

Dell™ PowerEdge™ 2900 Systems

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.

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Model ECM01

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P/N YC466

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System Features

The major hardware and software features of your system include:

- One or two Dual-Core Intel® Xeon® Processors 5000 Sequence.
- Support for symmetric multiprocessing (SMP), which is available on systems with two Intel Xeon processors. SMP greatly improves overall system performance by dividing processor operations between independent processors. 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 processor, you must order the processor upgrade kits from Dell. Not all versions of the Intel Xeon processor will work properly as additional processors. The upgrade kit from Dell contains the correct version of the processor, heat sink, and fan as well as the instructions for performing the upgrade.

- A minimum of 512 MB of 533 or 667 MHz (when available), Fully Buffered DIMMs (FBD), upgradable to a maximum of 48 GB by installing combinations of 256-MB, 512-MB, 1-GB, 2-GB, or 4-GB memory modules in the twelve 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 or twelve identical memory modules are installed.

- Support for up to ten 3.5-inch, internal hot-pluggable Serial-Attached SCSI (SAS) or SATA hard drives (eight 3.5-inch internal hard drives with hot-pluggable backplane board, and support for two additional hot-pluggable 3.5-inch drives in the peripheral bay using the optional 1x2 flexbay backplane board).
- Peripheral bay provides support for an optional optical drive and an optional half-height tape backup unit (TBU). A full-height TBU is supported with the 1x2 flexbay bracket removed.
- An optional single, 1.44-MB, 3.5-inch diskette drive.
- An optional CD, DVD, or combination CD-RW/DVD drive.



NOTE: DVD devices are data only.

- An intrusion switch that signals the appropriate systems management software if the top cover is opened.
- Up to two hot-pluggable, 930-W power supplies in a 1 + 1 redundant configuration.
- Six hot-pluggable system cooling fans.

The system board includes the following features:

- Six PCI slots located in an expansion-card cage. Slots 1 and 2 are 3.3-V, 64-bit, 133-MHz PCI-X slots; slot 3 is a 3.3-V, PCIe x8 lane; slots 4 through 6 are 3.3-V, PCIe x4 lanes. Expansion-card slots accommodate full-height, full-length expansion cards. PCIe slots accommodate up to x8 expansion cards.
- 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.
- Six USB 2.0-compliant connectors (two on the front and four on the back) capable of supporting a diskette drive, a CD-ROM or DVD-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 16 MB of DDR SDRAM video memory (nonupgradable). Maximum resolution is 1600 x 1200 with 64 K colors; true-color graphics are supported in the following resolutions: 640 x 480, 800 x 600, 1024 x 768, 1152 x 864, and 1280 x 1024. When the optional RAC is installed, the video resolution is 1024 X 768.
- 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.
- Standard baseboard management controller with serial access.
- Back-panel connectors include one serial, one video, four USB, and two NIC connectors.
- Front-panel connectors include a video and two USB connectors.
- Front-panel 1x5 LCD for system ID and error messaging.
- System ID button on the front and back panels.

For more information about specific features, see "Technical Specifications" on page 10.

Supported Operating Systems

- Microsoft® Windows Server™ 2003 Standard and Enterprise Editions
- Microsoft Windows Small Business Server 2003, Standard and Premium Editions
- Microsoft Windows Server 2003 Standard and Enterprise x64 Editions
- Red Hat® Enterprise Linux AS and ES (version 3 and version 4) for Intel x86

- Red Hat Enterprise Linux AS and ES (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 Instructions* or *Rack Installation Guide* 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. The *Hardware Owner's Manual* is available on the CDs that came with your system or on support.dell.com.
- CDs included with your system provide documentation and tools for configuring and managing your system.
- 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

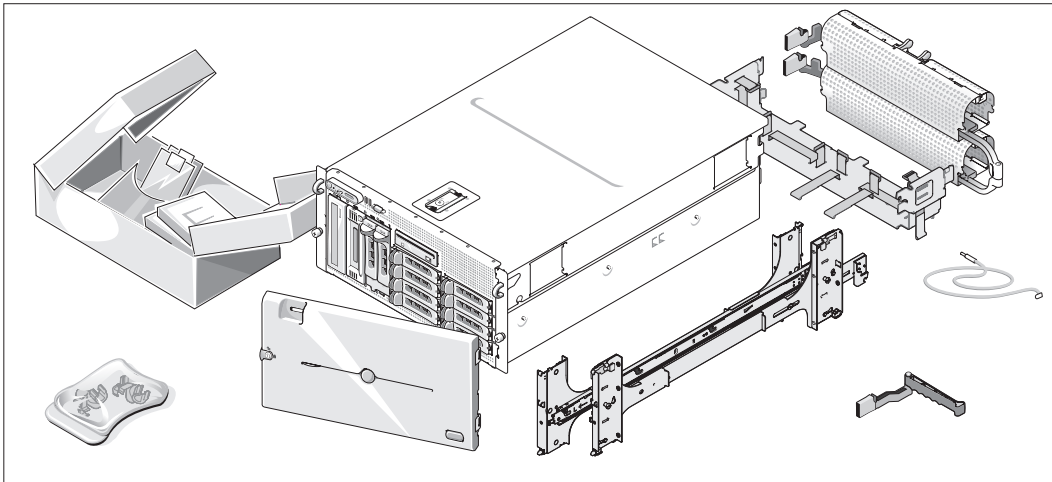
 **CAUTION:** Before performing the following procedure, read and follow the safety instructions and important regulatory information in your *Product Information Guide*.

This section describes the steps to set up your system for the first time. The illustrations that follow show a rack-mounted system, but the installation procedure applies in large part to a stand-alone tower system. In place of the rack installation in step 2, refer to the documentation included with your system on installing the stabilizer feet on your system.

 **CAUTION:** Installing the feet on a stand-alone tower system is necessary to provide a stable foundation for the system. Failure to install the feet poses the risk of having the system tip over, possibly causing bodily injury or damage to the system.

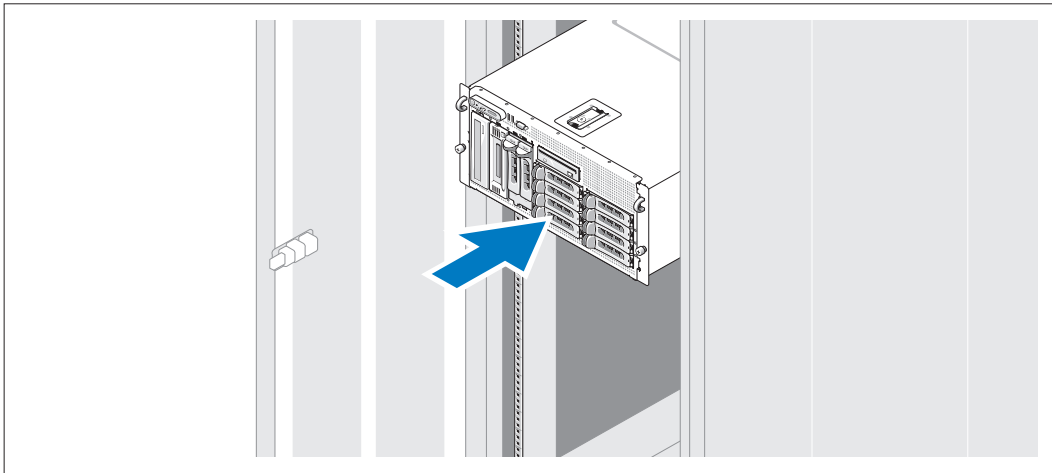
 **CAUTION:** Whenever you need to lift the system, get others to assist you. To avoid injury, do not attempt to lift the system by yourself.

Unpacking the System



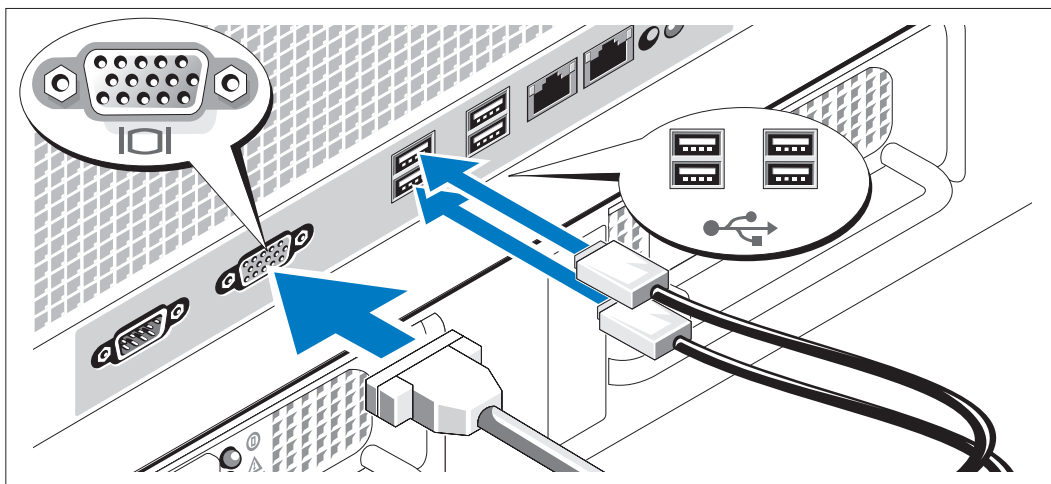
- 1 Unpack your system and identify each item.
Keep all shipping materials in case you need them later.

Installing the Rails and System in a Rack



- 2 Once you have read the "Safety Instructions" located in the rack installation documentation for your system, install the rails and the system in the rack.
See your rack installation documentation for instructions on installing your system in a rack.
For a tower system, see the documentation included with your system on installing the system stabilizer feet.

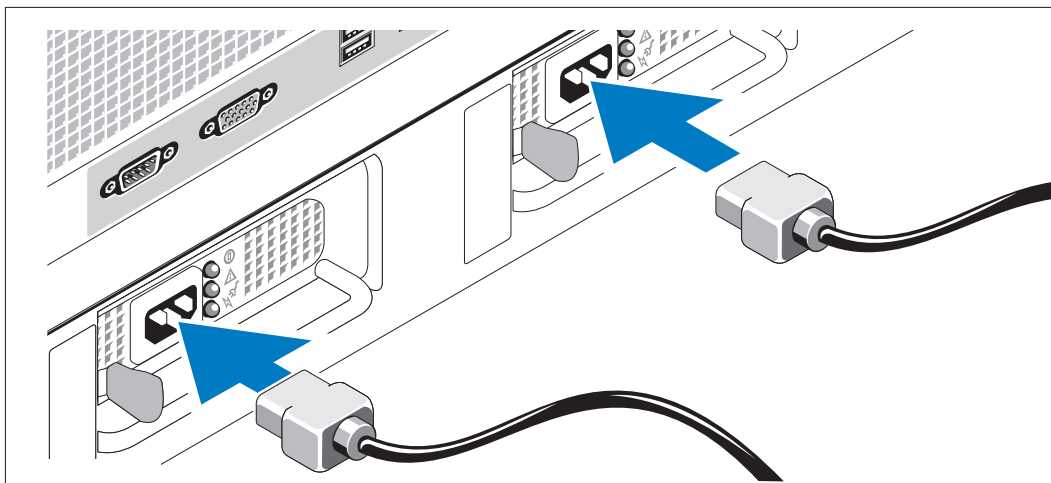
Connecting the Keyboard, Mouse, and Monitor



- 3 Connect the keyboard, mouse, and monitor (optional).

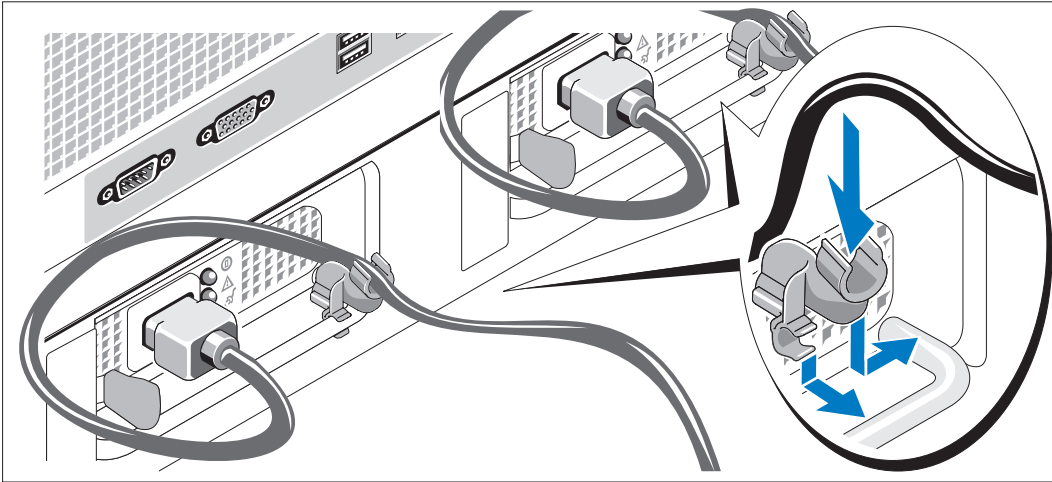
The connectors on the back of your system have icons indicating which cable to plug into each connector. Be sure to tighten the screws (if any) on the monitor's cable connector.

Connecting the Power



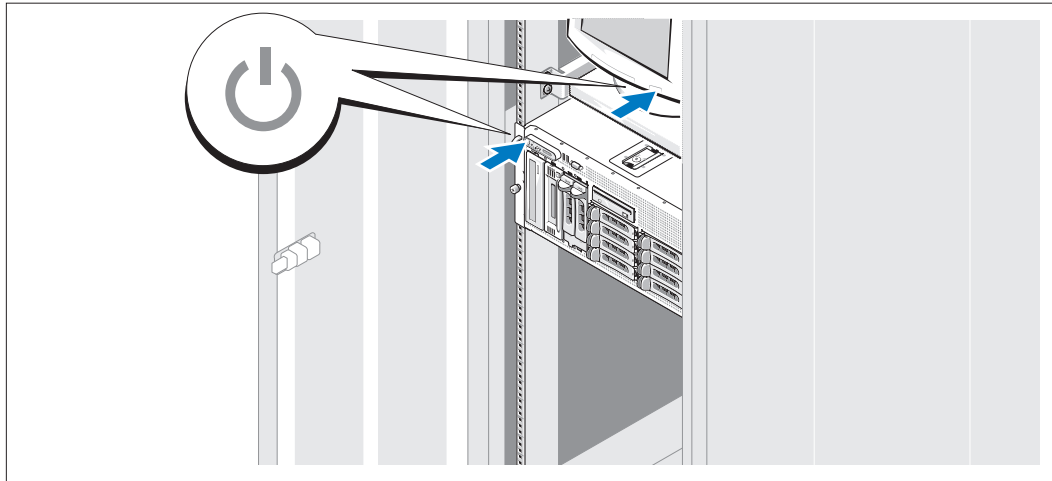
- 4 Connect the system's power cable(s) to the system.
- 5 Plug the other end of the cable into a grounded electrical outlet or a separate power source such as an uninterruptible power supply (UPS) or a power distribution unit (PDU).

Installing the Power Cord Retention Bracket



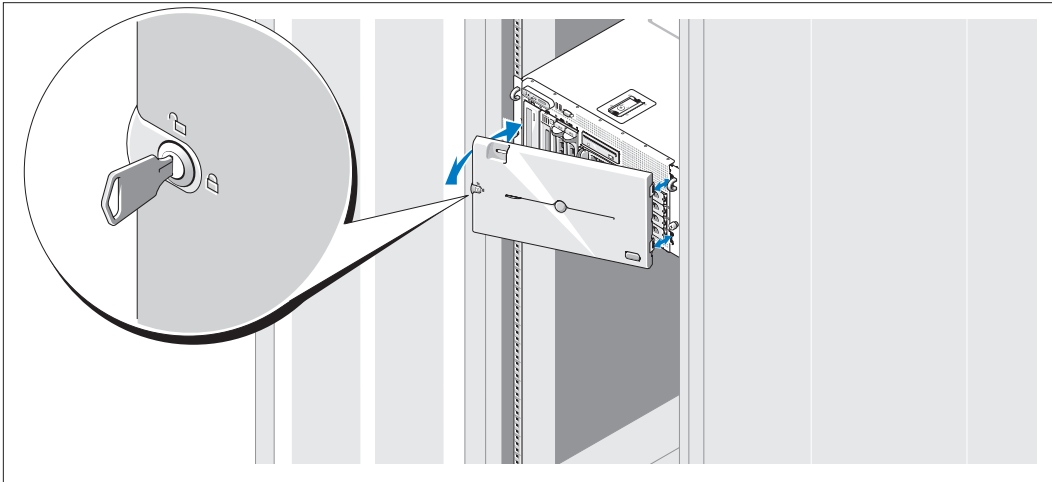
- 6 Attach the power cord retention bracket on the right bend of the power supply handle. Bend the system power cable into a loop as shown in the illustration and attach to the bracket's cable clasp. Repeat the procedure for the second power supply.

Turning on the System



- 7 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



- 8 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, PCI-X, PCIe
Expansion slots	
PCI-X	two full-height, full-length 3.3-V, 64-bit, 133-MHz (slots 1 and 2)
PCIe	one x8 lane, 3.3-V (slot 3) three x4 lanes, 3.3-V (slots 4 through 6)
Memory	
Architecture	533 or 667 MHz (when available) Fully Buffered DIMMs (FBD)
Memory module sockets	twelve 240-pin
Memory module capacities	256 MB, 512 MB, 1 GB, 2 GB, or 4 GB
Minimum RAM	512 MB (two 256-MB module)
Maximum RAM	48 GB
Drives	
Hard drives	up to ten 3.5-inch, internal, hot-plug SAS or SATA <ul style="list-style-type: none">• eight drives in the internal drive bay• two drives in the optional 1x2 flexbay backplane expansion
Diskette drive	one optional 3.5-inch, 1.44-MB external optional USB 3.5-inch, 1.44-MB
Optical drive	one optional CD, DVD, or combination CD-RW/DVD NOTE: DVD devices are data only. external optional USB CD-ROM external optional USB DVD-ROM
Flash drive	external optional USB

Connectors		
Back		
NIC		Two TOE-capable RJ-45 (for integrated 1-GB NICs)
Serial		9-pin, DTE, 16550-compatible
USB		Four 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 connectors
Video memory		16 MB of DDR SDRAM
Power		
AC power supply (per power supply)		
Wattage		930 W
Voltage		90–264 VAC, autoranging, 47–63 Hz
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
Physical		
Rack		
Height		21.77 cm (8.57 in)
Width		44.27 cm (17.43 in) chassis only 48.27 cm (19 in) with rack flanges

Physical (continued)

Depth	66.13 cm (26.04 in) does not include control panel or bezel; control panel adds an additional 1.3 cm (.51 in)
Weight (maximum configuration)	45.36 kg (100 lb)
Tower (without bezel)	
Height	47.89 cm (18.85 in) with feet, no casters
Width	22.66 cm (8.92 in)
Depth	66.13 cm (26.04 in) does not include control panel or bezel; control panel adds an additional 1.3 cm (.51 in)
Weight (maximum configuration)	49.9 kg (110 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	20% to 80% (noncondensing) with a maximum humidity gradation of 10% per hour
Storage	5% to 95% (noncondensing)

Maximum vibration

Operating	0.26 G from 5–350Hz for 2 min in the Z axis
Storage	1.54 G from 10–250 Hz for 15 min in all orientations

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)