

Cisco UCS 5108 Blade Server Chassis

Overview

The UCS 5108 Series Blade Server Chassis accommodates up to eight half-width blade servers such as the UCS B230 Blade Server, or 4 full-width blade servers such as the UCS B440 Blade Server and has two I/O bays for IO extenders such as the UCS 2104XP Fabric extender. The chassis requires 6RU in an industry standard cabinet such as the Cisco R Series Racks.

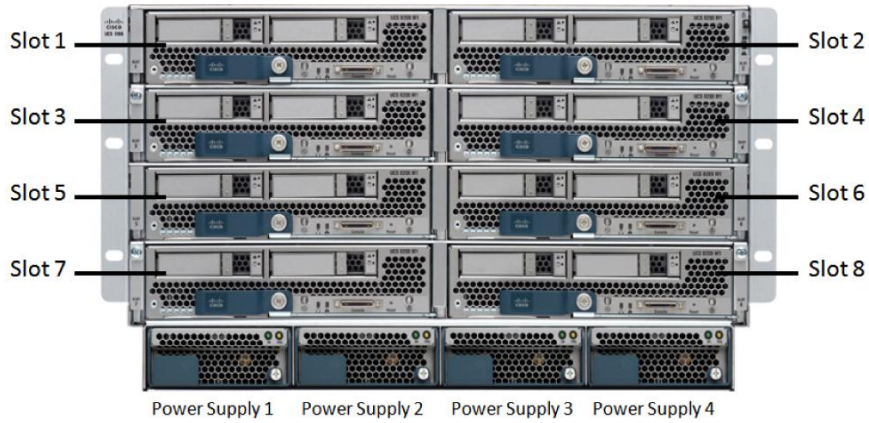
Figure 1. Cisco UCS 5108 Blade Server Chassis



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Detailed Views

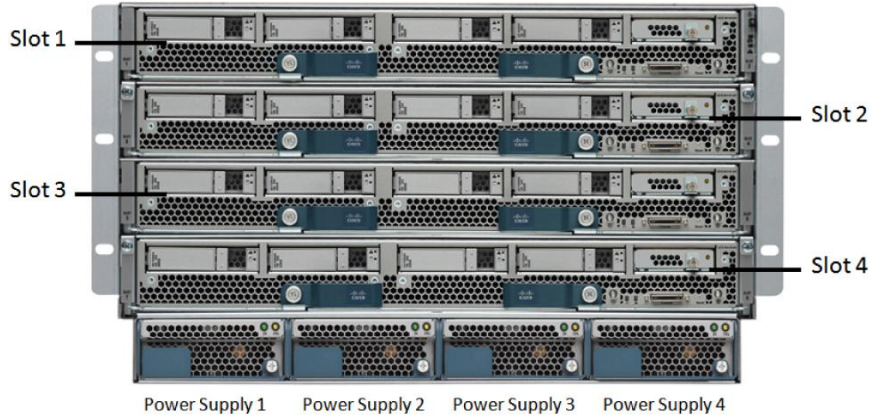
Figure 2. Front View of the Cisco UCS 5108 Blade Server Chassis with eight half-width blade servers



Front Panel Features	
Slot 1-8	Blade Server slots for half-width blade servers
Power supply 1-4	4 x 2500W Power Supplies

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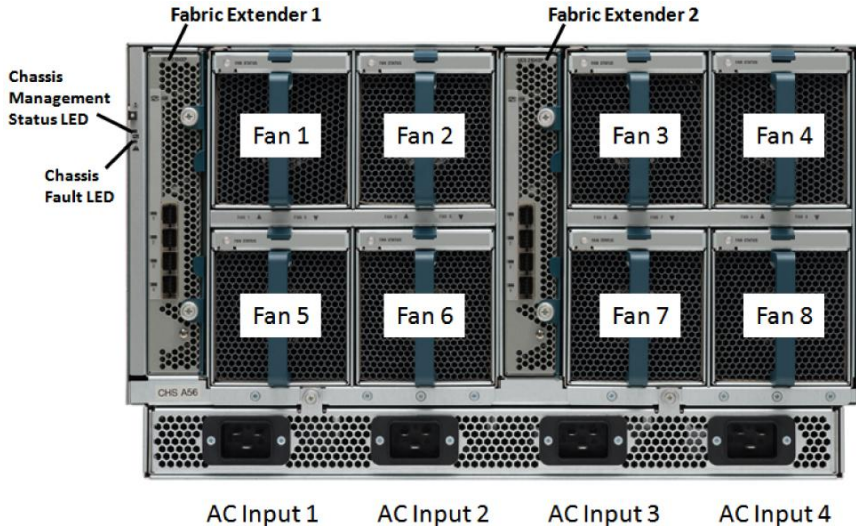
Figure 3. Front View of the Cisco UCS 5108 Blade Server Chassis with four full-width blade servers



Front Panel Features	
Slot 1-4	Blade Server slots for full-width blade servers
Power supply 1-4	4 x 2500W Power Supplies

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Figure 4. Rear View of the Cisco UCS 5108 Blade Server Chassis



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Figure 5. The Cisco UCS 2104XP Fabric Extender Module

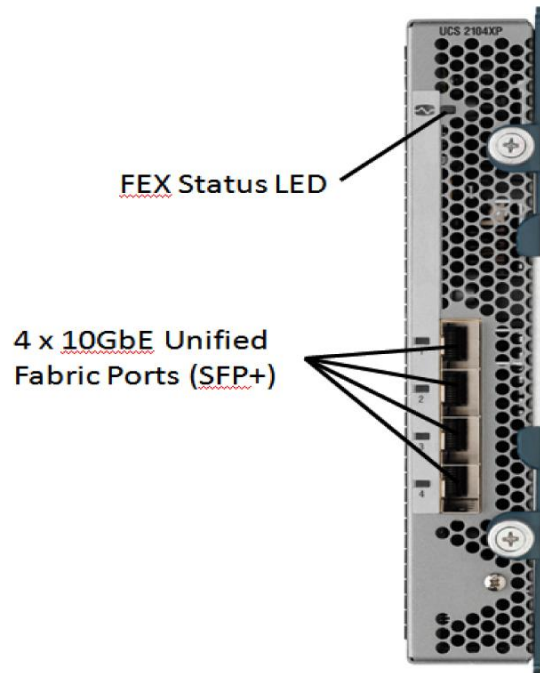


Figure 6. Connector for the KVM Console on the Cisco UCS 5108 Server Chassis

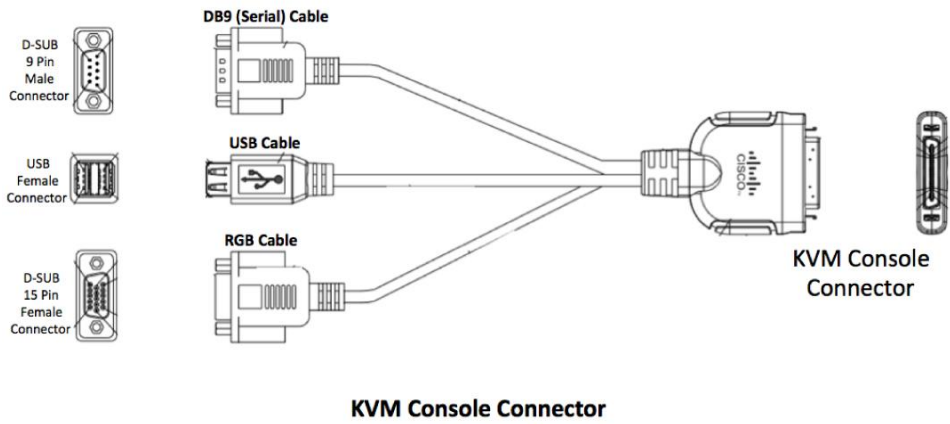
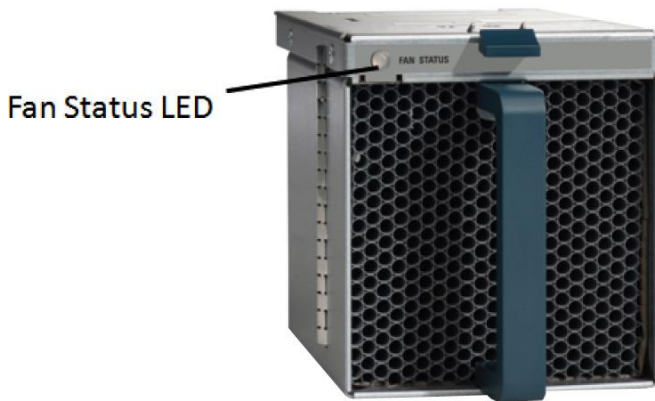


Figure 7. Fan Module for the Cisco UCS 5108 Blade Server Chassis



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Chassis Features

Table 1. Feature Specifications for the Cisco UCS 5108 Blade Server Chassis

Feature	Benefit
Management by Cisco UCS Manager	<ul style="list-style-type: none"> Reduces TCO by removing management modules from the chassis, making the chassis stateless, and UCS systems management inherently scalable Provides a single, highly available management domain for all system chassis, reducing administrative tasks through automated service profile configuration
Unified fabric	Decreases TCO by reducing the number of network interface cards (NICs), host bus adapters (HBAs), switches, and cables needed
Support for one or two Cisco UCS 2100 Series Fabric Extenders	<ul style="list-style-type: none"> Eliminates switches from the chassis along with complex configuration and management of those switches, allowing a system to scale without adding complexity and cost Allows use of two fabric extenders for redundancy or aggregation of bandwidth Enables bandwidth scaling based on application needs; blades can be configured for 1.25 Gbps to 10 Gbps or more
Auto-discovery	Requires no configuration; like all components in the Cisco Unified Computing System, chassis are automatically recognized and configured by Cisco UCS Manager and its service profiles and service profile groups
High-performance mid-plane	<ul style="list-style-type: none"> Provides investment protection Supports up to 2x 40 Gigabit Ethernet for every blade server slot when available Provides 8 blades with 1.2 terabits (Tb) of available Ethernet throughput for future I/O requirements Provides reconfigurable chassis to accommodate a variety of form factors and functions
Redundant hot-swappable power supplies and fans	<ul style="list-style-type: none"> Provides high availability in multiple configurations Increases serviceability Provides uninterrupted service during maintenance
Hot-swappable blade servers and fabric extenders	Provides uninterrupted service during maintenance and server deployment
Comprehensive monitoring	<ul style="list-style-type: none"> Provides extensive environmental monitoring on each chassis Allows use of user thresholds to optimize environmental management of the chassis
Thermal efficiencies	The Chassis Management Controller (CMC) monitors all the temperature sensors and regulates fan speeds to maintain efficient air flow in the deep plenum design while minimizing energy usage. The open backplane architecture based upon FCoE interconnects allows for increased air flow through more open space for airflow.
Tool-free installation	<ul style="list-style-type: none"> Requires no specialized tools for chassis installation Provides mounting rails for easy installation and servicing
Mixed blade configurations	The UCS 5108 Server Chassis can accommodate a maximum of 8 half-width server blades or 4 full-width server blades or any combination thereof.

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Configuring the Cisco UCS 5108 Blade Server Chassis

Cisco UCS 5108 Blade Server Chassis (includes the items shown below) N20-C6508

The Cisco UCS 5108 Blade Server Chassis comes standard with:

Chassis Accessory Kit (N20-CAK),

- One Rail kit (N20-CRMK2) that supports square-holed racks (or round hole racks with an optional adapter - see below)
- KVM local console connector dongle cable that connects to. N20-BKVM=
the front of any UCS blade server, and documentation
- Eight redundant and hot-swappable fan modules N20-FAN5

Chassis additional items (NOT included with the chassis, which may be ordered separately)

- Additional or spare rail kit for the Cisco UCS 5108 chassis. N20-CRMK2=
- Round hole adapter kit (for threaded and non-threaded holes) for the rail kit N20-CRMK2-RHA=
(N20-CRMK2) included with the chassis.

Note: This adapter kit only works with the rail kit N20-CRMK2, and not the earlier.

STEP 1: Select the I/O fabric extender.

Select a minimum of 1 and up to two fabric extenders.

- UCS 2104XP Fabric Extender. N20-I6584

Note: Each fabric extender provides four ports of 10 Gigabit Ethernet, and Fibre Channel over Ethernet (FCoE) connection to the Fabric Interconnect 6100 series modules.

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I/O Additional components (optional).

Transceivers

Select up to four Small Form-Factor Pluggable Plus (SFP+) (choose copper or fiber) per UCS 2104 Fabric Extender.

SFP+ Transceivers

Bidirectional device with transmitter and receiver in same physical package.

- 10 Gigabit Ethernet - short range SFP+ module (MMF) SFP-10GB-SR
- 10 Gigabit Ethernet - long range SFP+ module (SMF) SFP-10GB-LR
- 10 Gigabit Ethernet-FET SFP+ module (MMF) FET-10G

SFP Transceivers

Bidirectional, transmitter and receiver, within the same physical package.

- 1 GbE copper SFP Module GLC-T
- 1 GbE short range (550m max) SFP Module GLC-SX-MM
- 1 GbE long range (10km max) SFP Module GLC-LH-SM

- 1 GbE SFP, extended temperature range Module SFP-GE-T
- 1 GbE SFP, LC connector SX transceiver (MMF), ext. temp. range and DOM SFP-GE-S
- 1 GbE SFP, LC connector LX/LH transceiver (SMF), ext. temp. range and DOM SFP-GE-L

SFP+ Copper Cables

Copper cables are available for use with the 10GbE SFP+ modules.

- 10 G Base-CU SFP+, 1 meter (Twinax cable) SFP-H10GB-CU1M
- 10 G Base-CU SFP+, 3 meter (Twinax cable) SFP-H10GB-CU3M
- 10 G Base-CU SFP+, 5 meter (Twinax cable) SFP-H10GB-CU5M

- 10 G Base-CU SFP+, 7 meter (Twinax cable) SFP-H10GB-ACU7M
- 10 G Base-CU SFP+, 10 meter (Twinax cable) SFP-H10GB-ACU10M

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SFP Fibre Channel Transceivers

Support for multi-mode 850nm 4Gbs SFPs with 150m reach.

- | | |
|-----------------------------------|----------------|
| • 4 Gbs Fibre Channel-SW SFP, LC | DS-SFP-FC4G-SW |
| • 4 Gbs Fibre Channel-SW SFP, LC | DS-SFP-FC4G-LW |
| • 8 Gbs Fibre Channel-SW SFP+, LC | DS-SFP-FC8G-SW |
| • 8 Gbs Fibre Channel-SW SFP+, LC | DS-SFP-FC8G-LW |

STEP 2: Select the power supplies.

Select a minimum of one and a maximum of four power supplies

- | | |
|--|----------------|
| • 2500W power supply, redundant and hot-swappable. | N20-PAC5-2500W |
|--|----------------|

STEP 3: Select the power cords.

Select a minimum of one and a maximum of 4 power cables from this list:

- | | |
|--|-------------------|
| • AC Power Cable, 16A, 250V, Europe | CAB-AC-2500W-EU |
| • AC Power Cable, BS-1363 to IEC-C19 14ft United Kingdom | CAB-CS1363-C19-UK |
| • AC Power Cable, CEI 23-16 to IEC-C19, 14ft, Italy | CAB-C2316-C19-IT |
| • AC Power Cable, 16A, 250V, Switzerland | CAB-ACS-16 |
| • AC Power Cable, 16A, 250V, International | CAB-AC-2500W-INT |
| • AC Power Cable, 16A, 250V, China | CAB-AC-16AC-CH |
| • AC Power Cable, 16A, 250V, C19, Australia | CAB-AC-16A-AUS |
| • AC Power Cable, Japan power option | CAB-DS-ACJ-TWLK |

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- AC Power Cable, 16A, 250VAC, twist lock NEMA L6-20 plug, US CAB-AC-C6K-TWLK
- AC Power Cable, 16A, 250VAC, Straight blade NEMA L6-20 plug, US CAB-AC-2500W-US1
- AC Power Cable, 16A, 250V, Israel CAB-AC-2500W-ISRL
- AC Power Cable, S132 to IEC-C19, 14ft, Israel CAB-S132-C19-ISRL
- AC Power Cable, SABS 164-1 to IEC-C19 India CAB-SABS-C19-IND
- AC Power Cable, IRSM 2073 to IEC-C19, 14ft, Argentina CAB-IR2073-C19-AR
- AC Power Cable, NBR 14136 to C19, 14ft, Brazil UCSB-CABL-C19-BRZ
- Cabinet Jumper Cord, 250V, 16A, C20-C19 connectors CAB-C19-CBN

STEP 4: Select the chassis wide operating system. (optional).

A variety of operating system options are available.

- SLES 11 media only (multilingual) SLES-11
- SLES/1yr subscription/svcs required/0 media SLES-CA-1A
- SLES/3yr subscription/svcs required/0 media SLES-CA-3A

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STEP 5: Select the appropriate Services. (optional).

A variety of Service options are available, as listed here.

Unified Computing Mission Critical Service

This service delivers personalized technical account management, expedited technical support, and expert field support engineering for the Cisco Unified Computing System (UCS).

The Mission Critical Support Service provides a designated technical account manager (TAM) who acts as a strategic resource to help assure the unified computing environment runs at peak efficiency. Should a problem arise that threatens business continuity, the TAM provides crisis management leadership, and customer IT staff gets expedited access to Cisco's award-winning Technical Assistance Center (TAC).

Please note: This service has qualification criteria. There should be \$1.2M of UCS equipment, 200 blades and a single location to qualify for this service level.

- UC Mission Critical 24x7x4 On-site CON-UCM7-2C6508
- UC Mission Critical 24x7x2 On-site CON-UCM8-2C6508

Unified Computing Support Service.

For support of the entire Unified Computing System, Cisco offers the Cisco Unified Computing Support Service. This service provides expert software and hardware support to help sustain performance and high availability of the unified computing environment. Provided is the access to the award-winning Cisco Technical Assistance Center (TAC) around the clock, from anywhere in the world.

For UCS blade servers, there is Smart Call Home, which provides proactive, embedded diagnostics and real-time alerts. For systems that include the Unified Computing System Manager, the support service includes downloads of UCSM upgrades. The Unified Computing Support Service includes flexible hardware replacement options, including replacement in as little as two hours. There is also access to Cisco's extensive online technical resources to help maintain optimal efficiency and uptime of the unified computing environment.

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- UC Support 8X5XNBD Not on-site CON-UCS1-2C6508
- UC Support 8X5X4 Not on-site CON-UCS2-2C6508
- UC Support 24x7x4 Not on-site CON-UCS3-2C6508
- UC Support 24x7x2 Not on-site CON-UCS4-2C6508

- UC Support 8X5XNBD On-site CON-UCS5-2C6508
- UC Support 8X5X4 On-site CON-UCS6-2C6508
- UC Support 24x7x4 On-site CON-UCS7-2C6508
- UC Support 24x7x2 On-site CON-UCS8-2C6508

Unified Computing Warranty Plus Service.

For faster parts replacement than is provided with the standard Cisco Unified Computing System warranty, Cisco offers the Cisco Unified Computing Warranty Plus Service. Customers can choose from several levels of advanced parts replacement coverage, including onsite parts replacement in as little as two hours. Warranty Plus provides remote access any time to Cisco support professionals who can determine if a return materials authorization (RMA) is required.

- UC Warranty Plus 24x7x4 CON-UCW3-2C6508
- UC Warranty Plus 8X5XNBD On- Site CON-UCW5-2C6508

For more information, see

[Unified Computing Warranty and Support Services.](#)

For a complete listing of available Services for Cisco Unified Computing System:

[Unified Computing Services](#)

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Product Notes

UCS 2104XP Fabric Extender Notes

The UCS 2104 Fabric Extender acts a bridge between the blades and fabric interconnects. It helps users manage available bandwidth for the chassis. The 2104XP has four 10GbE links to the blades and includes software to enable discovery, overall chassis health, control fan speeds, and power supplies through the Chassis Management Controller (CMC).

The CMC monitors all the temperature sensors and regulates fan speeds to maintain efficient air flow in the deep plenum design while minimizing energy. The open backplane architecture based upon FCoE interconnects allows for increased air flow through more open space for airflow.

The UCS 2104XP Fabric Extender supports Twinax copper-cable transceivers. The enhanced Small Form-Factor Pluggable SFP+ 10GbE transceiver module is a bidirectional device with a transmitter and receiver in the same physical package. It has a twenty pin connector on the electrical interface.

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Figure 8. Illustrates the UCS 5108 Blade Server Chassis backplane with the UCS 2104XP Fabric Extender

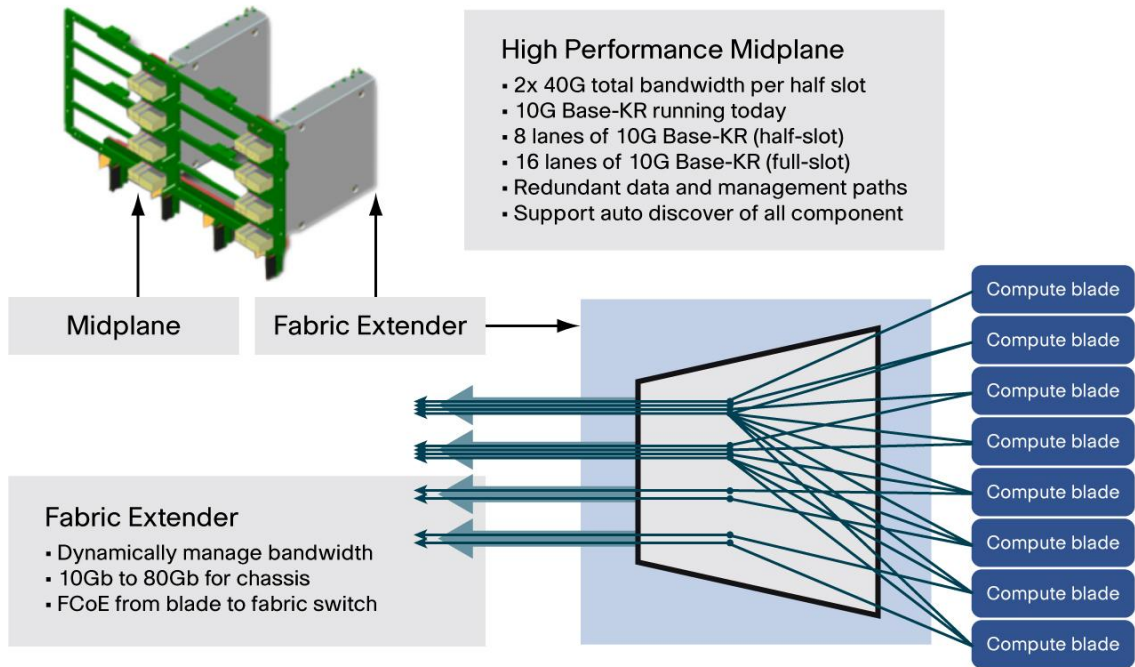


Figure 9. Illustrates the blade chassis UCS 5108 Blade Server Chassis with UCS 2104XP Fabric Extender and UCS 6100 Fabric Interconnect linking to the network

This is a typical topology used with the Cisco UCS:

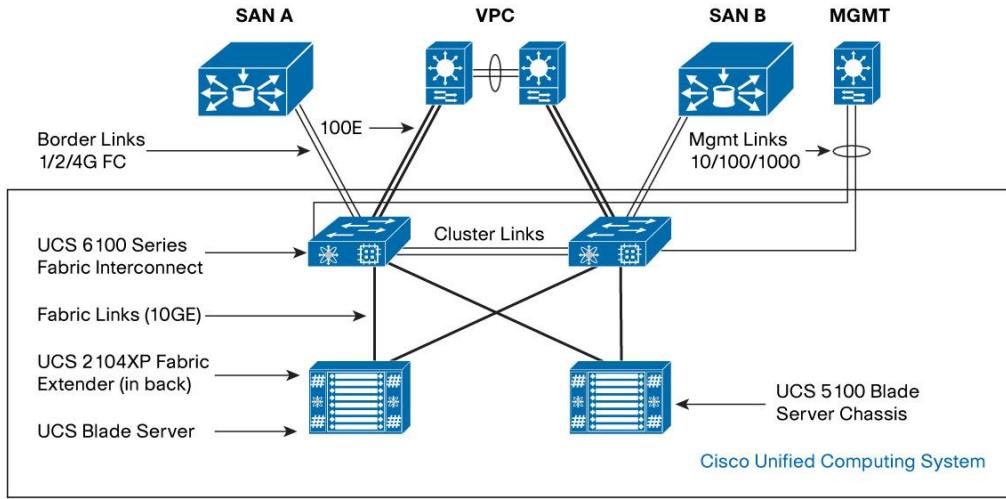
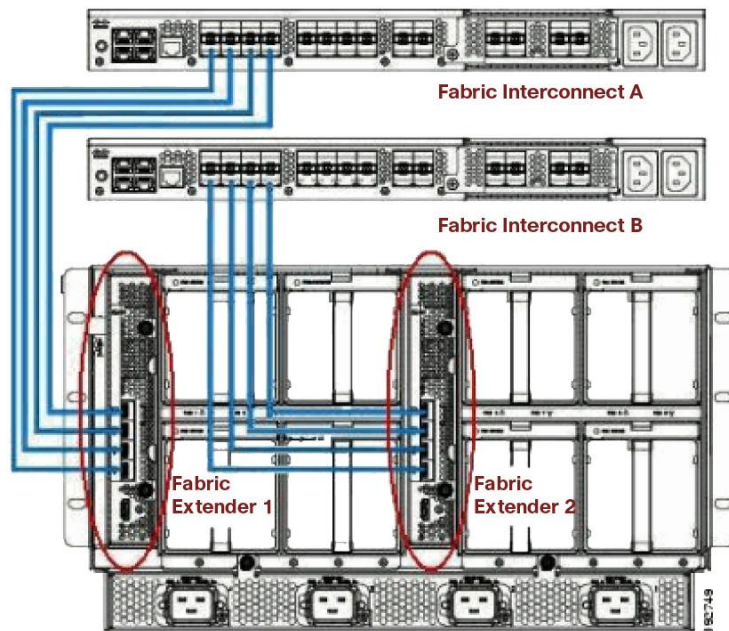


Figure 10. Illustrates the UCS 5108 Blade Server Chassis backplane with the UCS 2104XP Fabric Extender connected to two UCS 6120XP Fabric Interconnects



Technical Specifications

Physical Dimensions Specifications

Table 2. Specifications for the Cisco UCS 5108 Blade Server Chassis

Item	Specification
Height	10.5 in. (26.7 cm); 6 rack unit (6RU)
Width	17.5 in. (44.5 cm); fits standard 19-inch square-hole rack (or round hole threaded or non-threaded, with optional adapter kit)
Depth	32 in. (81.2 cm)
Weight	90 lbs (40.83 kg) empty, 255 lbs (115.66 kg) fully configured
Blade server slots	8 half-width slots, 4 full-width slots or combination of half and full-width thereof.
Fabric Extender slots	2
Fabric Extenders	4 x 10 Gigabit Ethernet uplink ports and 8 x 10 Gigabit Ethernet downlink ports to server (Fibre Channel over Ethernet [FCoE] capable) per Cisco UCS 2100 Series Fabric Extender module
Power	Four 2500W output, 200V - 240V, 50 to 60 Hz, single-phase, hot-swappable, redundant power supplies, with IEC-320 C20 connections
Fans	8 hot-swappable fans
Management	Managed from the Cisco UCS 6100 Series Fabric Interconnects by Cisco UCS Manager (redundant management operations when the chassis is configured with two fabric extenders)
Backplane	1.2 Tb of aggregate throughput; supports 10BASE-KR connections for 8 blades
Regulatory compliance	Products should comply with CE Markings per directives 2004/108/EC and 2006/108/EC
Safety	<ul style="list-style-type: none"> • UL 60950-1 • CAN/CSA-C22.2 No. 60950-1 • EN 60950-1 • IEC 60950-1 • AS/NZS 60950-1 • GB4943
EMC: Emissions	<ul style="list-style-type: none"> • 47CFR Part 15 (CFR 47) Class A • AS/NZS CISPR22 Class A • CISPR2 2 Class A • EN55022 Class A • ICES003 Class A • VCCI Class A • EN61000-3-2 • EN61000-3-3 • KN22 Class A • CNS13438 Class A
EMC: Immunity	<ul style="list-style-type: none"> • EN50082-1 • EN61000-6-1 • EN55024 • CISPR24 • EN300386 • KN 61000-4 Series

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Power Specifications

Table 3. Power Specifications for the Cisco UCS 5108 Blade Server Chassis

Description	Specification			
AC-input voltage	200 to 240 VAC nominal (Range: 180 to 264 VAC)			
AC-input frequency	50 to 60 Hz nominal (Range: 47 to 63 Hz)			
Maximum AC-input current	15.5 Amps @ 200 VAC			
Maximum Input VA	2790 VA @ 200 VAC			
Maximum output power per power supply	2500 W @ 200 to 240 VAC (up to four power supplies)			
Efficiency (80Plus Gold Certified)	10%	20%	50%	100%
	88.61%	91.64%	92.21%	90.97%
Maximum inrush current	35 A <sub cycle duration			
Maximum Heat Output	8525 BTU			
Maximum hold up time	12 ms			
Power supply output voltage	12 VDC			
Input Connector	IEC320 C20			

For configuration specific power specifications, use the Cisco UCS Power Calculator:

http://www.cisco.com/assets/cdc_content_elements/flash/dataCenter/cisco_ucs_power_calculator/

Figure 11. Input connectors for the UCS 5108 Chassis

Chassis inlet connector



IEC 320 C20

Cable connector for UCS 5108 Chassis



Environmental Specifications

Table 4. Environmental Specifications for the Cisco UCS 5108 Blade Server Chassis

Environment	Specification
Temperature operating	10°C to 35°C (50°F to 95°F)
Temperature nonoperating	-40°C to 65°C (-40°F to 149°F)
Altitude operating	0 to 3,000 m (0 to 10,000 ft.); maximum ambient temperature decreases by 1° per 300m
Humidity nonoperating	5 to 93%, non condensing
Vibration nonoperating	2.2 Grms, 10 minutes per axis on each of the three axes
Shock operating	Half-sine 2 G, 11 ms pulse, 100 pulses in each direction, on each of the three axes
Shock nonoperating	Trapezoidal, 25 G, two drops on each of six faces ΔV : 175 inches per second ec on bottom face drop, 90 inches per second ec on other five faces
Safety	UL60 950-1 No. 21CFR1040, CAN/CSA-C22.2 No. 60950-1, IRAM IEC60950-1, CB IEC60950-1, EN 60950-1, IEC 60950-1, GOST IEC60950-1, SABS/CB IEC6095-1, CCC*/CB GB4943-1995, CNS14336, CB IEC60950-1, AS/NZS 60950-1, GB4943
Emissions	47CFR Part 15 (CFR 47) Class A, AS/NZS CISPR22 Class A, CISPR2 2 Class A, EN55022 Class A, ICES003 Class A, VCCI Class A, EN61000-3-2, EN61000-3-3, KN22 Class A, CNS13438 Class A
Immunity	Verified to comply with EN55024, CISPR 24, KN 61000-4 Series, KN 24
Electrostatic discharge	Tested to ESD levels up to 15 kilovolts (kV) air discharge and up to 8 kV contact discharge without physical damage
Acoustic	<ul style="list-style-type: none">• Sound power: 54.7 dBA (5.7 Bels) at ambient temperature 23° C measured using the Dome Method• GOST MsanPIN 001-96

For More Information

Please visit <http://www.cisco.com/go/ucs>.



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