Installing the Avaya S8510 Server Family and Its Components

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Chapter 1: Overview of server and components

Overview

This server uses the Linux operating system and supports several Avaya software applications. It is generally used in simplex mode, but for some products it is duplicated.

Server components

The server comes with the following components.

- One or two Quad Core Intel® Xeon® Processor 5000 Sequence.
- A minimum of 2 GB (2 x 1 GB) of 667 MHz (when available), fully buffered DIMMs (FBD), upgradable to a maximum of 32 GB by installing combinations of 1-GB, 2-GB, or 4-GB memory modules in the eight memory module sockets on the system board.

The server also features redundant memory, which provides memory sparing or memory mirroring. Either feature is available if 8 identical memory modules are installed.

- Two 3.5-inch, internal hot-pluggable SATA (7200 rpm) hard drives.
- A slimline DVD-ROM/CD-RW drive.
- One hot-pluggable, 670-W power supply with an option of installing a second power supply in a 1 + 1 redundant configuration.
- Four fan modules, each comprises two dual-rotor fans, for a total of eight cooling fans.

The server board includes the following features:

- Two integrated gigabit Ethernet NICs capable of supporting 10-Mbps, 100-Mbps, and 1000-Mbps data rates.
- One dual network interface card (NIC) with gigabit Ethernet NICs capable of supporting 10-Mbps, 100-Mbps, and 1000-Mbps data rates (optional).
- One PCI-e Server Availability Management Processor (SAMP) card (optional)
- An integrated VGA-compatible video subsystem with an ATI ES1000, 33-MHz PCI video controller.

- Back-panel connectors include serial, video, two USB connectors, and two NIC connectors.
- Front-panel connectors include a video and two USB connectors.
- Front-panel 1x5 LCD for system ID and error messaging.

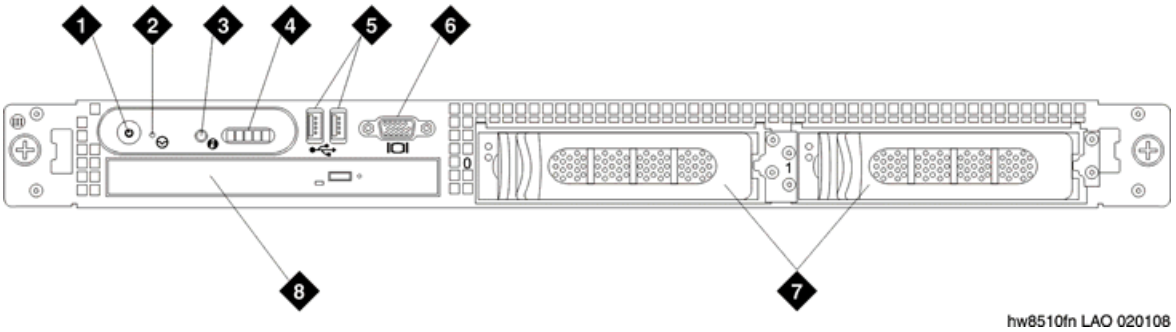
Specifications

Type	Description
Memory	Architecture: PC2–4100 667–MHz fully buffered DIMMS with ECC protection Module sockets: 8 240–pin Module capacities: 1 GB, 2 GB, 4 GB Min/Max RAM: 1 GB/32 GB
Connectors (front)	USB: 2 4–pin, USB 2.0–compliant Video: 15–pin VGA
Connectors (back)	NIC: 2 RJ-45 Serial: 9–pin, DTE, 16550–compatible USB: 2 4–pin, USB 2.0–compliant Video: 15–pin VGA
AC power supply	Wattage: 670 W Voltage:90–264 VAC, autoranging, 47–63 Hz, 10–.0 A (at 90 VAC) Heat dissipation: 2697 BTU/h (maximum) Maximum inrush current: Under typical line conditions and over the entire system ambient operating range, the inrush current may reach 55 A per power supply for 10 ms or less.
System battery	CR 2032 3.0–V lithium ion coin cell
Dimensions (HxWxD/ Us)	1.7 x 10 x 30 in. (4.3 x 48.3 x 7./26 cm)/1 U
Weight	39 lb (18 kg)

Environmental specifications

Operating temperature	10° to 35° C (50° to 95° F)
Storage temperature	–40° to 65° C (–40° to 149° F)
Operating relative humidity	8% to 85% (noncondensing) with a maximum humidity gradation of 10% per hour
Storage relative humidity	5% to 95% (noncondensing)
Operating maximum vibration	0.25 G at 3–200 Hz for 15 min
Storage maximum vibration	0.5 G at 3–200 Hz for 15 min
Operating maximum shock	One shock pulse in the positive z axis (one pulse on each side of the system) of 41 G for up to 2 ms
Storage maximum shock	Six consecutively executed shock pulses in the positive and negative x, y, and z axes (one pulse on each side of the system) of 71 G for up to 2 ms
Operating altitude	–16 to 3048 m (–50 to 10,000 ft)
Storage altitude	–16 to 10,600 m (–50 to 35,000 ft)

Front view of server



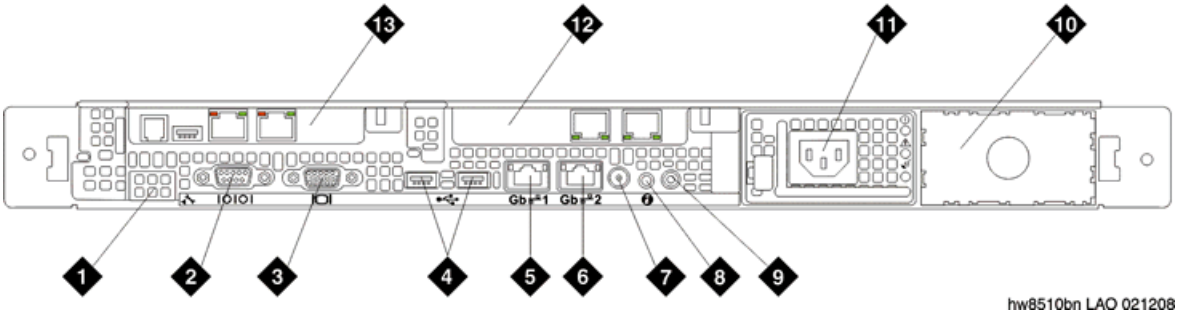
1	Power-on LED
2	NMI button (unused)

3	System ID button
4	LCD display
5	USB ports
6	Video connector (unused)
7	Hard disk drives
8	Optical DVD/CD drive

Back view of server

Note:

For products that do not use the SAMP board, the dual NIC is in the far left slot and the center slot is left empty.



1	Remote access controller (unused)
2	Serial connector
3	Video connector (for optional use of monitor)
4	USB ports (for optional use of modem, mouse and keyboard)
5	GB-1
6	GB-2
7	System status indicator connector
8	System status LED
9	System ID button
10	Bay for optional redundant power supply
11	Power supply
12	Dual NIC
13	Remote maintenance board (SAMP-optional)

Dual Network Interface Card (NIC)

A dual network interface card (NIC) is available and provides two additional Ethernet ports. The dual NIC is optional and comes preinstalled on the server for products that use it.

SAMP overview

The Server Availability Management Processor (SAMP) is a remote maintenance board that monitors and reports alerts from components within the server. The SAMP is optional and comes preinstalled on the server for products that use it.

The SAMP board:

- Monitors the health of the server hardware, including server boot process, the Communication Manager watch dog, the fans, the voltages, and the temperature.
- Reports server failure alarms and other alarms to Avaya INADS or other services group.
    - Server by the server
    - Server by the SAMP, such as server reboots.
    - SAMP by the SAMP

The SAMP presents a virtual TTY that the server uses when the server must send out alarms through the modem. The modem is connected to the USB port on the SAMP board and provides

- The capability to turn on power and to reset the server remotely.
- A secure dial-in connection to the SAMP and the server.
- Access to the SAMP and subsequently access to the server.

Note:
Modem contention is resolved on a first-come, first-serve basis. For example, Avaya Services dials into the SAMP, and the server must send out an alarm through the modem interface. Although the modem is busy, the server continues to try to send the alarm.

Modem

The modem is used to provide remote access to the server either through the remote maintenance board or direct connection to the server when the customer has a maintenance contract with Avaya. Operating system and environmental alarms are sent through the

modem to INADS or other service provider. Maintenance technicians can dial into the server through the modem.

For a server equipped with the Server Availability Management Processor (SAMP) remote maintenance board, the modem connects to the USB port on the SAMP. For a server without the SAMP, the modem connects to a serial port or one of the USB ports on the back of the server.

Important:

The modem must connect to a touch tone line, not a rotary-dial line.

A telephone line connects the modem to a dedicated outside line.

Avaya supports the MultiTech MultiModem ZBA modem for use with the server. This modem provides:

- V.92/56K download speeds and 48K upload speeds when connecting with V.92 servers.
- Linux compatible.
- Globally approved for use in many countries worldwide.
- Flash memory
- Included USB cable (if a USB modem) or serial cable (if a serial modem).

Compact flash reader

The compact flash memory reader is used to back up files from the server for applications that support it. The reader connects to one of the USB ports and uses a 128-MB Compact Flash card. The compact flash memory reader is optional and comes with the server for products that use it.

Avaya recommends using an industrial grade compact flash card for the following reasons:

- Improved data integrity and reliability with powerful error correction.
- Extreme endurance with 2,000,000 program/erase cycles per block.
- Increased reliability with a mean time between failures (MTBF) greater than 3 million hours.
- 7-year warranty.
- Enhanced durability, using RTV silicone for added strength and stability.

The industrial grade compact flash card is available through Avaya and Avaya business partners.

Related hardware

As part of a total installation, customers may use the following peripheral hardware:

- Uninterruptible power supply (UPS). This can be Avaya or customer provided. If Avaya provided and maintained, then the UPS requires a SNMP module for monitoring. The SNMP module must be configured for traps to be sent.
- Ethernet switch. This can be Avaya or customer provided. If Avaya provided and maintained, then the SNMP agent must be configured for traps to be sent.

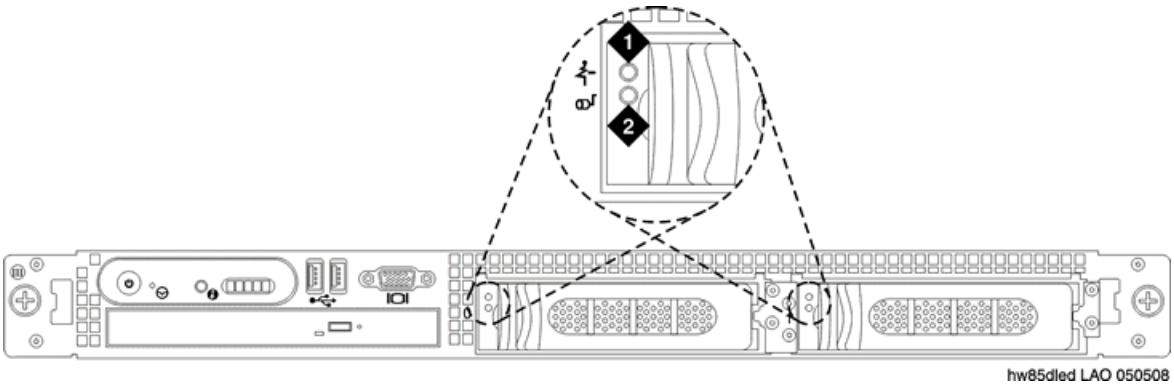
LEDs

The server has two LEDs on the front and 3 LEDs on the back. The dual Network Interface Card has two LEDs per port.

Related topics:

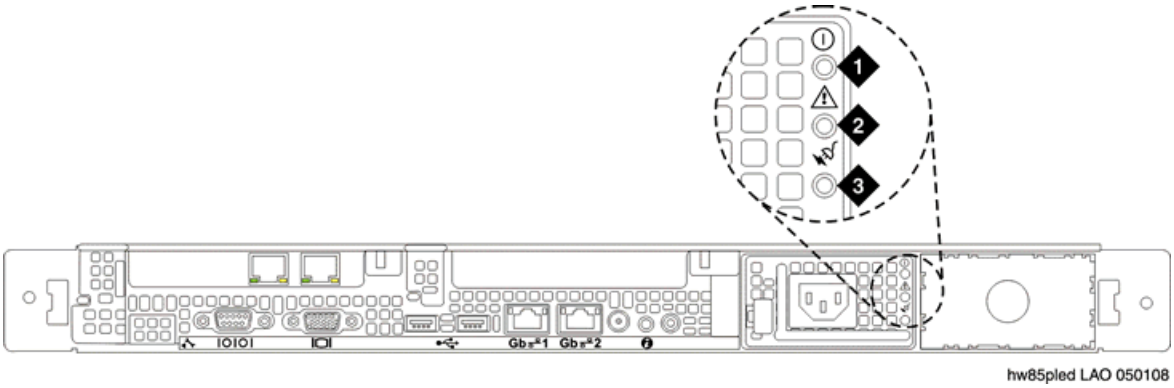
Front panel LEDs on page 11
Back panel LEDs on page 12
LED conditions and patterns on page 12
Dual NIC LEDs on page 13

Front panel LEDs



1	Drive status
2	Drive activity

Back panel LEDs



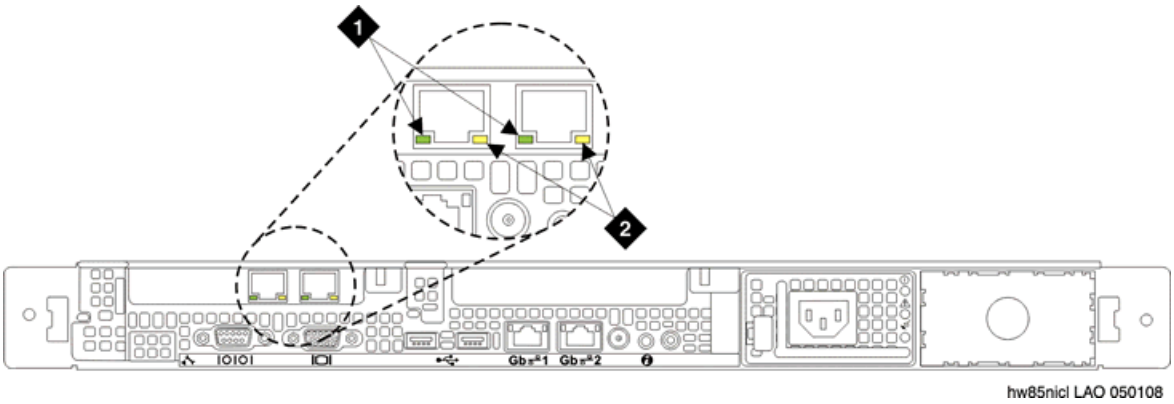
1	Power supply status
2	Power supply fault
3	AC line status

LED conditions and patterns

LED	Indicator/Pattern	Function/Condition
Power Status	On	System has power and is opterational
	Off	System has no power
Power supply	Green	Power supply is operational
	Amber	Problem with power supply
AC line status	Green	Power supply is connected to a valid AC power source
Drive status	Green steady	Drive online
	Blinks green, then amber, then off	Drive predicted failure
	Amber blinks 4 times per second	Drive failed

LED	Indicator/Pattern	Function/Condition
	Green blinks 2 times per second	Identify drive/preparing for removal
	Off	Drive ready for insertion or removal
	Green blinks slowly	Drive rebuilding
	Blinks green 3 s slowly, amber 3 s, off 6 s.	Rebuild aborted

Dual NIC LEDs



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1	Network activity (TX/RX)
2	Connection rate • Off: 10BaseT active link. • Green: 100BaseT active link. • Amber: 1000BaseT active link.

Chapter 2: Server rack installation

Customer-provided equipment

The customer must provide the following equipment:

- Standard 19–in.4–post equipment rack properly installed and solidly secured. Rack must meet the following standards:
  - American National Standards Institute (ANSI) and Electronic Industries Association (EIA) standard ANSI/EIA-310–D-92.
  - International Electrotechnical Commission (IEC) 297.
  - Deutsche Industrie Norm (DIN) 41494.
- Screws that come with the racks for installing the rails.
- USB keyboard, USB mouse, and monitor (optional for some administration).
- AC power from a nonswitched electrical outlet.
- Access to the network.

Avaya-provided equipment

Avaya provides the following equipment:

- Server and power cord
- Static rails rack kit, which contains
  - One pair of static mounting rails with brackets
  - One pair of chassis static rail modules
  - 10–32 x 0.5–in. flange-head cross-head screws (Phillips head)
  - Two, releasable tie wraps.
- Compact flash reader, USB cable, and flashcard (optional for backing up files)
- Modem and USB or serial cable (optional for remote maintenance)
- Other hardware as ordered, such as UPS.

Recommended tools and supplies

You may need the following items to install the server in a 4–post rack:

- #2 crosspoint (Phillips) screwdriver
- Masking tape or felt-tip pen for marking the mounting holes.

Safety instructions

Use the following safety guidelines to ensure your own personal safety and to help protect your system and working environment from potential damage.

Observe the following precautions for rack stability and safety. Also refer to the rack installation documentation accompanying the rack for specific caution statements and procedures.

Systems are considered to be components in a rack. Thus, "component" refers to any system as well as to various peripherals or supporting hardware.

Caution:

Before installing systems in a rack, install front and side stabilizers on stand-alone racks or the front stabilizer on racks joined to other racks. Failure to install stabilizers accordingly before installing systems in a rack could cause the rack to tip over, potentially resulting in bodily injury under certain circumstances. Therefore, always install the stabilizer(s) before installing components in the rack.

After installing system/components in a rack, never pull more than one component out of the rack on its slide assemblies at one time. The weight of more than one extended component could cause the rack to tip over and may result in serious injury.

Note:

Your system is safety-certified as a free-standing unit and as a component for use in a rack cabinet using the customer rack kit. It is your responsibility to ensure that the final combination of system and rack complies with all applicable safety standards and local electric code requirements.

System rack kits are intended to be installed in a rack by trained service technicians.

Caution:

Always load the rack from the bottom up, and load the heaviest item in the rack first.

Make sure that the rack is level and stable before extending a component from the rack.

Use caution when pressing the component rail release latches and sliding a component into or out of a rack; the slide rails can pinch your fingers.

Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.

Ensure that proper airflow is provided to components in the rack.

Do not step on or stand on any component when servicing other components in a rack.

Installation checklist

#	Task	Notes	✔
1	Verify that all equipment is on site	Compare the list of items that were ordered to the contents of the boxes. Use the inventory list provided by your project manager; do not rely on the packing slips inside the boxes for the correct information.	
2	Verify that rack is installed to code		
3	Verify that rack is grounded per local code	See *Approved Grounds* (555–245–772)	
4	Remove cabinet doors, if necessary	See cabinet manufacturer's documentation.	
5	Marking the rack on page 18		
6	Attaching rails to the server on page 19		
7	Attaching the rails to the rack on page 20		
8	Installing the server in the rack on page 20		
9	Replace the cabinet doors, if necessary	See cabinet manufacturer's documentation.	
10	Powering up the server on page 21		
11	Troubleshoot the installation		

Marking the rack

Prerequisites

The rack must be installed. If installing the server in a cabinet, then the doors must be removed.

You must allow 1 U (44 mm, or 1.75 in.) of vertical space for each server you install in the rack.

Rack cabinets that meet EIA-310 standards have an alternating pattern of three holes per rack unit with center-to- center hole spacing (beginning at the top hole of a 1-U space) of 15.9 mm, 15.9 mm, and 12.7 mm (0.625 in., 0.625 in., and 0.5 in.) for the front and back vertical rails. Rack cabinets may have round or square holes.

Note:

The vertical rails may be marked by horizontal lines and numbers in 1-U increments. If you want, you can make a note of the number marking on the rack’s vertical rail. It is not necessary to mark or place tape on the rack

Caution:

If you are installing more than one server, install the mounting rails so that the first server is installed in the lowest available position in the rack. If you are installing a UPS in the same rack as the server(s), install the UPS in the lowest available position in the rack and the servers above it.

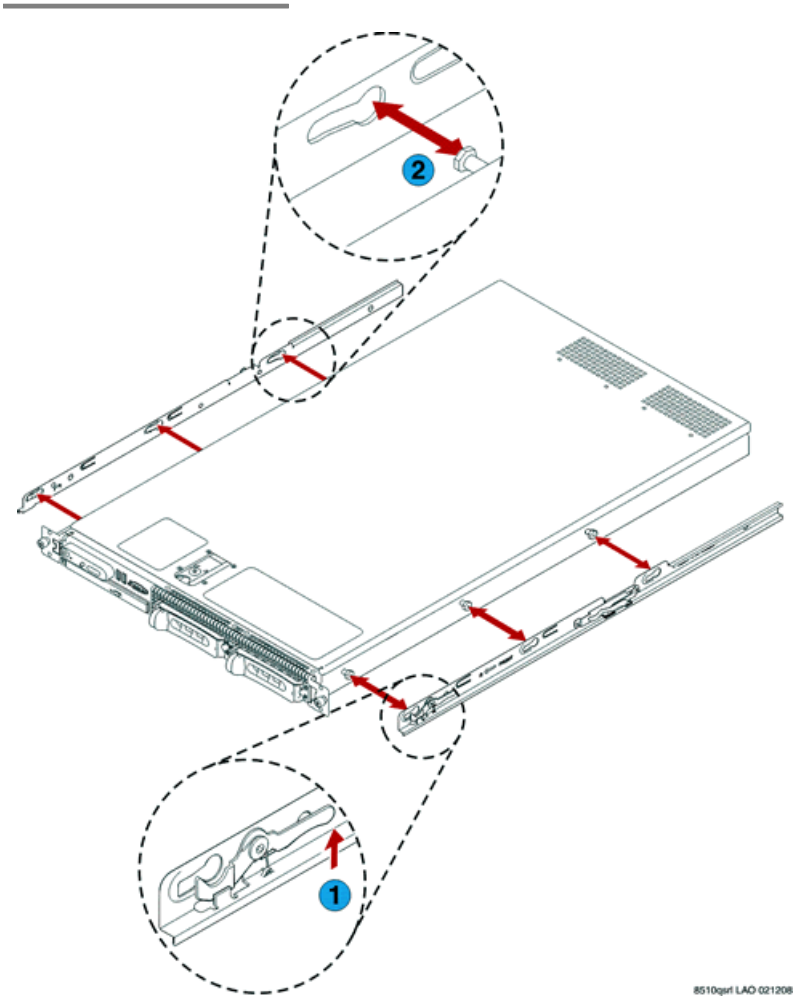
1. Place a mark (or tape) on the rack's front vertical rails where you want to locate the bottom of the server.

   The bottom of each 1-U space is at the middle of the narrowest metal area between holes (marked with a horizontal line on some rack cabinets).

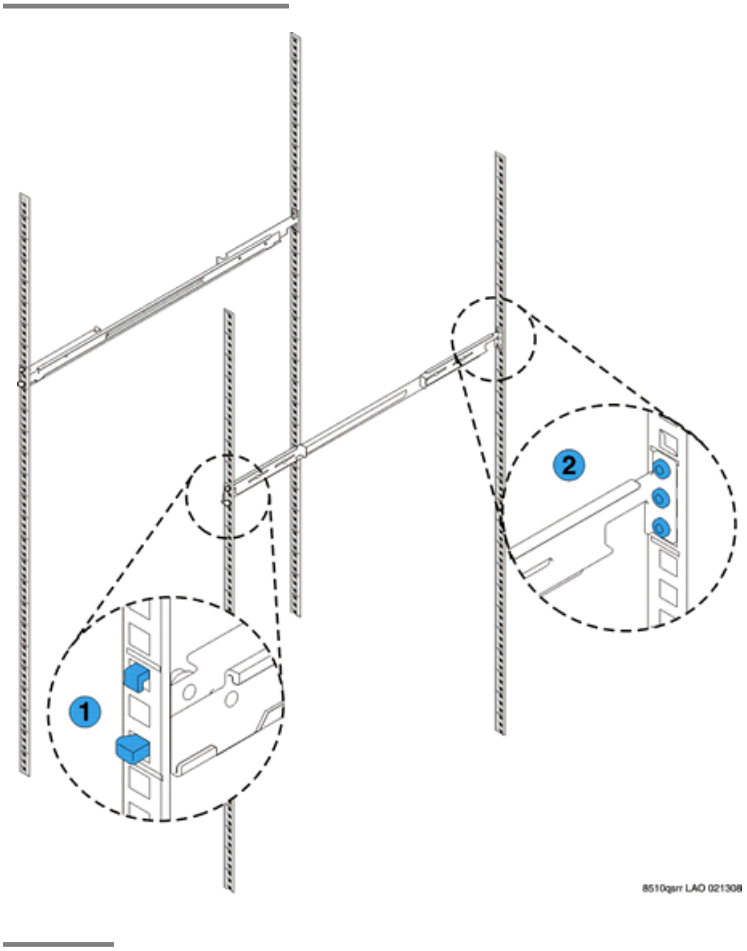
2. Place a mark 1.75 in. (44 mm) above the original mark you made (or count up three holes in a rack) and mark the rack's front vertical rails with a felt-tipped pen or masking tape. If you counted holes, place a mark just above the top hole.

   This mark or piece of tape indicates where the system's upper edge will be located on the vertical rails.

Attaching rails to the server



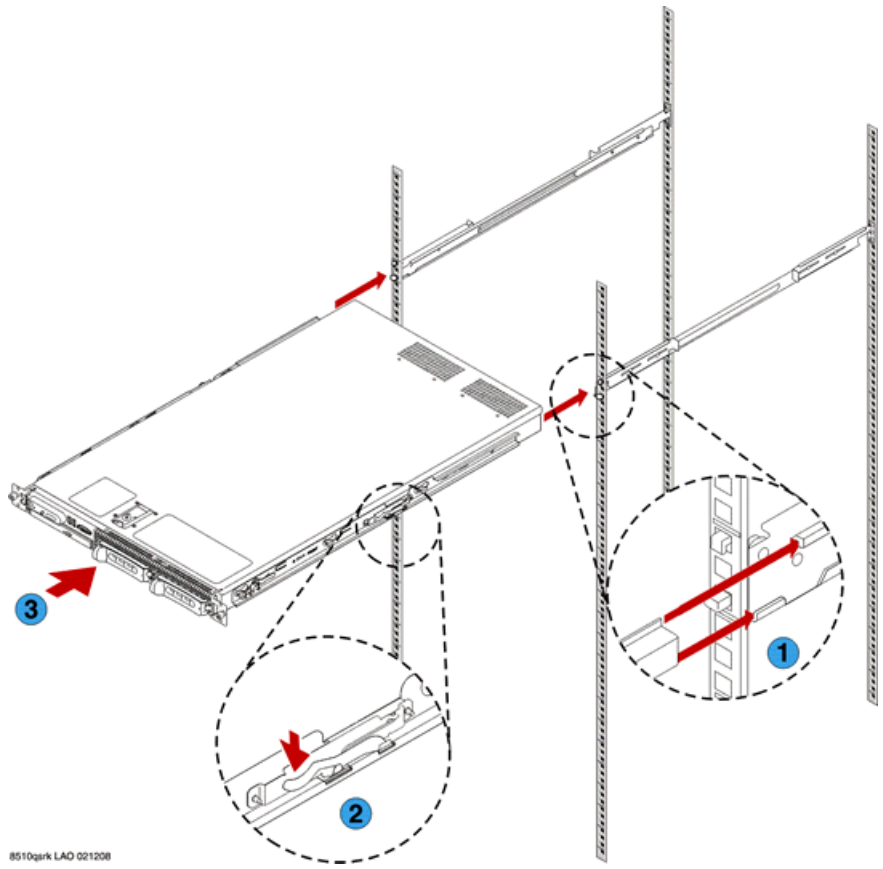
Attaching the rails to the rack



Installing the server in the rack

Prerequisites

The rails must be attached to the server and the rack before installing the server in the rack. If the server is being installed in a cabinet, remove the doors, following the cabinet manufacturer's instructions.



Next steps

If the server is being installed in a cabinet, reattach the doors, following the cabinet manufacturer's instructions.

Powering up the server

Once the server is installed in the rack, you want to power it up to make sure it is working. Once determined, power it down again before inserting any software CD/DVD into the CD/DVD drive.

1. Plug one end of the power cord into the back of the power supply and the other end into a UPS or nonswitched outlet.
2. Press the power button on the front of the server.

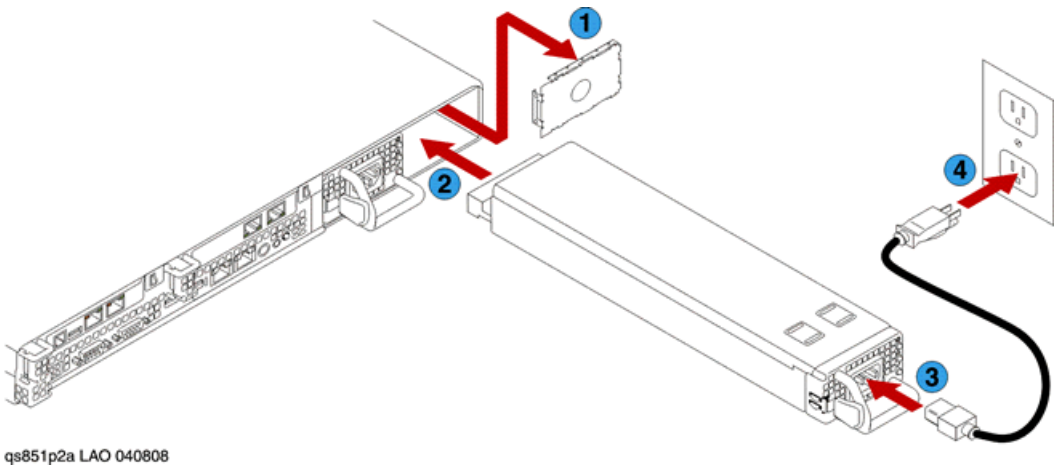
   The green power button lights and the LCD displays Avaya when the power is on.

Next steps

Refer to specific product documentation for information on installing the operating system and software

Adding a second power supply

You can add a second power supply without powering down the server first.



Next steps

Make sure that the top power supply LED shows green, indicating that it is working.

Troubleshooting the hardware installation

Avaya and customer equipment is missing

Proposed solution

Contact the Avaya project manager.

The server has no power

Proposed solution

- Make sure the power cord is plugged into the back of the server and into a nonswitched outlet or UPS.
- Make sure the UPS is plugged into a nonswitched outlet.
- Make sure the outlet has power.
- Push the power button on the front of the server.

Chapter 3: Status messages

LCD status messages

The server's control panel LCD provides status messages to signify when the server is operating correctly or when the server needs attention.

The LCD lights blue to indicate a normal operating condition and lights amber to indicate an error condition. The LCD scrolls a message that includes a status code followed by descriptive text. The LCD messages refer to events recorded in the system event log (SEL).

Caution:

Only trained service technicians are authorized to remove the server cover and access any of the components inside the system. To prevent damage from static electricity, wear an EMC wrist strap when working inside the server and handling components.

LCD status message explanations

The following table provides the list of codes, the text that goes with the code, the likely causes for the error code, and the corrective action. When escalation is the corrective action, contact Avaya if you have a maintenance contract with Avaya or contact the Avaya business partner from whom you purchased the server. If the escalation requires replacing a field replaceable unit (FRU), see *Job Aids for Field Replacements (FRUs) for the Avaya S8510 Server Family* (03-602953) for detailed information.

Code	Text	Causes	Corrective Action
N/A	AVAYA	AVAYA displays when: • The system is powered on. • The power is off and active POST	This message is for information only.

Code	Text	Causes	Corrective Action
		errors are displayed.	
E1000	FAILSAFE, Call Support		Escalate for possible server replacement.
E1114	Temp Ambient	Ambient system temperature is out of acceptable range.	Check room temperature and external air flow. If both are within acceptable limits, then escalate for possible server replacement.
E1116	Temp Memory	Memory has exceeded acceptable temperature and has been disabled to prevent damage to the components.	Check room temperature and external air flow. If both are within acceptable limits, then escalate for possible server replacement.
E12nn	xx PwrGd	Specified voltage regulator has failed.	Escalate for possible server replacement.
E1210	CMOS Batt	CMOS battery is missing, or the voltage is out of acceptable range.	Shut down server for 1 hour and disconnect the power supply. If problem continues, escalate for possible server replacement.
E1211	ROMB Batt	RAID battery is either missing, bad, or unable to recharge due to thermal issues.	Check room temperature and external air flow. If both are within acceptable limits, then escalate for possible server replacement.
E1229	CPU # VCORE	Processor # VCORE voltage regulator has failed.	Escalate for possible server replacement.
E1310	RPM Fan ##	RPM of specified cooling fan is out of acceptable operating range.	Check room temperature and external air flow. If both are within acceptable limits, then escalate for possible server replacement.
E1311	RPM Fan Mod #x	RPM of fan x in the # module is out of	Check room temperature and external air flow. If both

Code	Text	Causes	Corrective Action
		acceptable operating range.	are within acceptable limits, then escalate for possible server replacement.
E1313	Fan Redundancy	The system is no longer fan-redundant. Another fan failure will put the system at risk of over-heating.	Check room temperature and external air flow. If both are within acceptable limits, then escalate for possible server replacement. Check control panel LCD for additional scrolling messages.
E1410	CPU # IERR	Specified microprocessor is reporting an internal error.	Escalate for possible server replacement.
E1414	CPU # Thermtrip	Specified microprocessor is out of acceptable temperature range and has halted operation.	Check room temperature and external air flow. If both are within acceptable limits, then escalate for possible server replacement. **Note:** The LCD continues to display this message until the system's power cord is disconnected and reconnected to the AC power source.
E1418	CPU # Presence	Specified processor is missing or bad, and the system is in an unsupported configuration.	Escalate for possible server replacement.
E141C	CPU Mismatch	Processors are in an unsupported configuration.	Run server diagnostics. This requires a keyboard and monitor.
E141F	CPU Protocol	The system BIOS has reported a processor protocol error.	Escalate for possible server replacement.

Code	Text	Causes	Corrective Action
E1420	CPU Bus PERR	The system BIOS has reported a processor bus parity error.	Escalate for possible server replacement.
E1421	CPU Init	The system BIOS has reported a processor initialization error.	Escalate for possible server replacement.
E1422	CPU Machine Chk	The system BIOS has reported a machine check error.	Escalate for possible server replacement.
E1610	PS # Missing	No power is available from the specified power supply; specified power supply is improperly installed or faulty.	Escalate for possible power supply replacement.
E1614	PS # Status	No power is available from the specified power supply; specified power supply is improperly installed or faulty.	Escalate for possible power supply replacement.
E1618	PS # Predictive	Power supply voltage is out of acceptable range; specified power supply is improperly installed or faulty.	Escalate for possible power supply replacement.
E161C	PS # Input Lost	Power source for specified power supply is unavailable, or out of acceptable range.	Check the AC power source for the specified power supply. Escalate for possible power supply replacement.
E1620	PS # Input Range	Power source for specified power supply is unavailable, or out of acceptable range.	Escalate for possible power supply replacement.

Code	Text	Causes	Corrective Action
E1624	PS Redundancy	The power supply subsystem is no longer redundant. If the last supply fails, the system will go down.	Escalate for possible power supply replacement.
E1710	I/O Channel Chk	The system BIOS has reported an I/O channel check.	Escalate for possible server replacement.
E1711	PCI PERR B## D## F##	reported a PCI parity error on a component that resides in PCI configuration space at bus ##, device ##, function ##.	Escalate for possible server replacement.
	PCI PERR Slot #	The system BIOS has reported a PCI parity error on a component that resides in the specified PCI slot.	
E1712	PCI SERR B## D## F##	The system BIOS has reported a PCI system error on a component that resides in PCI configuration space at bus ##, device ##, function ##.	Escalate for possible server replacement.
	PCI SERR Slot #	The system BIOS has reported a PCI system error on a component that resides in the specified slot.	
E1714	Unknown Err	The system BIOS has determined that there has been an error in the system,	Escalate for possible server replacement.

Code	Text	Causes	Corrective Action
		but is unable to determine its origin.	
E171F	PCIE Fatal Err B## D## F##	The system BIOS has reported a PCIe fatal error on a component that resides in PCI configuration space at bus ##, device ##, function ##.	Reseat all PCIe cards, then reboot the system. If the problem persists, escalate for possible server replacement.
	PCIE Fatal Err Slot #	The system BIOS has reported a PCIe fatal error on a component that resides in the specified slot.	
E1810	HDD ## Fault	The SAS subsystem has determined that hard drive ## has experienced a fault.	Remove the front bezel and check the top LED on the hard drives. If LED is off or flashing green, then amber, then off or flashing amber 4 times per second, the hard drive is probably failing. Escalate for possible hard drive replacement.
E1811	HDD ## Rbld Abrt	The specified hard drive has experienced a rebuild abort.	
E1812	HDD ## Removed	The specified hard drive has been removed from the system.	Information only.
E1913	CPU & Firmware Mismatch	The BMC firmware does not support the CPU.	Escalate for possible server replacement.
E1A14	SAS Cable A	SAS cable A is missing or bad.	Escalate for possible server replacement.
E1A15	SAS Cable B	SAS cable B is missing or bad.	Escalate for possible server replacement.
E1A17	Pwr Cable FB	Flex bay power cable is missing or bad.	Escalate for possible server replacement.

Code	Text	Causes	Corrective Action
E1A18	PDB Ctrl Cable	Flex bay control signals cable is missing or bad.	Escalate for possible server replacement.
E2010	No Memory	No memory is installed in the system.	Escalate for possible memory or server replacement.
E2011	Mem Config Err	Memory detected, but is not configurable. Error detected during memory configuration.	Escalate for possible server replacement.
E2012	Unusable Memory	Memory is configured, but not usable. Memory subsystem failure.	Escalate for possible memory or server replacement.
E2013	Shadow BIOS Fail	The system BIOS failed to copy its flash image into memory.	Escalate for possible memory or server replacement.
E2014	CMOS Fail	CMOS failure. CMOS RAM not functioning properly.	Escalate for possible server replacement.
E2015	DMA Controller	DMA controller failure.	Escalate for possible server replacement.
E2016	Int Controller	Interrupt controller failure.	Escalate for possible server replacement.
E2017	Timer Fail	Timer refresh failure.	Escalate for possible server replacement.
E2018	Prog Timer	Programmable interval timer error.	Escalate for possible server replacement.
E2019	Parity Error	Parity error.	Escalate for possible server replacement.
E201A	SIO Err	SIO failure.	Escalate for possible server replacement.
E201B	Kybd Controller	Keyboard controller failure.	Escalate for possible server replacement.

Code	Text	Causes	Corrective Action
E201C	SMI Init	System management interrupt (SMI) initialization failure.	Escalate for possible server replacement.
E201D	Shutdown Test	BIOS shutdown test failure.	Escalate for possible server replacement.
E201E	POST Mem Test	BIOS POST memory test failure.	Escalate for possible server replacement.
E201F	DRAC Config	Dell remote access controller (DRAC) configuration failure.	Check for specific error messages. Escalate for possible DRAC or server replacement.
E2020	CPU Config	CPU configuration failure.	Check for specific error messages.
E2021	Memory Population	Incorrect memory configuration. Memory population order incorrect.	Check for specific error messages. Escalate for possible memory or server replacement.
E2022	POST Fail	General failure after video.	Check for specific error messages.
E2110	MBE Crd # DIMM ## & ##	One of the DIMMs in the set implicated by "## & ##" has had a memory multi-bit error (MBE). If no memory card is present, the "Crd #" string is left out of the message.	Escalate for possible memory or server replacement.
E2111	SBE Log Disable Crd # DIMM ##	The system BIOS has disabled memory single-bit error (SBE) logging, and will not resume logging further SBEs until the system is rebooted. "##" represents the DIMM	Escalate for possible server replacement.

Code	Text	Causes	Corrective Action
		implicated by the BIOS. If no memory riser card is present, the "Crd #" string is left out of the message.	
E2112	Mem Spare Crd # DIMM ##	The system BIOS has spared the memory because it has determined that the memory had too many errors. "## & ##" represents the DIMM pair implicated by the BIOS. If no memory card is present, the "Crd #" string is left out of the message.	Escalate for possible memory or server replacement.
E2113	Mem Mirror Crd # DIMM ## & ##	The system BIOS has disabled memory mirroring because it has determined that one half of the mirror has had too many errors. "## & ##" represents the DIMM pair implicated by the BIOS. If no memory card is present, the "Crd #" string is left out of the message.	Escalate for possible memory or server replacement.
E2118	Fatal NB Mem CRC	One of the connections in the FBD memory subsystem link on the Northbound side has failed.	Escalate for possible memory or server replacement.
E2119	Fatal SB Mem CRC	One of the connections in the FBD memory subsystem link on	Escalate for possible memory or server replacement.

Code	Text	Causes	Corrective Action
		the Southbound side has failed.	
I1910	Intrusion	System cover removed.	Information only.
I1911	>3 ERRs Chk Log	LCD overflow message. A maximum of three error messages can display sequentially on the LCD. The fourth message displays as the standard overflow message.	Information only.
I1912	SEL Full	System Event Log is full of events, and is unable to log any more events.	Clear the log by deleting event entries.
W1228	ROMB Batt < 24hr	Warns predictively that the RAID battery has less than 24 hours of charge left.	Information only.

Removing LCD status messages

For faults associated with sensors, such as temperature, voltage, fans, and so on, the LCD message is automatically removed when that sensor returns to a normal state. For example, if temperature for a component goes out of range, the LCD displays the fault; when the temperature returns to the acceptable range, the message is removed from the LCD. For other faults, you must take action to remove the message from the display.

Power cycle the server.

a. Turn off the system and disconnect it from the electrical outlet.
b. Wait about 10 seconds before reconnecting the power cable.
c. Restart the system.

Using this process, you will *not* lose the event history for the system.

These actions remove fault messages and return the status indicators and LCD colors to the normal state. Messages reappear under the following conditions:

- The sensor returns to a normal state but fails again, resulting in a new SEL entry.
- The system is reset and new error events are detected.
- A failure is recorded from another source that maps to the same display entry.

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