HUAWEI Tecal E6000
Blade Server

Professional • Trusted • Future-oriented

HUAWEI

The HUAWEI Tecal E6000 is a new-generation server platform that guarantees comprehensive and powerful functionality, flexible configurations, and outstanding performance. With integrated subsystems for computing, switching, storage, I/O, and management, the energy-efficient E6000 forms a highly reliable solution that provides optimized virtualization and high scalability, making it an excellent choice for meeting business growth requirements.

Chassis	E6000 chassis	E6000H chassis		
Server blade	BH620 V2	BH621 V2	BH622 V2	BH640 V2

Switch module	NX910 (GE pass through)	NX120 (4G FC switching)	NX220 8G FC switching)	NX226 (8G FC pass through)	NX112 (10GE uplink switching)	NX113 (10GE uplink switching)	NX230 (10GE switching)

Underpinned by leading technology and architecture, the E6000 applies Huawei's extensive technical experience and employs a range of Huawei's proprietary technologies and solutions to ensure industry-leading quality and distinctive features.

Large-capacity storage
- Each BH620 V2 server blade supports up to four 2.5-inch HDDs, which give more storage capacity than similar server products.

High-speed I/O expansion
- The BH621 V2 server blade provides one standard full-height half-length PCIe slot for high-speed I/O expansion solutions.

Supreme computing capability
- The BH622 V2 server blade uses eight-core processors at 2.9 GHz to provide the most powerful computing capability in the industry.

Highest computing density
- A 42U rack fully configured with BH640 V2 server blades provides the highest available computing density in the industry.

Typical applications

The HUAWEI Tecal E6000 blade server is designed for large-scale and high-density IT deployment scenarios for telecommunications, enterprises, Internet applications, and scientific computing. It meets IT requirements for reliability, performance, and supercomputing in the area of mid-range and high-end service provision.

HUAWEI Tecal E6000 Blade Server Chassis
(E6000 chassis)

Outstanding performance thanks to optimized architecture
- Provides an 8U space for 10 server blades and optimized layout for fan modules, PSUs, switch modules, and management modules, which achieves a good balance between computing density and power consumption and maximizes space utilization.
- Supports server blades such as the BH620 V2, BH621 V2, and BH622 V2 that use Intel® Xeon® E5 series processors, which meets low-end, mid-range, and high-end customer requirements.
- Supports up to six switch modules, such as GE switch modules, FC switch modules, or pass through modules.

High efficiency and energy-saving
- Uses highly efficient AC or DC PSUs to centrally supply 12 V DC power, achieving up to 92% power efficiency and reducing losses from power conversion.
- Supports energy-saving technologies, such as power capping, power alternate hibernation, and intelligent fan speed adjustment by area.
- Adopts dedicated system air ducts and an area-based thermal design to improve cooling efficiency.

High reliability
- Uses fan modules in N+1 redundancy mode and PSUs, switch modules, and management modules in N+N redundancy mode, supporting load balancing and seamless failover.
- Uses a passive backplane to prevent single point of failures, ensuring high reliability and service continuity.

Easy maintenance and management
- Complies with IPMI V2.0 and provides functions such hardware monitoring, alarm generation, and log recording and querying.
- Supports SOL, KVM over IP, WebUI, and virtual media.
- Supports a variety of protocols, including the SNMP v3, SNMP Trap v1, SSL, SSH, RMCP, and RMCP+.
- Uses Zero Touch–based remote maintenance for startup, shutdown, and reset to reduce O&M costs.

The E6000 chassis is 8U high and features an optimized layout structure to maximally use space. It houses 10 server blades and redundant PSUs, fan modules, management modules, and switch modules. The E6000 chassis can be installed in a standard 19-inch rack at a depth of at least 1000 mm. Two types of E6000 chassis are provided: AC and DC.

Technical Specifications

Form factor	8U blade server chassis
Server blades	10 slots for HUAWEI BH series server blades
Switch module	Up to 6 switch modules: • NX910 GE pass through module • NX120 4G FC switch module • NX112 10GE uplink switch module • NX113 10GE uplink switch module
PSU	Up to 6 hot-swappable PSUs: • AC: 1600 W • −48 V DC: 1300 W Redundancy: N+N or N+M
Fan module	9 hot-swappable fan modules in N+1 redundancy mode
Management	2 management modules in 1+1 redundancy mode Supported protocols: IPMI 2.0, SOL, SSL, and SSH Supports CLI, IPMITools, RMCP+, and Web for management
Power supply	110 V/220 V AC or −48 V DC
Operating temperature	5°C to 35°C
Dimensions	Height: 353 mm (13.90 in.) Width: 447 mm (17.60 in.) Depth: 810 mm (31.89 in.)

HUAWEI Tecal E6000H Blade Server Chassis
(E6000H chassis)

Outstanding performance thanks to optimized architecture
- Provides an 8U space for 10 server blades and optimized layout for fan modules, PSUs, switch modules, and management modules, which achieves a good balance between computing density and power consumption and maximizes space utilization.
- Supports server blades such as the BH620 V2, BH621 V2, BH622 V2, and BH640 V2 that use Intel® Xeon® E5 series processors, which meets low-end, mid-range, and high-end customer requirements.
- Supports up to six switch modules, such as GE switch modules, 10GE switch modules, FC switch modules, or pass through modules.

High efficiency and energy-saving
- Uses highly efficient AC or DC PSUs to centrally supply 12 V DC power, achieving up to 92% power efficiency and reducing losses from power conversion.
- Supports energy-saving technologies, such as power capping, power alternate hibernation, and intelligent fan speed adjustment by area.
- Adopts dedicated system air ducts and an area-based thermal design to improve cooling efficiency.
- Adopts a fully redundant architecture, supporting load balancing and seamless failover.
- Uses a passive backplane to prevent single point of failures, ensuring high reliability and stable service running.

Easy maintenance and management
- Complies with IPMI V2.0 and provides functions such hardware monitoring, alarm generation, and log recording and querying.
- Supports SOL, KVM over IP, WebUI, and virtual media.
- Supports a variety of protocols including the SNMP v3, SNMP Trap v1, SSL, SSH, RMCP, and RMCP+.
- Uses Zero Touch–based remote maintenance for startup, shutdown, and reset to reduce O&M costs.

The E6000H chassis adopts the optimized layout and space design from the E6000 chassis, and uses a high-speed and passive backplane to support 8G FC or 10GE switching, making it an excellent choice for high-density and clustered deployment scenarios. The E6000H chassis can be installed in a standard 19-inch rack at a depth of at least 1000 mm. Two types of E6000H chassis are provided: AC and DC.

Technical Specifications

Form factor	8U blade server chassis
Server blades	10 slots for HUAWEI BH series server blades
Switch module	Up to 6 switch modules: • NX910 GE pass through module • NX120 4G FC switch module • NX220 8G FC switch module • NX226 8G FC pass through module • NX112 10GE uplink switch module • NX113 10GE uplink switch module • NX230 10GE switch module
PSU	Up to 6 hot-swappable PSUs: • AC: 1600 W • −48 V DC: 1300 W Redundancy: N+N* or N+M
Fan module	9 hot-swappable fan modules in N+1 redundancy mode
Management	2 management modules in 1+1 redundancy mode Supported protocols: IPMI 2.0, SOL, SSL, and SSH Supports CLI, IPMITools, RMCP+, and Web for management
Power supply	110 V/220 V AC or −48 V DC
Operating temperature	5°C to 35°C
Dimensions	Height: 353 mm (13.90 in.) Width: 447 mm (17.60 in.) Depth: 810 mm (31.89 in.)

*Note: N+N redundancy is not supported on PSUs when the server is fully configured with BH640 V2 server blades.

HUAWEI Tecal BH620 V2 Server Blade

(BH620 V2)

High performance and large storage capacity

- Supports Intel® Xeon® E5-2400 series 4-core, 6-core, and 8-core processors to provide flexible configurations and high computing performance.
- Provides outstanding performance with a 384 GB DDR3 memory capacity and high memory throughput.
- Supports up to four 2.5" SAS/SATA HDDs or SSDs to provide a larger storage capacity than similar server products.
- Supports a 512 MB or 1 GB RAID cache with an optional BBU or supercapacitor.

High efficiency and energy-saving

- Adopts a professional system architecture and air ducts to improve cooling efficiency.
- Adopts Huawei's proprietary dynamic energy-saving solutions and power capping technology to optimize and control power consumption.

Easy management with the intelligent platform

- Reduces O&M costs by supporting remote deployment and fault location technologies such as SOL, KVM over IP, virtual DVD-ROM drive, WebUI, and IPMI 2.0-compliant.
- Uses built-in USB ports and Huawei's BMC management chips to provide customized management functions.
- Supports the black box function to facilitate quick fault location and service recovery.

The high-performance BH620 V2 forms a cost-effective, large-capacity solution. Featuring Intel® Xeon® E5-2400 series processors, the BH620 V2 provides up to four HDDs, 12 DIMMs. The BH620 V2 is designed for universal mid-range and high-end service applications such as telecommunication, enterprise, and Internet applications, making it a great choice for scenarios where computing and storage capabilities must be balanced.

Technical Specifications

Form factor	Full-height 2-socket server blade
Number of processors	1 or 2
Processor	Intel® Xeon® E5-2400 series Core options: 4, 6, or 8
Memory	12 DDR3 DIMMs, up to 384 GB
Internal storage	4 x 2.5" SAS/SATA HDDs or SSDs
RAID support	RAID 0, 1, 10, 5 and 6
Expansion slot	2 PCIe x 8 mezz slots for GE, 4G FC, 8G FC, and 10GE mezz cards
Operating systems supported	Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server Citrix XenServer VMware
Operating temperature	5ºC to 35ºC
Dimensions	Height: 310 mm (12.20 in.) Width: 41.8 mm (1.65 in.) Depth: 496 mm (19.53 in.)

HUAWEI Tecal BH621 V2 Server Blade
(BH621 V2)

High performance and high I/O throughput

- Supports Intel® Xeon® E5-2400 series 4-core, 6-core, and 8-core processors to provide flexible configurations and high computing performance.
- Provides outstanding performance with a 384 GB DDR3 memory capacity and high memory throughput.
- Provides a standard full-height half-length PCIe slot for high I/O throughput expansion solutions.
- Supports a 512 MB or 1 GB RAID cache with an optional BBU or supercapacitor.

High efficiency and energy-saving

- Adopts a professional system architecture and air ducts to improve cooling efficiency.
- Adopts Huawei's proprietary dynamic energy-saving solutions and power capping technology to optimize and control power consumption.

Easy management with the intelligent platform

- Reduces O&M costs by supporting remote deployment and fault location technologies such as SOL, KVM over IP, virtual DVD-ROM drive, WebUI and IPMI 2.0-compliant.
- Uses built-in USB ports and Huawei's BMC management chips to provide customized management functions.
- Supports the black box function to facilitate quick fault location and service recovery.

The high-performance BH621 V2 forms a cost-effective solution that delivers high I/O throughput. Featuring Intel® Xeon® E5-2400 series processors, the BH621 V2 supports up to 12 DIMMs, two HDDs, and a standard full-height half-length PCIe slot. The BH621 V2 is designed for universal mid-range and high-end services such as telecommunication, enterprise, and Internet applications, providing optimal solutions for high I/O throughput expansion scenarios.

Technical Specifications

Form factor	Full-height 2-socket server blade
Number of processors	1 or 2
Processor	Intel® Xeon® E5-2400 series Core options: 4, 6, or 8
Memory	12 DDR3 DIMMs, up to 384 GB
Internal storage	2 x 2.5" SAS/SATA HDDs or SSDs
RAID support	RAID 0 and 1
Expansion slot	1 standard full-height half-length PCIe slot 2 PCIe x 8 mezz slots for GE, 4G FC, 8G FC, and 10GE mezz cards
Operating systems supported	Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server Citrix XenServer VMware
Operating temperature	5ºC to 35ºC
Dimensions	Height: 310 mm (12.20 in.) Width: 41.8 mm (1.65 in.) Depth: 496 mm (19.53 in.)

HUAWEI Tecal BH622 V2 Server Blade

(BH622 V2)

Outstanding computing performance based on high density

- Supports all Intel® Xeon® E5-2600 series 4-core, 6-core, and 8-core processors to implement outstanding eight-core 2.9 GHz computing performance.
- Provides extreme performance with a 768 GB DDR3 memory capacity and high memory throughput.
- Supports a 512 MB or 1 GB RAID cache with an optional BBU or supercapacitor.

High efficiency and energy-saving

- Adopts a professional system architecture and air ducts to improve cooling efficiency.
- Adopts Huawei's proprietary dynamic energy-saving solutions and power capping technology to optimize and control power consumption.

Easy management with the intelligent platform

- Reduces O&M costs by supporting remote deployment and fault location technologies such as SOL, KVM over IP, virtual DVD-ROM drive, WebUI and IPMI 2.0-compliant.
- Uses built-in USB ports and Huawei's BMC management chips to provide customized management functions.
- Supports the black box function to facilitate quick fault location and service recovery.

The BH622 V2 delivers extremely high-density computing capabilities and a super large memory capacity. It uses Intel® Xeon® E5-2600 series processors (up to135 W) and supports 24 DIMMs and two HDDs. The BH622 V2 is designed for high-end enterprise service scenarios that use virtualization, cloud computing, and high-performance computing. It is particularly suitable for applications with high performance requirements, such as image and signal processing, financial algorithms, scientific computing, and seismic processing.

Technical Specifications

Form factor	Full-height 2-socket server blade
Number of processors	1 or 2
Processor	Intel® Xeon® E5-2600 series Core options: 4, 6, or 8
Memory	24 DDR3 DIMMs, up to 768 GB
Internal storage	2 x 2.5" SAS/SATA HDDs or SSDs
RAID support	RAID 0 and 1
Expansion slot	2 PCIe x 8 mezz slots for GE, 4G FC, 8G FC, and 10GE mezz cards
Operating systems supported	Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server Citrix XenServer VMware
Operating temperature	5℃ to 35℃
Dimensions	Height: 310 mm (12.20 in.) Width: 41.8 mm (1.65 in.) Depth: 496 mm (19.53 in.)

HUAWEI Tecal BH640 V2 Server Blade

(BH640 V2)

World leading computing density

- The Tecal E6000H chassis houses 10 BH640 V2 server blades in the 8U space, providing the highest computing node density (5 processors/U) in the industry.

Powerful performance

- Supports up to four Intel® Xeon® E5-4600 series processors, each with eight cores, a 20 MB L3 cache, 8GT/s QPI, supporting the hyper-threading and Turbo acceleration technologies.
- Meets memory-intensive applications requirements by providing 24 DDR3 DIMMs and up to 768 GB memory capacity.

Minimal TCO through optimal design

- Reduces the quantity of devices and installation space to maximize the ROI through extremely high density and excellent performance.
- Uses the BMC to support remote management and maintenance using the SOL, KVM over IP, and virtual media, significantly reducing management costs.
- Supports the black box function to facilitate quick fault location and service recovery.

The BH640 V2 delivers outstanding computing performance and, when fully configured in a 42U rack, its total computing density leads the industry. It uses Intel® Xeon® E5-4600 series high performance processors and supports 24 DDR3 DIMMs and two HDDs. The BH640 V2 is designed for high-end enterprise service scenarios that use virtualization, cloud computing, and high-performance computing. It is particularly suitable for applications with high performance requirements, such as image and signal processing, financial algorithms, scientific computing, and seismic processing.

Technical Specifications

Form factor	Full-height 4-socket server blade
Number of processors	2 or 4
Processor	Intel® Xeon® E5-4600 series Core options: 4, 6, or 8
Memory	24 DDR3 DIMMs, up to 768 GB
Internal storage	2 x 2.5" SAS/SATA HDDs or SSDs
RAID support	RAID 0 and 1
Expansion slot	2 PCIe x 8 mezz slots for GE, 4G FC, 8G FC, and 10GE mezz cards
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: 310 mm (12.20 in.) Width: 41.8 mm (1.65 in.) Depth: 496 mm (19.53 in.)

HUAWEI Tecal E6000 Switch Modules

HUAWEI Tecal E6000 blade server supports seven Huawei switch modules: GE, 10GE, 4G FC, and 8G FC switch modules. You can select the switch modules based on actual IO service requirements.

The following tables describe the technical specifications of each switch module.

NX 910 GE pass through module

Network port	10 pass through 1000Base-T ports (10/100Base-T unsupported)
Management port	1 I2C management port connected to the management module through the backplane
Dimensions	Height: 236.5 mm (9.31 in.) Width: 29 mm (1.14 in.) Depth: 325 mm (12.80 in.)

NX120 4G FC switch module

Network port	4 autonegotiation optical ports at the rate of 1 Gbit/s, 2 Gbit/s, or 4 Gbit/s SFP single-mode and multi-mode transceivers, supporting unicast and broadcast data exchanging
Management port	1 standard RS232 management serial port 1 I2C port and one 10/100Base-T management network port connected to the management module through the backplane
Dimensions	Height: 236.5 mm (9.31 in.) Width: 29 mm (1.14 in.) Depth: 325 mm (12.80 in.)

NX220 8G FC switch module

Network port	6 auto-negotiation optical ports at the rate of 2 Gbit/s, 4 Gbit/s, or 8 Gbit/s SFP single-mode and multi-mode transceivers, 4G SFP and 8G SFP+ optical modules
Management ports	1 standard RS232 management serial port 1 I2C port and one 10/100Base-T management network port connected to the management module through the backplane
Dimensions	Height: 236.5 mm (9.31 in.) Width: 29 mm (1.14 in.) Depth: 325 mm (12.80 in.)

NX226 8G FC pass through module

Network port	10 pass through 8G FC SFP+ ports
Management port	1 I2C management port connected to the management module through the backplane
Dimensions	Height: 236.5 mm (9.31 in.) Width: 29 mm (1.14 in.) Depth: 325 mm (12.80 in.)

NX112 10GE uplink switch module

Network port	Two 10 GE uplink SFP+ ports 2 stacking ports with the 12 Gbit/s bandwidth for stacking E6000 chassis Four 10/100/1000BASE-T auto-negotiation RJ45 Ethernet ports
Management port	1 standard RS232 management serial port 1 I2C port and one 10/100Base-T management network port connected to the management module through the backplane
Dimensions	Height: 236.5 mm (9.31 in.) Width: 29 mm (1.14 in.) Depth: 325 mm (12.80 in.)

NX113 10GE uplink switch module

Network port	Two 10 GE uplink SFP+ ports 2 stacking ports with the 12 Gbit/s bandwidth for stacking E6000 chassis 4 SFP GE optical ports L3 switching and multiple L3 routing protocols
Management port	1 standard RS232 management serial port 1 I2C port and one 10/100Base-T management network port connected to the management module through the backplane
Dimensions	Height: 236.5 mm (9.31 in.) Width: 29 mm (1.14 in.) Depth: 325 mm (12.80 in.)

NX230 10GE switch module

Network port	Eight 10 GE uplink SFP+ ports L3 switching and multiple L3 routing protocols Switch stacking
Management ports	1 standard RS232 management serial port 1 I2C port and one 10/100Base-T management network port connected to the management module through the backplane
Dimensions	Height: 236.5 mm (9.31 in.) Width: 29 mm (1.14 in.) Depth: 325 mm (12.80 in.)

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