Dell™ PowerEdge™ 1950 Systems

Getting Started
With Your System

Guide de mise en route

Primeiros passos com o sistema

Procedimientos iniciales con el sistema

Getting Started With Your System

Notes, Notices, and Cautions

NOTE: A NOTE indicates important information that helps you make better use of your computer.

NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

CAUTION: A CAUTION indicates a potential for property damage, personal injury, or death.

System Features

The major hardware and software features of your system includes:

- One or Two Dual Core Intel® Xeon® Processor 5000 Sequence.

- Support for symmetric multiprocessing (SMP), which is available on systems with two Intel Xeon microprocessors. SMP greatly improves overall system performance by dividing microprocessor operations between independent microprocessors. To take advantage of this feature, you must use an operating system that supports multiprocessing.

  > **NOTE:** If you decide to upgrade your system by installing a second microprocessor, you must order the microprocessor upgrade kits from Dell. Not all versions of the Intel Xeon microprocessor will work properly as additional microprocessors. The upgrade kit from Dell contains the correct version of the microprocessor as well as the instructions for performing the upgrade. Both microprocessors must have the same internal operating frequency and cache size.

- A minimum of 512 MB of 533 or 667 MHz (when available), Fully Buffered DIMMs (FBD), upgradable to a maximum of 32 GB by installing combinations of 256-MB, 512-MB, 1-GB, 2-GB, or 4-GB memory modules in the eight memory module sockets on the system board.

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

- Support for either two 3.5-inch, internal hot-pluggable SAS (Serial Attached SCSI) (10000 or 15000 rpm) or SATA (7200 rpm) hard drives or support for up to four 2.5-inch, internal hot-pluggable SAS (10000 rpm) hard drives.

- An optional slimline IDE CD-ROM, DVD-ROM, or DVD-ROM/ CD-RW drive.

- Up to two hot-pluggable, 670-W power supplies in a 1 + 1 redundant (optional) configuration.

- Four fan modules, each comprised of two dual-rotor fans, for a total of eight cooling fans.

The system board includes the following features:

- One of the following riser card options:

  – Two riser cards (left and center risers), each providing a x8 lane width PCI-Express expansion slot.

  OR

  – Two riser cards (left and center risers), each providing a 3.3V, 64-bit 133MHz PCI-X expansion slot. The expansion slots are on two separate buses.

- Dedicated PCI slot for an integrated SAS host bus adapter or an optional integrated RAID controller card with 256 MB of cache memory and a RAID battery.

  > **NOTE:** System boot is not supported from an external device attached to a SAS or SCSI adapter, including SAS 5/E, PERC 5/E or PERC 4e/DC. See support.dell.com for the latest support information about booting from external devices

- Two integrated Gigabit Ethernet NICs, capable of supporting 10-Mbps, 100-Mbps, and 1000-Mbps data rates.

- Four USB 2.0-compliant connectors (two on the front and two on the back) capable of external support for a diskette drive, a CD-ROM drive, a keyboard, a mouse, or a USB flash drive.

- Optional remote access controller (RAC) for remote systems management.

- An integrated VGA-compatible video subsystem with an ATI ES1000, 33-MHz PCI video controller. This video subsystem contains a minimum of 16MB of graphics memory with support for 2D graphics. Maximum resolution is 1600x1200 with 65,536 colors; true-color graphics are supported in the following resolutions: 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024. When the optional remote access card is installed, the maximum video resolution is 1280x1024.

- Systems management circuitry that monitors operation of the system fans as well as critical system voltages and temperatures. The systems management circuitry works in conjunction with the systems management software.

- 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.

For more information about specific features, see "Technical Specifications" on page 9

Supported Operating Systems

Your system supports the following operating systems:

- Microsoft® Windows Server™ 2003 Standard, Enterprise, and Web Editions

- Microsoft Windows Server 2003 Standard and Enterprise x64 Editions

- Red Hat® Enterprise Linux AS, ES, and WS (versions 3 and 4) for Intel x86

- Red Hat Enterprise Linux AS, ES, WS (version 4) for Intel Extended Memory 64 Technology (Intel EM64T)

- SUSE® Linux Enterprise Server 9 for Intel EM64T

- Novell® NetWare® 6.5 (when available)(not available factory-installed)

Other Information You May Need

⚠ **CAUTION: The *Product Information Guide* provides important safety and regulatory information. Warranty information may be included within this document or as a separate document.**

- The *Rack Installation Guide* or *Rack Installation Instructions* included with your rack solution describes how to install your system into a rack.

- The *Hardware Owner's Manual* provides information about system features and describes how to troubleshoot the system and install or replace system components. This document may be found on the CDs that came with your system or at **support.dell.com**.

- CDs included with your system provide documentation and tools for configuring and managing your system.

- Updates are sometimes included with the system to describe changes to the system, software, and/or documentation.

  ✍ **NOTE:** Always check for updates on **support.dell.com** and read the updates first because they often supersede information in other documents.

- Release notes or readme files may be included to provide last-minute updates to the system or documentation or advanced technical reference material intended for experienced users or technicians.

Obtaining Technical Assistance

If you do not understand a procedure in this guide or if the system does not perform as expected, see your *Hardware Owner's Manual*.

Dell™ Enterprise Training and Certification is available; see **www.dell.com/training** for more information. This service may not be offered in all locations.

Installation and Configuration

⚠ **CAUTION: Before performing the following procedure, read and follow the safety instructions and important regulatory information in your *Product Information Guide*.**
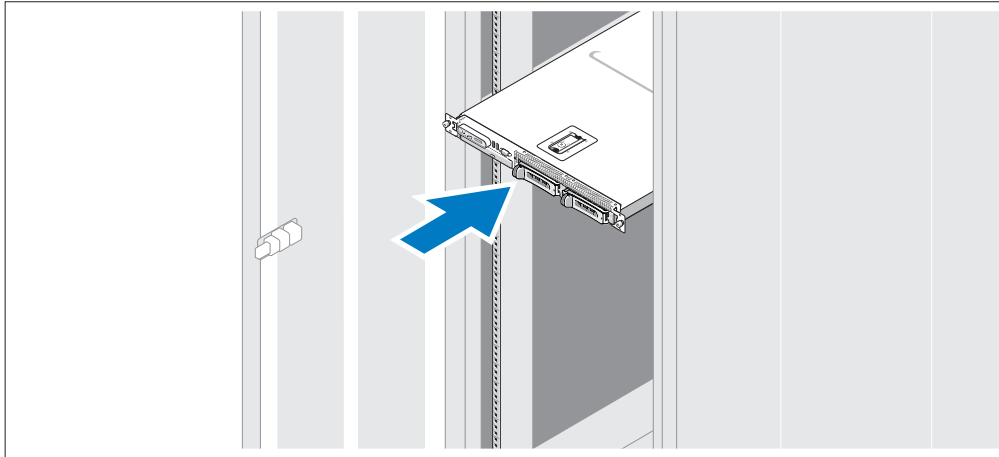
This section describes the steps to set up your system for the first time.

Unpacking the System
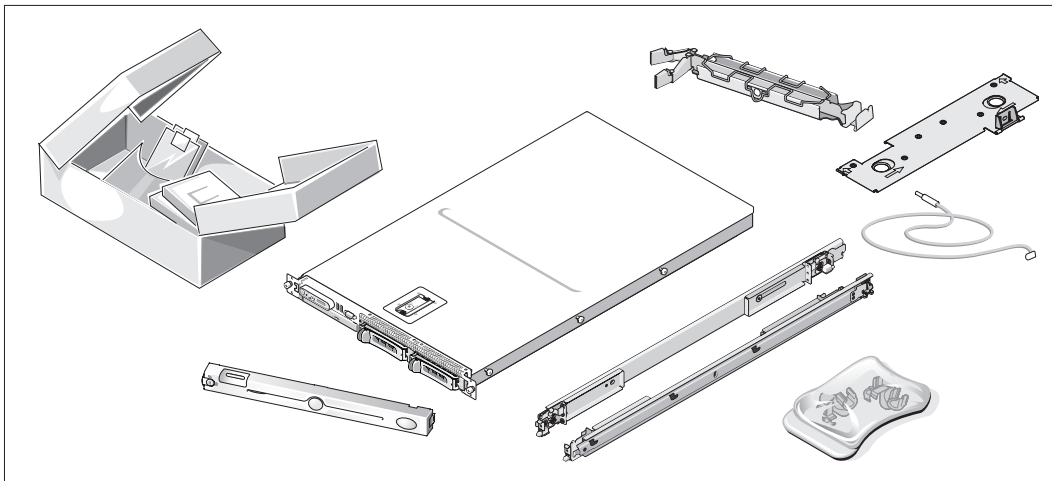
1 Unpack your system and identify each item.

Keep all shipping materials in case you need them later.

Installing the Rail and System in a Rack

2 Install the system in the rack once you have read the "Safety Instructions" located in the rack installation documentation for your system.

See your rack installation documentation for instructions on installing your system in a rack.

Connecting the Keyboard, Mouse, and Monitor
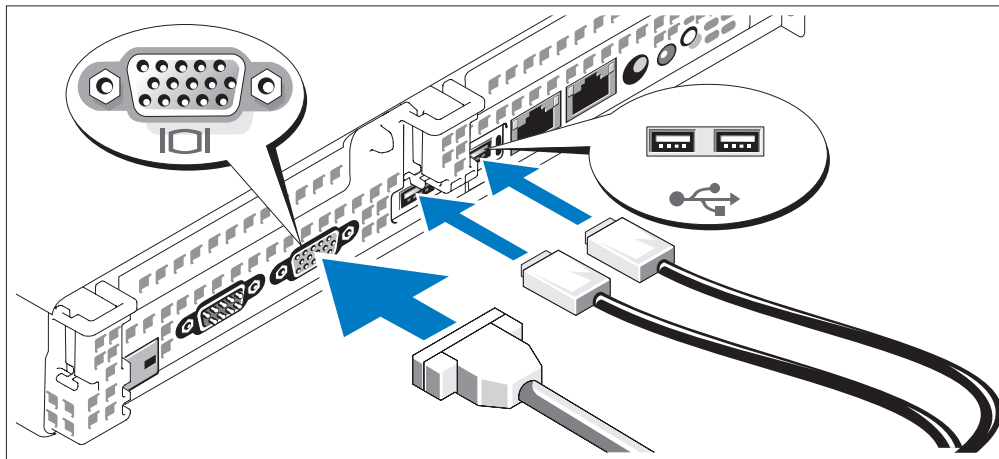
3 Connect the keyboard, mouse, and monitor (optional).

The connectors on the back of your system have icons indicating which cable to plug into each connector. Be sure to tighten the screws (if any) on the monitor's cable connector.

NOTE: If you simultaneously connect two monitors to the system, using the front and rear video connections, the video will default to the front since only one display can operate at a time
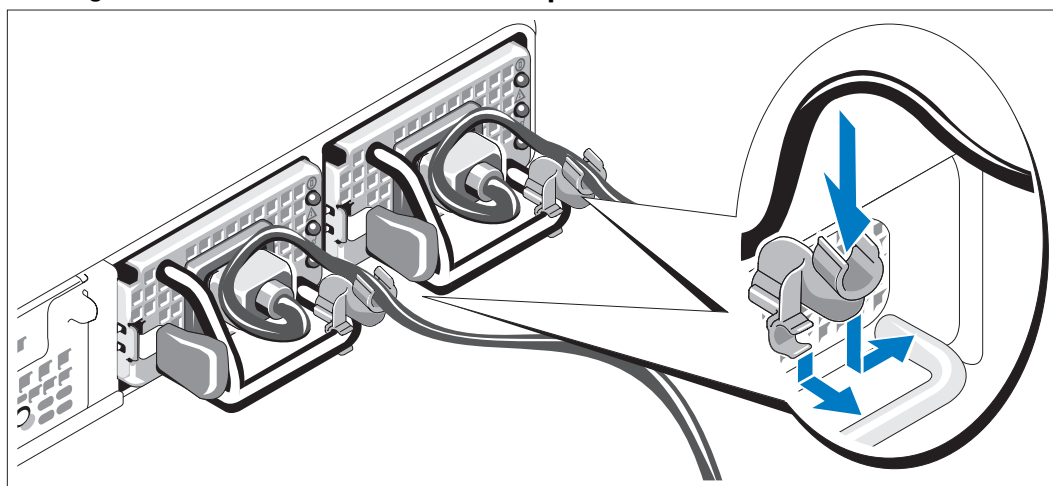
Connecting the Power
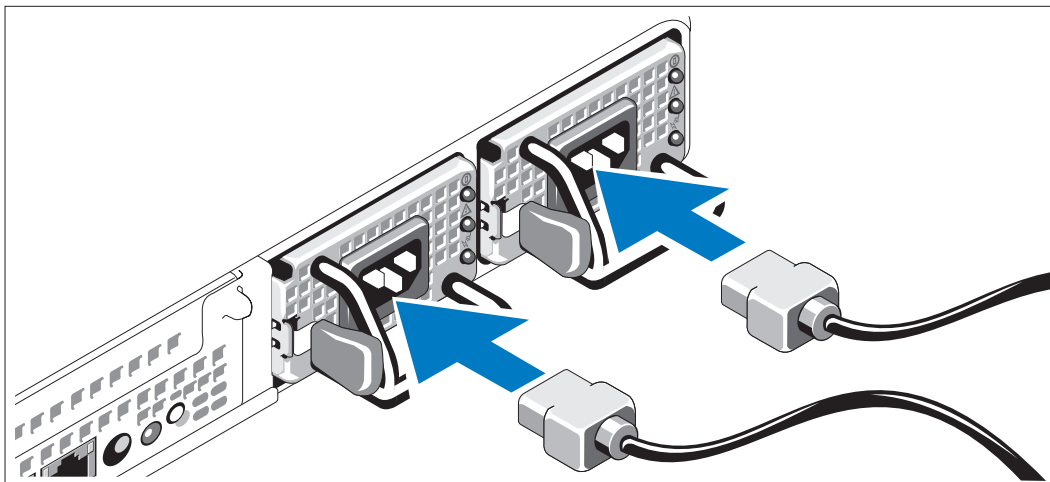
4 Connect the system's power cable(s) to the system.

5 Plug the other end of the cable into a grounded electrical outlet or a separate power source such as an uninterrupted power supply (UPS) or a power distribution unit (PDU).

Installing the Power Cord Retention Bracket (Optional)

6 Attach the power cord retention bracket on the right bend of the power supply handle. Bend the system power cable into a loop as shown in the illustration and attach to the bracket's cable clasp. Repeat the procedure for the second power supply.

7 Plug the other end of the power cables into a grounded electrical outlet or a separate power source such as an uninterrupted power supply (UPS) or a power distribution unit (PDU).
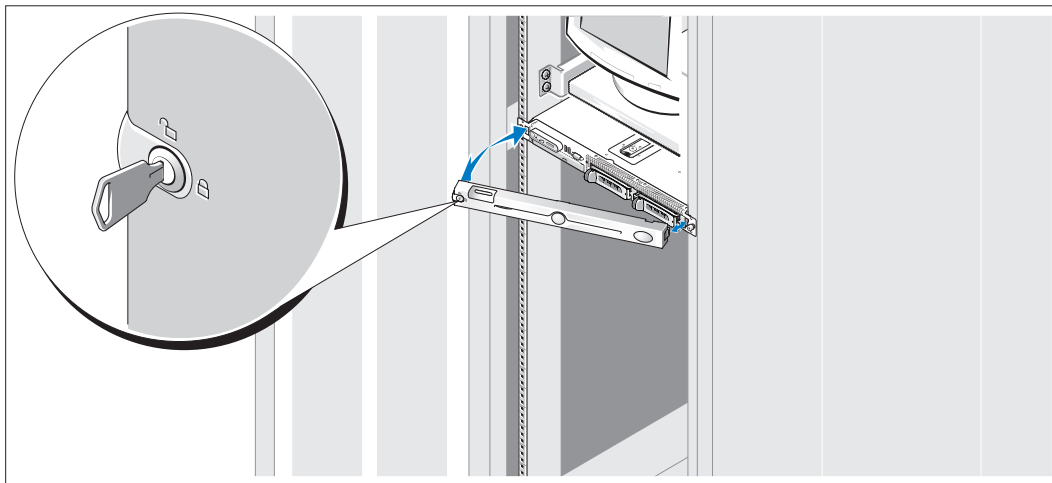
Turning on the System
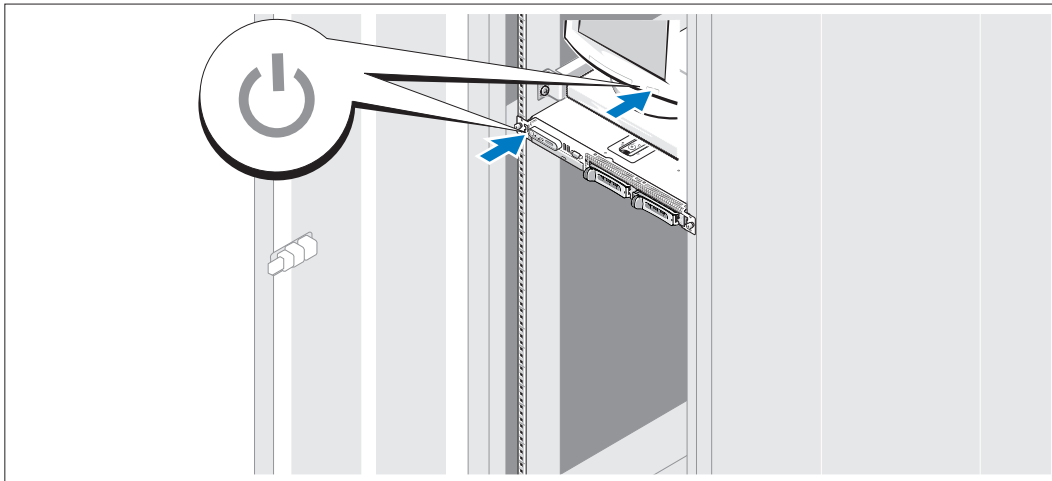
8 Turn on the system and monitor (optional).

Press the power button on the system and the monitor. The power indicators should light. Adjust the monitor's controls until the displayed image is satisfactory.

Installing the Bezel

9 Install the bezel (optional).

Complete the Operating System Setup

If you purchased a preinstalled operating system, see the operating system documentation that ships with your system. To install an operating system for the first time, see the *Quick Installation Guide*. Be sure the operating system is installed before installing hardware or software not purchased with the system.

Technical Specifications

Processor	
Processor type	One or two dual-core Intel Xeon processors 5000 Sequence

Expansion Bus	
Bus type	PCI-X, PCIe
Expansion slots via riser card:	
PCI-X Center and Left Risers	Two full-height, half-length 3.3-V, 64-bit, 133-MHz
or	or
PCIe Center and Left Risers	Two x8 lane width

Memory	
Architecture	PC2-4200 533MHz fully-buffered DIMMs with ECC protection, with two-way lockstep operation (PC2-5300 667 MHz fully-buffered DIMMs when available)
Memory module sockets	Eight 240-pin
Memory module capacities	256 MB, 512 MB, 1 GB, 2 GB , 4 GB
Minimum RAM	512 MB (two 256-MB module)
Maximum RAM	32 GB

Drives	
SAS or SATA hard drives	Up to two 3.5-inch, internal, hot-plug, (optional) with backplane support
or	or
SAS hard drives	Up to four 2.5-inch, internal, hot-plug, (optional) with backplane support
Optical drive	One optional slimline IDE CD-ROM, DVD-ROM/CD-RW combination, or DVD-ROM **NOTE:** DVD devices are data only

Connectors	
Back	
NIC	Two RJ-45 (for integrated 1-GB NICs)
Serial	9-pin, DTE, 16550-compatible
USB	Two 4 pin, USB 2.0 compliant
Video	15-pin VGA
Front	
Video	15 pin-VGA
USB	Two 4 pin, USB 2.0 compliant

Video	
Video type	ATI ES1000 video controller; VGA connector
Video memory	16 MB of DDR SDRAM

Power	
AC power supply (per power supply)	
Wattage	670 W
Voltage	90–264 VAC, autoranging, 47-63 Hz, 10.0 A (at 90 VAC)
Heat dissipation	2697 BTU/hr (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.
Batteries	
System battery	CR 2032 3.0-V lithium ion coin cell
RAID battery (optional)	4.1-V lithium ion battery pack

Physical	
Height	4.29 cm (1.69 in)
Width	48.26 cm (19 in)
Depth	76.2 cm (30 in)
Weight (maximum configuration)	17.69 kg (39 lb)

Environmental

NOTE: For additional information about environmental measurements for specific system configurations, see www.dell.com/environmental_datasheets

Temperature

Operating	10° to 35°C (50° to 95°F)
Storage	–40° to 65°C (–40° to 149°F)

Relative humidity

Operating	8% to 85% (noncondensing) with a maximum humidity gradation of 10% per hour
Storage	5% to 95% (noncondensing)

Maximum vibration

Operating	0.25 G at 3–200 Hz for 15 min
Storage	0.5 G at 3–200 Hz for 15 min

Maximum shock

Operating	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	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

Altitude

Operating	–16 to 3048 m (–50 to 10,000 ft)
Storage	–16 to 10,600 m (–50 to 35,000 ft)