



# Cisco Secure Network Server 3600 Series Appliance Overview

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## Cisco Secure Network Server 3600 Series Appliances

Cisco Secure Network Server (SNS) 3600 series appliances are designed to deliver high performance and efficiency for a wide range of workloads.

Cisco SNS 3600 series appliances support the Unified Extensible Firmware Interface (UEFI) secure boot feature. This feature ensures that only a Cisco-signed ISE image can be installed on the Cisco SNS 3600 series appliances, and prevents installation of any unsigned operating system even with physical access to the device. For example, generic operating systems, such as Red Hat Enterprise Linux or Microsoft Windows cannot boot on this appliance.

## Cisco SNS 3600 Series Appliance Hardware Specifications

The following table describes the hardware specifications of Cisco SNS 3600 series appliances.

Table 1: Cisco SNS 3600 Series Appliance Hardware Specifications

Cisco SNS 3600 Series Appliance	Hardware Specifications	Diagrams
Cisco SNS-3615-K9	<ul style="list-style-type: none"> <li>• Cisco UCS C220 M5</li> <li>• Intel Xeon Silver 2.1 GHz 4110, 8 CPU Cores, 16 Threads</li> <li>• 32 GB RAM</li> <li>• 1 x 600-GB disk</li> <li>• RAID-0</li> <li>• 6 x GbE network interfaces</li> <li>• For physical, environmental, and power specifications, see <a href="#">Server Specifications</a></li> </ul>	<p><a href="#">Figure 1: Cisco SNS 3600 Series Appliance Front Panel, on page 3</a></p> <p><a href="#">Figure 2: Cisco SNS 3600 Series Appliance Rear Panel, on page 4</a></p>
Cisco SNS-3655-K9	<ul style="list-style-type: none"> <li>• Cisco UCS C220 M5</li> <li>• Intel Xeon Silver 2.1 GHz 4116, 12 CPU Cores, 24 Threads</li> <li>• 96 GB RAM</li> <li>• 4 x 600-GB disk</li> <li>• RAID 10</li> <li>• 6 x GbE network interfaces</li> <li>• For physical, environmental, and power specifications, see <a href="#">Server Specifications</a></li> </ul>	
Cisco SNS-3695-K9	<ul style="list-style-type: none"> <li>• Cisco UCS C220 M5</li> <li>• Intel Xeon Silver 2.1 GHz 4116, 12 CPU Cores, 24 Threads</li> <li>• 256 GB RAM</li> <li>• 8 x 600-GB disk</li> <li>• RAID 10</li> <li>• 6 x GbE network interfaces</li> <li>• For physical, environmental, and power specifications, see <a href="#">Server Specifications</a></li> </ul>	



**Note** You cannot add additional hardware resources like memory, processor, or hard disk to a Cisco SNS 3600 series appliance.

## External Features

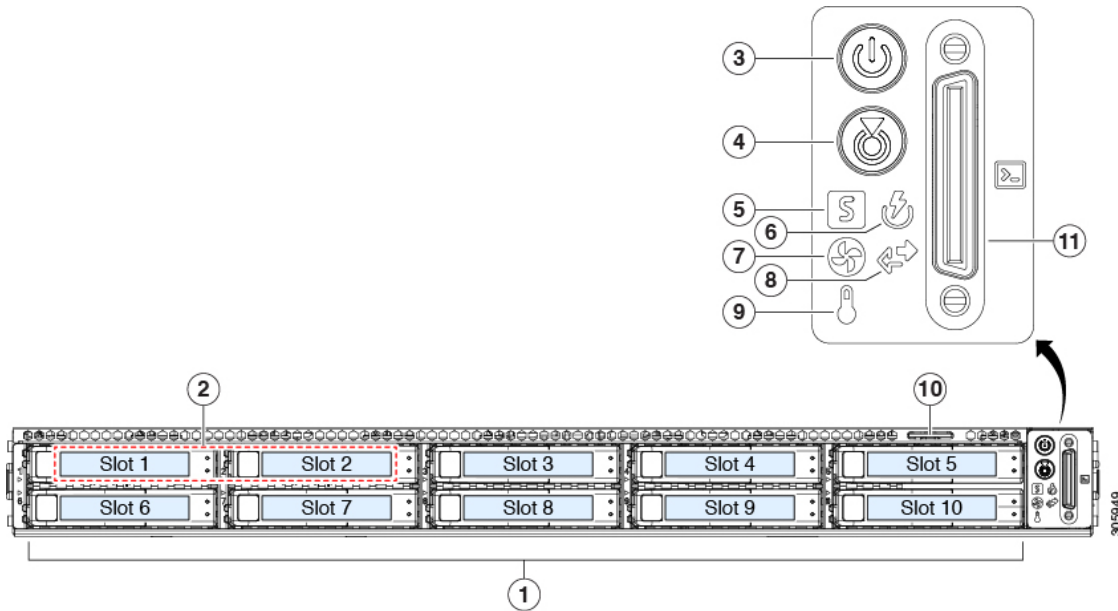
This section describes the external features of Cisco SNS 3600 series appliance.

### Cisco SNS 3600 Front Panel Features

The following figure shows the front panel features of Cisco SNS 3600 series appliance.

For definitions of LED states, see [Front Panel LEDs, on page 5](#).

**Figure 1: Cisco SNS 3600 Series Appliance Front Panel**



Drive bays 1 – 10 support Serial Attached SCSI (SAS) and Serial Advanced Technology Attachment (SATA) hard disk drives (HDDs) and solid state drives (SSDs)	Fan status LED
Drive bays 1 – 10 support Non-Volatile Memory express (NVMe) based Peripheral Component Interconnect Express (PCIe) SSDs	Network link activity LED
Power button or power status LED	Temperature status LED
Unit identification button or LED	Pull-out asset tag

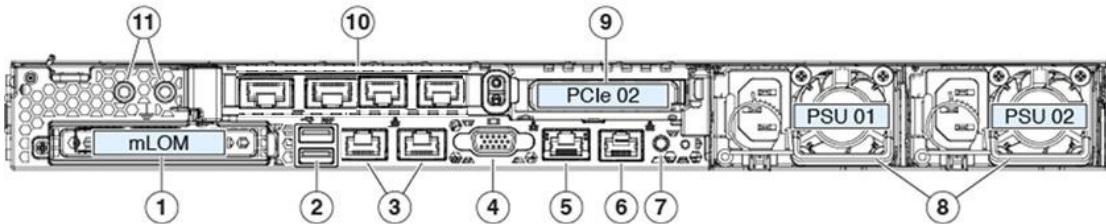
System status LED	KVM connector (used with KVM cable that provides one DB-15 VGA, one DB-9 serial, and two USB connectors)
Power supply status LED	-

### Cisco SNS 3600 Series Appliance Rear Panel Features

The following figure shows the rear panel features of Cisco SNS 3600 series appliance.

For definitions of LED states, see [Rear Panel LEDs, on page 7](#).

Figure 2: Cisco SNS 3600 Series Appliance Rear Panel



Modular LAN-on-motherboard (mLOM) card bay (x16 PCIe lane)	Rear unit identification button or LED
Two USB 3.0 ports	Power supplies (two, redundant as 1+1)
<p>Dual 1-Gb or 10-Gb Ethernet ports:</p> <ul style="list-style-type: none"> <li>• LAN1 (linked to Cisco ISE GigabitEthernet 0 interface)</li> <li>• LAN2 (linked to Cisco ISE GigabitEthernet 1 interface)</li> </ul> <p><b>Note</b> The interface labelling is from left to right.</p> <p>The dual LAN ports can support 1 Gbps or 10 Gbps depending on the link partner capability.</p>	<p>PCIe riser 2 or slot 2 (x16 lane)</p> <p>Includes PCIe cable connectors for front-loading NVMe SSDs (x8 lane)</p>
VGA video port (DB-15 connector)	<p>PCIe 1: Four Ethernet ports that are mapped to the following Cisco ISE GigabitEthernet interfaces:</p> <ul style="list-style-type: none"> <li>• GigabitEthernet 2 interface</li> <li>• GigabitEthernet 3 interface</li> <li>• GigabitEthernet 4 interface</li> <li>• GigabitEthernet 5 interface</li> </ul> <p><b>Note</b> The interface labelling is from left to right.</p>

5-Gb Ethernet dedicated management port	Threaded holes for dual-hole grounding lug
Serial port (RJ-45 connector)	-

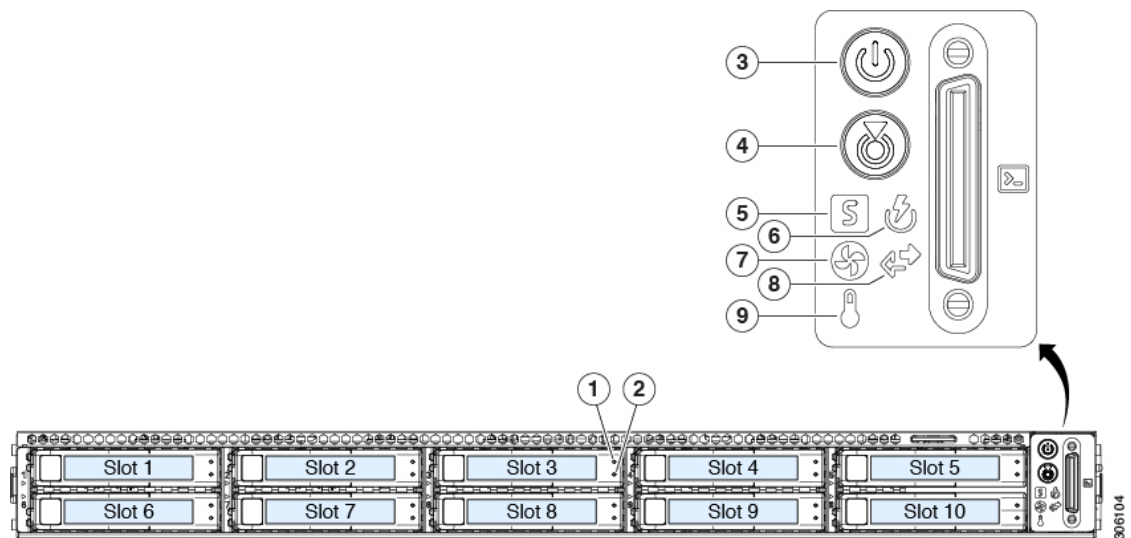
## Status LEDs and Buttons

This section contains information for interpreting front, rear, and internal LED states.

### Front Panel LEDs

The following figure shows the front panel LEDs of Cisco SNS 3600 series appliance.

**Figure 3: Front Panel LEDs**



**Table 2: Front Panel LEDs**

LED Name	States
<b>S</b> AS/SATA drive fault <b>Note</b> NVMe SSD drive tray LEDs have different behavior than SAS/SATA drive trays.	<ul style="list-style-type: none"> <li>Off—The hard drive is operating properly.</li> <li>Amber—Drive fault detected.</li> <li>Amber, blinking—The device is rebuilding.</li> <li>Amber, blinking with one-second interval—Drive locate function activated in the software.</li> </ul>
<b>S</b> AS/SATA drive activity LED <b>S</b>	<ul style="list-style-type: none"> <li>Off—There is no hard drive in the hard drive tray (no access, no fault).</li> <li>Green—The hard drive is ready.</li> <li>Green, blinking—The hard drive is reading or writing data.</li> </ul>

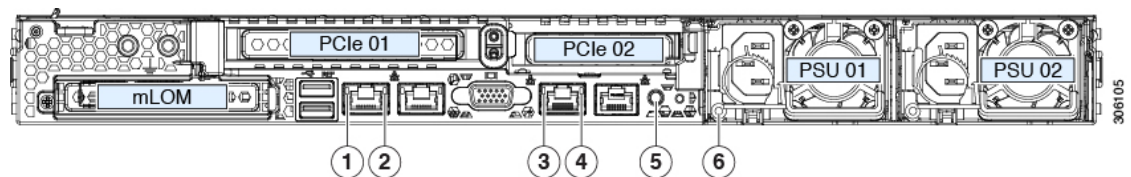
<p><b>NVMe SSD drive fault</b></p> <p><b>Note</b> NVMe SSD drive tray LEDs have different behavior than SAS/SATA drive trays.</p>	<ul style="list-style-type: none"> <li>• Off—The drive is not in use and can be safely removed.</li> <li>• Green—The drive is in use and functioning properly.</li> <li>• Green, blinking—The driver is initializing following insertion or the driver is unloading following an eject command.</li> <li>• Amber—The drive has failed.</li> <li>• Amber, blinking—Drive locate function activated in the software.</li> </ul>
<p><b>NVMe SSD activity</b></p>	<ul style="list-style-type: none"> <li>• Off—No drive activity.</li> <li>• Green, blinking—There is drive activity.</li> </ul>
<p><b>Power button or LED</b></p>	<ul style="list-style-type: none"> <li>• Off—There is no AC power to the server.</li> <li>• Amber—The server is in standby power mode. Power is supplied only to the Cisco Integrated Management Controller (Cisco IMC) and some motherboard functions.</li> <li>• Green—The server is in main power mode. Power is supplied to all server components.</li> </ul>
<p><b>Unit identification</b></p>	<ul style="list-style-type: none"> <li>• Off—The unit identification function is not in use.</li> <li>• Blue, blinking—The unit identification function is activated.</li> </ul>
<p><b>System health</b></p>	<ul style="list-style-type: none"> <li>• Green—The server is running in normal operating condition.</li> <li>• Green, blinking—The server is performing system initialization and memory check.</li> <li>• Amber, steady—The server is in a degraded operational state (minor fault). For example: <ul style="list-style-type: none"> <li>• Power supply redundancy is lost.</li> <li>• CPUs are mismatched.</li> <li>• At least one CPU is faulty.</li> <li>• At least one dual in-line memory module (DIMM) is faulty.</li> <li>• At least one drive in a RAID configuration failed.</li> </ul> </li> <li>• Amber, 2 blinks—There is a major fault with the system board.</li> <li>• Amber, 3 blinks—There is a major fault with the DIMMs.</li> <li>• Amber, 4 blinks—There is a major fault with the CPUs.</li> </ul>

Power supply status	<ul style="list-style-type: none"> <li>• Green—All power supplies are operating normally.</li> <li>• Amber, steady—One or more power supplies are in a degraded operational state.</li> <li>• Amber, blinking—One or more power supplies are in a critical fault state.</li> </ul>
Fan status	<ul style="list-style-type: none"> <li>• Green—All fan modules are operating properly.</li> <li>• Amber, blinking—One or more fan modules breached the non-recoverable threshold.</li> </ul>
Network link activity	<ul style="list-style-type: none"> <li>• Off—The Ethernet Lights Out Management (LOM) port link is idle.</li> <li>• Green—One or more Ethernet LOM ports are link-active, but there is no activity.</li> <li>• Green, blinking—One or more Ethernet LOM ports are link-active, with activity.</li> </ul>
Temperature status	<ul style="list-style-type: none"> <li>• Green—The server is operating at normal temperature.</li> <li>• Amber, steady—One or more temperature sensors breached the critical threshold.</li> <li>• Amber, blinking—One or more temperature sensors breached the non-recoverable threshold.</li> </ul>

## Rear Panel LEDs

The following figure shows the rear panel LEDs of Cisco SNS 3600 series appliance.

**Figure 4: Rear Panel LEDs**



**Table 3: Rear Panel LEDs**

	LED Name	States
1	1-Gb or 10-Gb Ethernet link speed (on both LAN1 and LAN2)	<ul style="list-style-type: none"> <li>• Off—Link speed is 100 Mbps.</li> <li>• Amber—Link speed is 1 Gbps.</li> <li>• Green—Link speed is 10 Gbps.</li> </ul>

## Rear Panel LEDs

2	1-Gb or 10-Gb Ethernet link status (on both LAN1 and LAN2)	<ul style="list-style-type: none"> <li>• Off—No link is present.</li> <li>• Green—Link is active.</li> <li>• Green, blinking—Traffic is present on the active link.</li> </ul>
3	1-Gb Ethernet dedicated management link speed	<ul style="list-style-type: none"> <li>• Off—Link speed is 10 Mbps.</li> <li>• Amber—Link speed is 100 Mbps.</li> <li>• Green—Link speed is 1 Gbps.</li> </ul>
4	1-Gb Ethernet dedicated management link status	<ul style="list-style-type: none"> <li>• Off—No link is present.</li> <li>• Green—Link is active.</li> <li>• Green, blinking—Traffic is present on the active link.</li> </ul>
5	Rear unit identification	<ul style="list-style-type: none"> <li>• Off—The unit identification function is not in use.</li> <li>• Blue, blinking—The unit identification function is activated.</li> </ul>

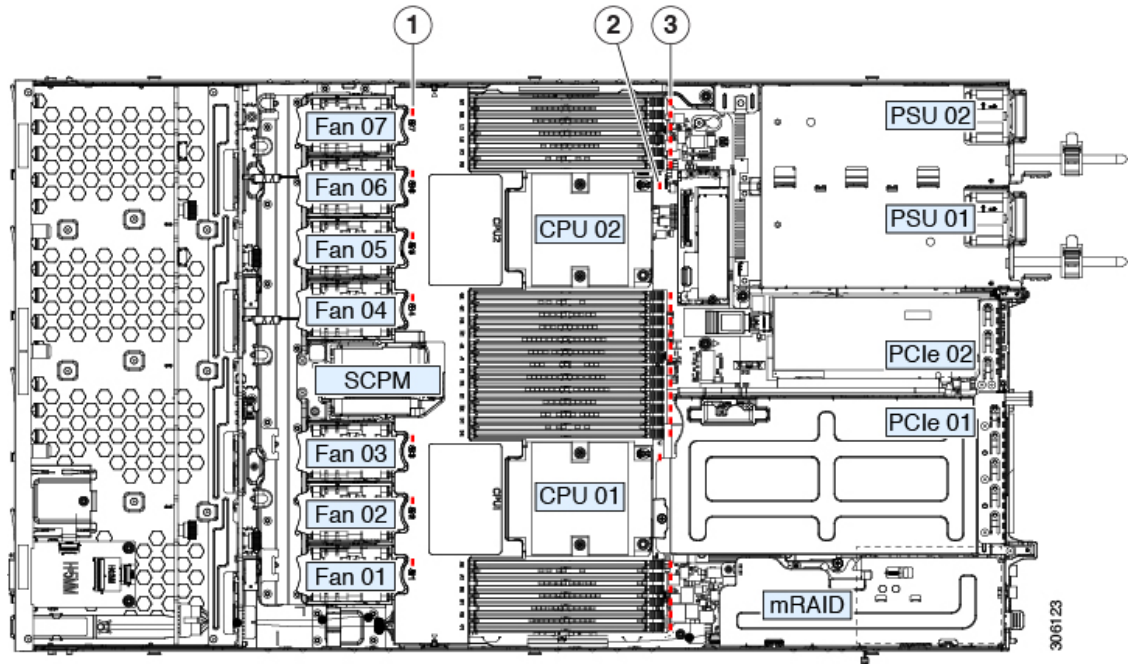


6	Power supply status (one LED for each power supply unit)	<p><b>AC power supplies:</b></p> <ul style="list-style-type: none"> <li>• Off—No AC input (12 V main power off, 12 V standby power off).</li> <li>• Green, blinking—12 V main power off; 12 V standby power on.</li> <li>• Green, solid—12 V main power on; 12 V standby power on.</li> <li>• Amber, blinking—Warning threshold detected, but 12 V main power on.</li> <li>• Amber, solid—Critical error detected; 12 V main power off (for example, over-current, over-voltage, or over-temperature failure).</li> </ul> <p><b>DC power supplies:</b></p> <ul style="list-style-type: none"> <li>• Off—No DC input (12 V main power off, 12 V standby power off).</li> <li>• Green, blinking—12 V main power off; 12 V standby power on.</li> <li>• Green, solid—12 V main power on; 12 V standby power on.</li> <li>• Amber, blinking—Warning threshold detected, but 12 V main power on.</li> <li>• Amber, solid—Critical error detected; 12 V main power off (for example, over-current, over-voltage, or over-temperature failure).</li> </ul>
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## Internal Diagnostic LEDs

The server has internal fault LEDs for CPUs, DIMMs, and fan modules.

Figure 5: Internal Diagnostic LED Locations



**F**an module fault LEDs (one behind each fan connector on the motherboard)

- Amber—Fan has a fault or is not fully seated.
- Green—Fan is OK.

**D**IMM fault LEDs (one behind each DIMM socket on the motherboard)

These LEDs operate only when the server is in standby power mode.

- Amber—DIMM has a fault.
- Off—DIMM is OK.

**C**PU fault LEDs (one behind each CPU socket on the motherboard).

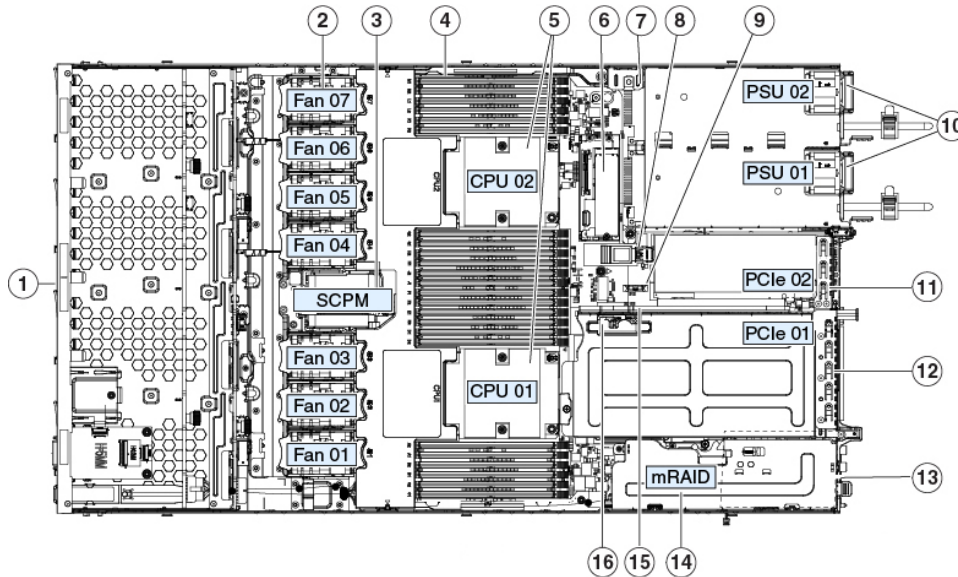
These LEDs operate only when the server is in standby power mode.

- Amber—CPU has a fault.
- Off—CPU is OK.

## Serviceable Component Locations

This section describes the field-replaceable components and service related items. The view in the following figure shows the appliance with the top cover removed.

Figure 6: Serviceable Component Locations



1 Front-loading drive bays 1–10 support SAS/SATA drives	9 RTC battery, vertical socket
2 Cooling fan modules (seven, hot-swappable)	10 Power supplies (hot-swappable when redundant as 1+1)
3 Supercap unit mounting bracket (RAID backup)	11 PCIe riser 2 or slot 2 (half-height, x16 lane) Includes PCIe cable connectors for front-loading NVMe SSDs (x8 lane)
4 DIMM sockets on motherboard (12 per CPU)	12 PCIe riser 1 or slot 1 (full-height, x16 lane) Includes socket for Micro-SD card
5 CPUs and heatsinks (up to two)	13 Modular LOM (mLOM) card bay on chassis floor (x16 PCIe lane), not visible in this view
6 Mini storage module socket Supports either an SD card module with two SD card slots; or an M.2 module with two NVMe or SATA M.2 SSD slots.	14 Modular RAID (mRAID) riser, can optionally be a riser that supports either: <ul style="list-style-type: none"> <li>• Hardware RAID controller card</li> <li>• Interposer card for embedded SATA RAID</li> </ul>
7 Chassis intrusion switch (optional)	15 PCIe cable connectors for front-loading NVMe SSDs on PCIe riser 2
8 Internal USB 3.0 port on motherboard	16 Micro-SD card socket on PCIe riser 1

## Summary of Server Features

The following table lists a summary of server features.

Feature	Description
Chassis	One rack-unit (1RU) chassis
Central Processor	<ul style="list-style-type: none"> <li>• Intel Xeon 2.1 GHz 4110</li> <li>• Intel Xeon 2.1 GHz 4116</li> </ul>
Memory	24 DDR4 DIMM sockets on the motherboard (12 each CPU)
Multi-bit error protection	Multi-bit error protection is supported
Baseboard management	<p>Board management controller (BMC), running Cisco Integrated Management Controller (Cisco IMC) firmware.</p> <p>Depending on your Cisco IMC settings, Cisco IMC can be accessed through the 1-Gb dedicated management port, the 1-Gb/10-Gb Ethernet LAN ports, or a Cisco virtual interface card.</p>
Network and management I/O	<p>Rear panel:</p> <ul style="list-style-type: none"> <li>• One 1-Gb Ethernet dedicated management port (RJ-45 connector)</li> <li>• Two 1-Gb/10-Gb BASE-T Ethernet LAN ports (RJ-45 connectors) The dual LAN ports can support 1 Gbps or 10 Gbps depending on the link partner capability.</li> <li>• One RS-232 serial port (RJ-45 connector)</li> <li>• One Video Graphics Array (VGA) connector port (DB-15 connector)</li> <li>• Two USB 3.0 ports</li> </ul> <p>Front panel:</p> <ul style="list-style-type: none"> <li>• One front-panel keyboard/video/mouse (KVM) connector that is used with the KVM cable, which provides two USB 2.0, one VGA, and one DB-9 serial connector.</li> </ul>
Modular LOM	One dedicated socket (x16 PCIe lane) that can be used to add an mLOM card for additional rear-panel connectivity.
WoL	The two 1-Gb/10-Gb BASE-T Ethernet LAN ports support the wake-on-LAN (WoL) standard.
Power	<p>Two power supplies, redundant as 1+1:</p> <ul style="list-style-type: none"> <li>• AC power supplies 770 W AC each</li> <li>• AC power supplies 1050 W AC each</li> <li>• AC power supplies 1600 W AC each</li> <li>• DC power supplies 1050 W DC each</li> </ul> <p>Do not mix power supply types or wattages in the server.</p>
ACPI	The advanced configuration and power interface (ACPI) 4.0 standard is supported.
Cooling	Seven hot-swappable fan modules for front-to-rear cooling.

Feature	Description
PCIe I/O	Two horizontal PCIe expansion slots on a PCIe riser assembly.
InfiniBand	The PCIe bus slots in this server support the InfiniBand architecture.
Storage, internal	<p>The following internal storage options are available:</p> <ul style="list-style-type: none"> <li>• One USB port on the motherboard.</li> <li>• Mini-storage module socket, optionally with either: <ul style="list-style-type: none"> <li>• SD card module. Supports up to two SD cards.</li> <li>• M.2 SSD module. Supports either two SATA M.2 SSDs or two NVMe M.2 SSDs.</li> </ul> </li> <li>• One micro-SD card socket on PCIe riser 1.</li> </ul>
Storage management	<p>The appliance has a dedicated internal mRAID riser that supports one of the following storage-controller options:</p> <ul style="list-style-type: none"> <li>• A PCIe-style Cisco modular RAID controller card (SAS/SATA).</li> <li>• A PCIe-style interposer card for the server's embedded SATA RAID controller.</li> </ul>
RAID backup	The appliance has a mounting bracket near the cooling fans for the supercap unit that is used with the Cisco modular RAID controller card.
Integrated video	Integrated VGA video.

