



Installing the Dell PowerEdge R620 Server

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Chapter 1: Installing the Dell R620 Server

Dell R620 Server overview

The Avaya Common Servers category includes the Dell™ PowerEdge™ R620 1U server that supports several Avaya software solutions, some requiring additional hardware and memory requirements beyond the standard configuration. This book covers the standard configuration only—consult specific Avaya product documentation for application-specific or solution-specific server configurations.

- Avaya Common Servers are supplied under an OEM relationship and Avaya servers are treated differently than commercially available servers from the vendors.
- Neither customers, business partners, distributors, nor Avaya Associates interacting with customers and business partners, should get BIOS or other firmware updates for any third party OEM servers forming part of Avaya's turnkey appliance offers. Only consult Avaya-provided downloads, information and support. Send questions to the Server Product Management mailbox at svrprodmgmt@avaya.com.
- Avaya Common Servers are turnkey appliances. No servers designed for a particular application can be repurposed for use with another application. The only exception to this is when an application has provided an upgrade or migrate path from an existing server state to a different server state with the appropriate kits, tools, documentation, and training materials. For example, Avaya Aura Messaging is providing a kit plus documentation for migrating a server running Modular Messaging to Avaya Aura Messaging.
- Remote access and use of Dell iDRAC hardware management tools for the Dell R620 server are not supported by any Avaya application (Dell iDRAC).
- Do not contact Dell for Service; all support, warranty, repair, and maintenance are through the Avaya processes.
- Avaya strongly recommends that all servers are protected with an Uninterruptable Power Supply for power surge and interruption protection. Avaya is not responsible for servers damaged by power surges, brown outs, black outs etc. when the server is connected to standard power mains and has no protection.
- Substitution of a DC power supply in a server must be approved by the Application Product Manager before any substitution is made. If there is a significant demand for a turnkey solution with a DC power supply, an Avaya GRIP (Global Requirements Integration Process) request must be submitted. Partners registered to use this process can submit a GRIP request at <https://portal.avaya.com/apps/grip/partner.asp>. Avaya Associates may assist and can find information about this process at <http://spark4.avaya.com/grip/>

Note, a GRIP request must be made for the Avaya application product, not the server model. The decision on whether to include a turnkey offer with a DC power supply is the responsibility of each Avaya application Product Manager. The name of the Product Managers for each application can be found at the bottom of the application page on the Avaya Global Sales portal.

- Dell's RAID battery is a consumable item that can be purchased as a part without a Service ticket. Customers are responsible for installing them, the procedure for which is in the Maintaining and troubleshooting document or in appropriate OEM vendor documentation. The Avaya Service Notice about the RAID battery as consumable is Service Bulletin SB000130.
- Product labels on the servers themselves have the 9-digit base server codes for Avaya Services in service and support. These 9-digit codes differ from the 6-digit orderable codes under which servers are ordered. On every server package, there is a Packing Label and a Hierarchy Label. The Hierarchy Label itemizes the stock list in the box of the 6-digit orderable code and Avaya recommends retaining them for reference.
- Quality assurance - product integrity testing/environmental international restrictions/ has been completed by Dell and verified with Avaya through the use of Design for Environmental Checklists. These lists include: batteries, printed wiring boards, plastic parts, product packaging, RoHS, green requirements, and energy efficiency.

How to use this document

This guide contains information for installing the Dell™ PowerEdge™ R620 Server as part of an Avaya deployment and provides:

- Instructions for how to find the appropriate online server documentation from Dell
- References to specific topics in standard Dell documentation
- Suggested changes, details, and notes to assist the user in interpreting the manufacturer's documentation and to clarify Avaya's recommended implementation of the equipment
- Additional topics not covered in standard Dell documentation but which are necessary for successful installation and maintenance of Avaya products

Downloading Dell documentation

Use this procedure to find and download the Dell™ PowerEdge™ R620 documentation from Dell.

Procedure

1. Open a browser and go to <http://www.support.dell.com>.
2. On the Welcome to Dell Support page click on the **Start Here** button in the Support for Work section.
3. On the Support for Work page click on **Servers, Storage and Networking** in the “choose a product category” section.
4. On the next page click on **PowerEdge**.
5. On the Choose your Dell PowerEdge page, click on **PowerEdge R620**.
6. On the Product Support for PowerEdge R620 page click on **Manuals and Documentation**.
7. Click the link that corresponds to the document that you want to download.
8. Download the documents in the *Dell R620 document set > Documents to download* section below.

Dell R620 documentation set

Refer to the documents listed below for Dell R620 server installation information and procedures.

 **Note:**

Download the documents listed in the *Documents to download* section below. Printed copies of the documents listed in the *Documents included in the shipping container* section below ship with the server.

Documents to download

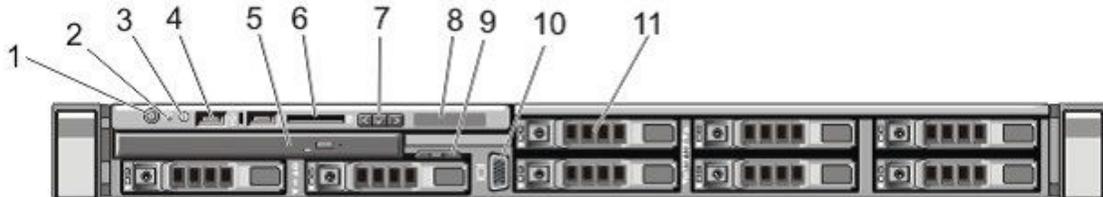
Title
Getting Started Guide
Owner's Manual
Technical Guide

Documents included in the shipping container

Title
Product Information Guide

Title
Rack Installation Instructions

Front view of Dell R620 Server



*** Note:**

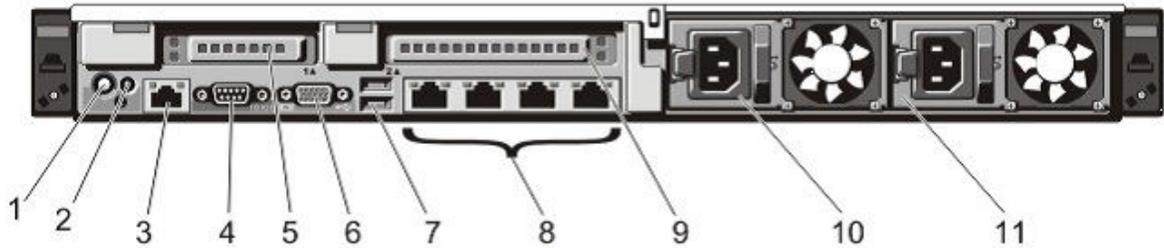
Most Avaya servers ship with 2–4 hard disk drives, depending upon product requirements. The remaining hard drive bays (slots 4–7) will not be operable. A plate will be covering the 4 slots on the right side of the server.

No.	Item	Icon	Description
1	Power-On Indicator, Power Button		<p>The power-on indicator lights when the system power is on. The power button controls the power supply output to the system.</p> <p>* Note: On ACPI-compliant operating systems, turning off the system using the power button causes the system to perform a graceful shutdown before power to the system is turned off.</p>
2	NMI Button		<p>Used to troubleshoot software and device driver errors when running certain operating systems. This button can be pressed using the end of a paper clip. Use this button only if directed to do so by qualified support personnel or by the operating system's documentation.</p>
3	System Identification Button		<p>The identification buttons on the front and back panels can be used to locate a particular system within a rack. When one of these buttons is pressed, the LCD panel on the front and the system status indicator on the back flashes blue until one of the buttons are pressed again. Press to toggle the system ID on and off. If the system stops responding during POST, press and hold the</p>

			system ID button for more than five seconds to enter BIOS progress mode.
4	USB Connectors (2)		Allows you to insert USB devices to the system. The ports are USB 2.0-compliant.
5	Optical Drive		One optional SATA DVD-ROM drive or DVD+/-RW drive. * Note: DVD devices are data only.
6	vFlash Media Card Slot (Not populated for Avaya)		Allows you to insert a vFlash media card.
7	LCD Menu Buttons		Allows you to navigate the control panel LCD menu.
8	LCD Panel		Displays system ID, status information, and system error messages. The LCD lights blue during normal system operation. The LCD lights amber when the system needs attention, and the LCD panel displays an error code followed by descriptive text. * Note: If the system is connected to AC power and an error is detected, the LCD lights amber regardless of whether the system is turned on or off.
9	Information Tag		A slide-out label panel, which allows you to record system information, such as Service Tag, NIC, MAC address, and so on as per your need.
10	Video Connector		Allows you to connect a VGA display to the system.
11	Hard Drives		A typical Avaya configuration has up to four 2.5 inch hot-swappable hard drives. The other hard drive bays will not be operable. High density HDD Avaya products will ship with 8 slots.

More information can be found in the Dell Owner's Manual, in the Front Panel Features and Indicators section.

Back view of Dell R620 Server



No.	Item	Icon	Description
1	System Identification Button		The identification buttons on the front and back panels can be used to locate a particular system within a rack. When one of these buttons is pressed, the LCD panel on the front and the system status indicator on the back blink until one of the buttons are pressed again. Press to toggle the system ID on and off. If the system stops responding during POST, press and hold the system ID button for more than five seconds to enter BIOS progress mode. To reset iDRAC (if not disabled in F2 iDRAC setup) press and hold for more than 15 seconds.
2	System Identification Connector		Allows you to connect the optional system status indicator assembly through the optional cable management arm.
3	iDRAC Enterprise Port		Dedicated management port. * Note: The port is available for use only if the iDRAC7 Enterprise license is installed on your system. (Not normally used in Avaya systems)
4	Serial Connector		Allows you to connect a serial device to the system.
5	PCIe Expansion Card Slot 1 (riser 2)		Allows you to connect a PCIe expansion card.
6	Video Connector		Allows you to connect a VGA display to the system.
7	USB Connectors (2)		Allows you to connect USB devices to the system. The ports are USB 2.0-compliant.
8	Ethernet Connectors (4)		Four integrated 10/100/1000 Mbps NIC connectors (Avaya Standard) * Note: Dell R620 NIC port numbers are read from left to right , starting with Port 1, then continuing 2, 3 and port 4.

9	PCIe expansion card slot 2 (riser 3)		Allows you to connect a PCIe expansion card.
10	Power Supply (PSU1)		AC 495W, 750W
11	Power Supply (PSU2)		AC 495W, 750W

More information can be found in the Dell Owner's Manual, in the Back Panel Features and Indicators section.

Dell R620 Server specifications

Base unit	Baseline	Options
R620	1U chassis, dual socket	Listed below
Processor	Intel E5-2630, Six Core 2.3GHz (Sandybridge) 4 memory channels per CPU with up to 3 DIMMs per channel (most applications use 1 or 2 DIMMs per channel to optimize memory speed)	<ul style="list-style-type: none"> Intel E5-2667 six Core/2.9 GHz (Sandybridge) Upgradable to dual processors for either E5-2630 or E5-2667
Memory	4GB DDR3 RDIMMs	Max Capacity for memory: RDIMM – up to 96GB (2 cpus)
HW RAID	H710 RAID controller with 512MB Cache and battery backup. Optioned as RAID 1 or 5	Other RAID configurations available
Hot-Plug disk drive cage	8 Small Form Factor 2.5" hot-plug hard drive bays are available when an optical drive is installed. A typical Avaya configuration has up to four 2.5 inch hot-swappable hard drives.	High density HDD Avaya products will ship with 8 slots.
Disk drive	300GB SAS 2.5" 10K RPM 6G DP Hard Drive. Two base configurations: <ul style="list-style-type: none"> 299.96GB total: RAID 1, 2 x 300GB drives 599.93GB total: RAID 5, 3 x 300GB drives 	<ul style="list-style-type: none"> Additional 300GB 10K RPM SAS drive High performance 300GB 15K SAS drives High capacity 600GB 10K SAS drives
NICs	4 integrated ENET Gigabit NIC ports with TCP offload engine (included on motherboard)	Broadcom 5720 Dual Port 1GbE NIC (430-3261)

Base unit	Baseline	Options
PCI slots	2 PCIe risers (left and center)	(Riser 2, Slot 1) One half-height, half-length x8 link or one half-height, half-length x16 link  Note: Both processors must be installed to use the slots on the x16 link on riser 2. (Riser 3, Slot 2) One full-height, three fourth-length x16 link or one half-height, half-length x16 link
Removable media	Slim line SATA DVD-RW optical drive (used in all Avaya configurations)	No additional options supported.
Power supply	495W AC Hot Plug Power Supplies	<ul style="list-style-type: none"> • 750W AC power supply • Single and dual power supply configurations
Fans	7 Fan modules	7 Fan modules
Additional items	2 front USB, 4 back USB, and 1 internal USB port Front Video Connector	

Dell R620 altitude and air pressure requirements

A table listing the altitude and air pressure requirements for the Dell R620 server.

	Altitude
Operating	-15.2 m to 3048 m (-50 to 10,000 ft)  Note: For altitudes above 2,950 ft, the maximum operating temperature is de-rated 1°F per 550 ft.
Storage	-15.2 m to 10,668 m (-50 ft to 35,000 ft)

Dell R620 Server physical specifications

Type	Description
Dimensions	Height: 42.8 mm (1.68 inch)
	Width: <ul style="list-style-type: none"> • 48.24 cm (18.99 in) with rack latches • 43.4 cm (17.08 in) without rack latches
	Depth: <ul style="list-style-type: none"> • 700.5 mm (27.58 inch)
Weight (maximum configuration)	18.58 kg (40.96 lb.)
Weight (empty)	8.58 kg (18.92 lb)

Dell R620 temperature and humidity requirements

This is a table of the temperature and humidity requirements for the Dell R620 server.

Specification	Value
Temperature range	
Operating	10° to 35 °C (50° to 95 °F) with no direct sunlight on the equipment.  Note: For altitudes above 2950 ft, the maximum operating temperature is derated 1 °F / 550 ft.
Storage	-40° to 65° C (-40° to 149° F) with a maximum temperature gradation of 20 °C per hour
Relative humidity	
Operating	20% to 80% (non-condensing) at a maximum wet bulb temperature of 29 °C (84.2 °F)
Non-operating	5% to 95% at a maximum wet bulb temperature of 38 °C (100.4 °F)

Dell R620 Server power specifications

Specification	Value
BTU	1057.8 BTU/hr
Voltage	110 VAC (100–240 VAC auto-ranging 50/60 Hz)
Plug Type	NEMA 5-15P
Circuit Breaker	15 amp
Pole	1
AMP Draw	2.8 amps (based on 110 voltage)

*** Note:**

The above power configuration is based on the following example:

- 2qty – E5-2630 Processors
- 2qty – 495W power supplies
- 2qty – 300GB HDDs
- CPU load 100%
- 8qty – 4GB 1600mHz RDIMMs

Installing the server in the rack

About this task

*** Note:**

Although not used frequently, Avaya customers are required to have a monitor, USB keyboard, and USB mouse available for use by installation and/or servicing technicians.

Procedure

1. Examine contents of shipping container (Avaya provided equipment), and ensure that the 6-digit material code on the order matches the 6-digit material code on the shipping container.

2. Verify that the rack is installed according to the manufacturer's instructions and in accordance with all local codes and laws. Verify that the rack is grounded in accordance with local electrical code.

See the *Rack Installation Instructions* that are shipped with the hardware for more information.

3. Remove the cabinet doors, if necessary.

4. Attach the rails to the rack

The rails included with the server will accommodate most square-hole racks. If these rails do not fit the rack, the customer must provide rails or a shelf for rack installation. Also, the rails included with the server might not work with round-hole racks. The customer can obtain rails and/or a shelf from any distributor, for example <http://www.racksolutions.com/>. The customer-provided rails and rack must be on site prior to the first day of installation.

 **Note:**

The customer is responsible for any rack screws.

5. Attach the server to the rack.

6. Connect the power cord(s).

See the *Getting Started Guide* sections: “connecting the power cables” and “securing the power cord” for more information.

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