory	12 DDR3 DIMMs, up to 384 GB
Internal storage	4 hot-swappable 2.5-inch SAS/SATA HDDs or SSDs
RAID support	RAID 0, 1, 10, 5, and 6 RAID cache: 512 MB or 1 GB Power-off protection: BBU or supercapacitor
LOM network port	2 onboard GE ports
Expansion slot	Up to 2 PCIe slots: • 1 PCIe slot for installing a RAID controller card if the XH320 V2 uses one processor • 1 PCIe 2.0 x8 slot and 1 PCIe slot for installing a RAID controller card if the XH320 V2 uses two processors
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, which supports IPMI, SOL, KVM over IP, and virtual media features 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
Dimensions	Height: 41 mm (1.61 in.), width: 210 mm (8.27 in.), depth: 540 mm (21.26 in.)

HUAWEI Tecal XH621 V2 Server Node

(XH621 V2)

Large memory capacity

- The XH621 V2 supports 24 DDR3 DIMMs with a memory capacity of up to 768 GB, which allows more virtual machines (VMs) to run on a server.

Reliable internal storage

- The XH621 V2 supports up to eight 2.5-inch SAS/SATA HDDs or SSDs and various RAID configurations.
- The XH621 V2 uses a battery or supercapacitor for power-off protection.
- The XH621 V2 uses TPM encryption to prevent unauthorized access.

Outstanding performance

- The XH621 V2 supports up to two Intel® Xeon® E5-2600 or E5-2600 v2 series processors, whose 32 nm architecture offers better manufacturing and higher performance. It provides 80% higher service processing speed than the previous-generation server platform.
- The XH621 V2 supports four PCIe cards, providing a large memory capacity and storage capacity for various server applications.

XH621 V2

The HUAWEI Tecal XH621 V2 server node is a new-generation, full-width, 2-socket server node for the X6000. The XH621 V2 uses Intel® Xeon® E5-2600 or E5-2600 v2 series processors and supports eight 2.5-inch SAS/SATA HDDs or SSDs and 24 DDR3 DIMMs. It is ideal for high-performance computing (HPC) scenarios, such as cloud computing deployment and virtualization.

Technical Specifications

Form factor	Full-width server node
Number of processors	1 or 2
Processor	Intel® Xeon® E5-2600 or E5-2600 v2 series
Memory	24 DDR3 DIMMs, up to 768 GB
Internal storage	8 hot-swappable 2.5-inch SAS/SATA HDDs or SSDs
RAID support	RAID 0, 1, 10, 5, 50, 6, and 60 RAID cache: 512 MB or 1 GB Power-off protection: BBU or supercapacitor
LOM network port	2 onboard GE ports
Expansion slot	Up to 4 PCIe slots: • 1 PCIe 2.0 x8 slot and 1 PCIe slot for installing a RAID controller card if the XH621 V2 uses one processor • 1 PCIe 3.0 x8 slot, 2 PCIe 2.0 x8 slots, and 1 PCIe slot for installing a RAID controller card if the XH621 V2 uses two processors
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, which supports IPMI, SOL, KVM over IP, and virtual media features 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
Dimensions	Height: 41 mm (1.61 in.), Width: 423 mm (16.65 in.), Depth: 540 mm (21.26 in.)