

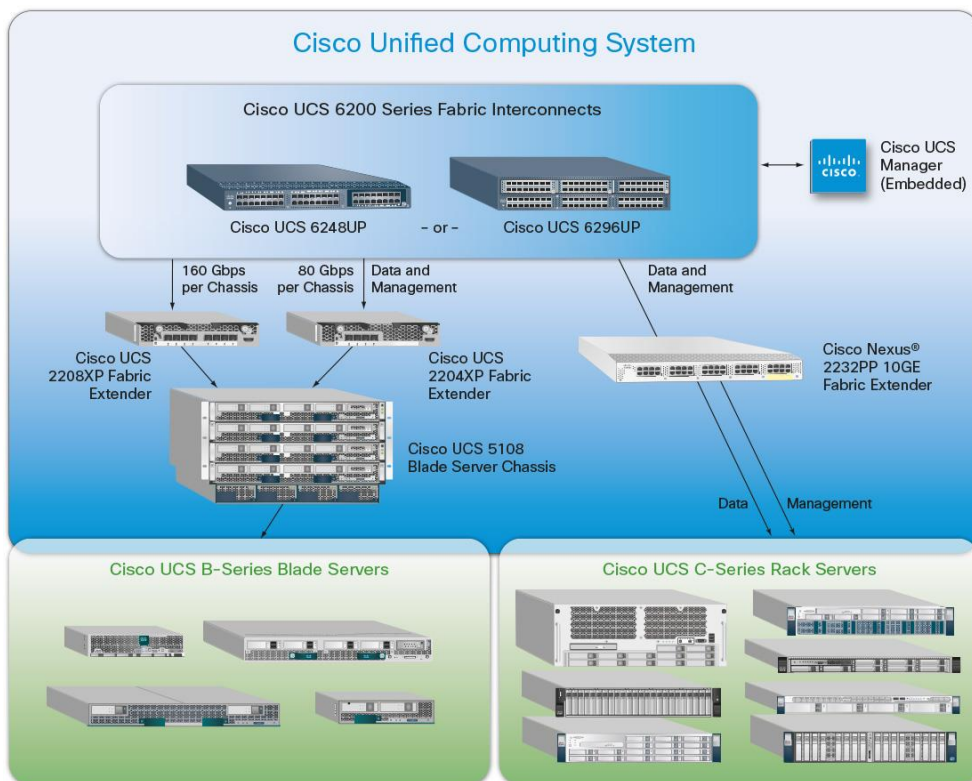
# Cisco UCS 5100 Series Blade Server Chassis



## Cisco Unified Computing System Overview

The Cisco Unified Computing System™ (Cisco UCS®) is a next-generation data center platform that unites computing, networking, storage access, and virtualization resources into a cohesive system designed to reduce total cost of ownership (TCO) and increase business agility. The system integrates a low-latency, lossless 10 Gigabit Ethernet unified network fabric with enterprise-class, x86-architecture servers. The system is an integrated, scalable, multichassis platform in which all resources participate in a unified management domain (Figure 1).

**Figure 1.** The Cisco Unified Computing System Is a Highly Available Cohesive Architecture



With the introduction of the Cisco UCS 6324 Fabric Interconnect, the management flexibility and cable reduction of the full-scale Cisco UCS solution is now available in a single-chassis implementation. The Cisco UCS 6324 Fabric Interconnect allows a single Cisco UCS chassis to be managed and configured in the same way as a full-scale Cisco UCS solution, providing the advantages of Cisco UCS to smaller businesses and remote sites.

## Product Overview

The Cisco UCS 5100 Series Blade Server Chassis is a crucial building block of the Cisco Unified Computing System, delivering a scalable and flexible blade server chassis for today's and tomorrow's data center while helping reduce TCO.

The Cisco UCS 5108 Blade Server Chassis (Figure 2) is six rack units (6RU) high and can mount in an industry-standard 19-inch rack. A chassis can house up to eight half-width Cisco UCS B-Series Blade Servers and can accommodate both half-width and full-width blade form factors.

Four hot-swappable power supplies are accessible from the front of the chassis, and single-phase AC, -48V DC, and 200 to 380V DC power supplies and chassis are available. These power supplies are up to 94 percent efficient and meet the requirements for the 80 Plus Platinum rating. The power subsystem can be configured to support nonredundant, N+1 redundant, and grid-redundant configurations. The rear of the chassis contains eight hot-swappable fans, four power connectors (one per power supply), and two I/O bays that can support either Cisco UCS 2000 Series Fabric Extenders or the Cisco UCS 6324 Fabric Interconnect. A passive midplane provides up to 80 Gbps of I/O bandwidth per server slot and up to 160 Gbps of I/O bandwidth for two slots. The chassis is capable of supporting future 40 Gigabit Ethernet standards.

**Figure 2.** Cisco UCS 5108 Blade Server Chassis with Blade Servers Front and Back



## Features and Benefits

The Cisco UCS 5108 Blade Server Chassis revolutionizes the use and deployment of blade-based systems. By incorporating unified fabric, integrated, embedded management, and fabric extender technology, Cisco UCS allows the chassis to use fewer physical components, has no need for independent management, and enables greater energy efficiency than traditional blade server chassis. This simplicity eliminates the need for dedicated chassis management and blade switches, reduces cabling, and enables Cisco UCS to scale to 20 chassis without adding complexity. The Cisco UCS 5108 chassis is a critical component in delivering the Cisco UCS benefits of data center simplicity and IT responsiveness.

In addition, the Cisco UCS 5108 chassis has the architectural advantage of not having to power and cool excess switches in each chassis. With a larger power budget per blade server, Cisco can design uncompromised expandability and capabilities in its blade servers, as evidenced by the new Cisco UCS B200 M3 Blade Server, with its leading memory slot and drive capacity, and the Cisco UCS B230 M2 Blade Server, with its industry-leading 32-DIMM memory density in a half-width form factor.

Table 1 summarizes the features and benefits of the Cisco UCS 5108.

**Table 1.** Features and Benefits

Feature	Benefit
<b>Management by Cisco UCS Manager</b>	<ul style="list-style-type: none"> <li>Reduces TCO by managing servers, networking, and storage from a single interface</li> </ul>
<b>Unified fabric</b>	<ul style="list-style-type: none"> <li>Reduces TCO by reducing the number of network interface cards (NICs), host bus adapters (HBAs), switches, and cables that need to be managed, cooled, and powered</li> </ul>
<b>Support for one or two Cisco UCS 2100 or 2200 Series Fabric Extenders</b>	<ul style="list-style-type: none"> <li>Eliminates switches from the chassis along with complex configuration and management of those switches, allowing a system to scale without adding complexity and cost</li> <li>Allows use of two fabric extenders for both redundancy and aggregation of bandwidth</li> <li>Enables bandwidth scaling based on application needs; blades can be configured from 1.25 Gbps to 40 Gbps or more</li> </ul>
<b>Support for Cisco UCS 6324 Fabric Interconnect</b>	<ul style="list-style-type: none"> <li>Allows the simplicity and consistency of a Cisco UCS managed solution to be economically achieved for single-chassis implementations</li> </ul>
<b>Autodiscovery</b>	<ul style="list-style-type: none"> <li>Requires no configuration; like all Cisco UCS components, chassis are automatically recognized and configured by Cisco UCS Manager</li> </ul>
<b>High-performance midplane</b>	<ul style="list-style-type: none"> <li>Provides investment protection for new fabric extenders, fabric interconnects, and future blade servers</li> <li>Supports up to 2 x 40 Gigabit Ethernet for every blade server slot when used in high-availability mode</li> <li>Provides 8 blades with 1.2 terabits (Tb) of available Ethernet throughput to meet future I/O requirements</li> <li>Provides reconfigurable chassis to accommodate a variety of current and future blade server form factors and functions</li> </ul>
<b>Redundant hot-swappable power supplies and fans</b>	<ul style="list-style-type: none"> <li>Provides high availability in multiple configurations</li> <li>Increases serviceability</li> <li>Provides uninterrupted service during maintenance</li> </ul>
<b>Hot-pluggable blade servers and fabric extenders</b>	<ul style="list-style-type: none"> <li>Provides uninterrupted service during maintenance and server deployment</li> </ul>
<b>Comprehensive monitoring</b>	<ul style="list-style-type: none"> <li>Provides extensive environmental monitoring on each chassis</li> <li>Allows use of user thresholds to optimize environmental management of the chassis</li> </ul>
<b>Efficient front-to-back airflow</b>	<ul style="list-style-type: none"> <li>Helps reduce power consumption and increase component reliability</li> </ul>
<b>Tool-free installation</b>	<ul style="list-style-type: none"> <li>Requires no specialized tools for chassis installation</li> <li>Provides mounting rails for easy installation and servicing</li> </ul>
<b>Mixed blade configurations</b>	<ul style="list-style-type: none"> <li>Allows up to 8 half-width or 4 full-width blade servers, or any combination thereof, for outstanding flexibility</li> </ul>

## Specifications

The Cisco UCS 5100 Series is designed for use in the Cisco UCS environment and requires Cisco UCS Manager, UCS 6200 Series Fabric Interconnects, and UCS 2100 or 2200 Series Fabric Extenders and blades servers, or the UCS 6324 Fabric Interconnect and blade servers to function in this integrated environment.

Table 2 summarizes the specifications for the Cisco UCS 5100 Series. Table 3 summarizes regulatory standards compliance.

**Table 2.** Product Specifications

Item	Specification
<b>Height</b>	10.5 in. (26.7 cm); 6RU
<b>Width</b>	17.5 in. (44.5 cm); fits standard 19-inch square-hole rack
<b>Depth</b>	32 in. (81.2 cm)
<b>Blade server slots</b>	8
<b>I/O slots</b>	2

Item	Specification			
<b>Fabric extenders</b>	<ul style="list-style-type: none"> <li>• Cisco UCS 2204XP with 4 x 10 Gigabit Ethernet external ports and 16 x 10 Gigabit Ethernet internal ports</li> <li>• Cisco UCS 2208XP with 8 x 10 Gigabit Ethernet external ports and 32 x 10 Gigabit Ethernet internal ports</li> <li>• All ports Fibre Channel over Ethernet (FCoE) capable</li> </ul>			
<b>Fabric interconnect</b>	Cisco UCS 6324 with 4 x 10-Gbps uplinks, 1 x 40-Gbps Enhanced Quad Small Form-Factor Pluggable (QSFP+) expansion port, and 16 x 10-Gbps internal ports <ul style="list-style-type: none"> <li>• All ports Fibre Channel over Ethernet (FCoE) capable</li> </ul>			
<b>Power supplies</b>		AC power supply	-48V DC power supply	200 to 380V DC power supply
	<b>Input voltage</b>	100 to 120V AC 200 to 240V AC	-40 to -62V DC	200 to 380V DC
	<b>Maximum output power</b>	1300 watts (W) at 100 to 120V input 2500W at 200 to 240V input	2500W	2500W
	<b>Frequency</b>	50 to 60 Hz	-	-
	<b>Efficiency</b>	94%	92%	94%
	<b>Redundancy</b>	Nonredundant, N+1 redundant, and N+N grid redundant		
<b>Fans</b>	8 hot-swappable fans			
<b>Management</b>	<ul style="list-style-type: none"> <li>• Cisco UCS 6200 Series Fabric Interconnects provide management for mutichassis configurations</li> <li>• Cisco UCS 6324 Fabric Interconnect provides management for single-chassis implementations</li> </ul>			
<b>Backplane</b>	1.2 Tbps of aggregate throughput; supports 10BASE-KR connections for 8 blades			
<b>Temperature: Operating</b>	50 to 95°F (10 to 35°C) (as altitude increases, maximum temperature decreases by 1°C per 300m)			
<b>Temperature: Nonoperating</b>	-40 to 149°F (-40 to 65°C); maximum altitude is 40,000 ft			
<b>Humidity: Operating</b>	5 to 93% noncondensing			
<b>Humidity: Nonoperating</b>	5 to 93% noncondensing			
<b>Altitude: Operating</b>	0 to 10,000 ft (3000m); maximum ambient temperature decreases by 1°C per 300m			
<b>Altitude: Nonoperating</b>	40,000 ft (12,000m)			

**Table 3.** Regulatory Standards Compliance: Safety and EMC

Specification	Description
<b>Regulatory compliance</b>	Products comply with CE Markings per directives 2004/108/EC and 2006/108/EC
<b>Safety</b>	<ul style="list-style-type: none"> <li>• UL 60950-1</li> <li>• CAN/CSA-C22.2 No. 60950-1</li> <li>• EN 60950-1</li> <li>• IEC 60950-1</li> <li>• AS/NZS 60950-1</li> <li>• GB4943</li> </ul>
<b>EMC: Emissions</b>	<ul style="list-style-type: none"> <li>• 47CFR Part 15 (CFR 47) Class A (FCC Class A)</li> <li>• AS/NZS CISPR22 Class A</li> <li>• CISPR2 2 Class A</li> <li>• EN55022 Class A</li> <li>• ICES003 Class A</li> <li>• VCCI Class A</li> <li>• EN61000-3-2</li> <li>• EN61000-3-3</li> <li>• KN22 Class A</li> <li>• CNS13438 Class A</li> </ul>

Specification	Description
EMC: Immunity	<ul style="list-style-type: none"> <li>• EN50082-1</li> <li>• EN61000-6-1</li> <li>• EN55024</li> <li>• CISPR24</li> <li>• EN300386</li> <li>• KN 61000-4 Series</li> </ul>

## Warranty Information

Find warranty information at Cisco.com on the [Product Warranties](#) page.

## Cisco Unified Computing Services

Using a unified view of data center resources, Cisco and our industry-leading partners deliver services that accelerate your transition to a unified computing environment. Cisco® Unified Computing Services help you quickly deploy your data center resources and optimize ongoing operations to better meet your business needs. For more information about these and other Cisco Data Center Services, visit <http://www.cisco.com/go/dcservices>.

## Why Cisco?

Cisco has significant experience in listening to customer requirements and providing solid technology innovation for the enterprise data center. Cisco delivers standards-based solutions backed by a broad partner ecosystem of industry leaders to provide end-to-end customer solutions. Unified computing elevates the traditional product classification of network, server, storage, operating systems, and applications to a data center-wide vision. Cisco, as one of the largest technology providers in the world, has the resources, expertise, and customer focus to deliver on the unified computing vision.

## For More Information

For more information about the Cisco UCS 5100 Series Blade Server Chassis, visit <http://www.cisco.com/en/US/products/ps10279/index.html> or contact your local Cisco representative.



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