

Dell R740

Dell PowerEdge R740 2U Rack Server

Instruction Manual

1. INTRODUCTION

The Dell PowerEdge R740 is a 2U rack server designed for demanding data center environments, offering high performance and scalability. This manual provides guidance for the proper installation, configuration, operation, and maintenance of your server to ensure reliable and efficient performance.

Key features include dual Intel Xeon processors, extensive DDR4 memory support, flexible storage options with RAID capabilities, and integrated Dell Remote Access Controller (iDRAC) for remote management.

2. SETUP

2.1 Unpacking and Inspection

Carefully unpack the server and its components. Verify that all items listed in the packing slip are present and undamaged. The server is shipped with adjustable foam packaging for protection during transit.



Figure 2.1: Dell PowerEdge R740 server securely packaged.

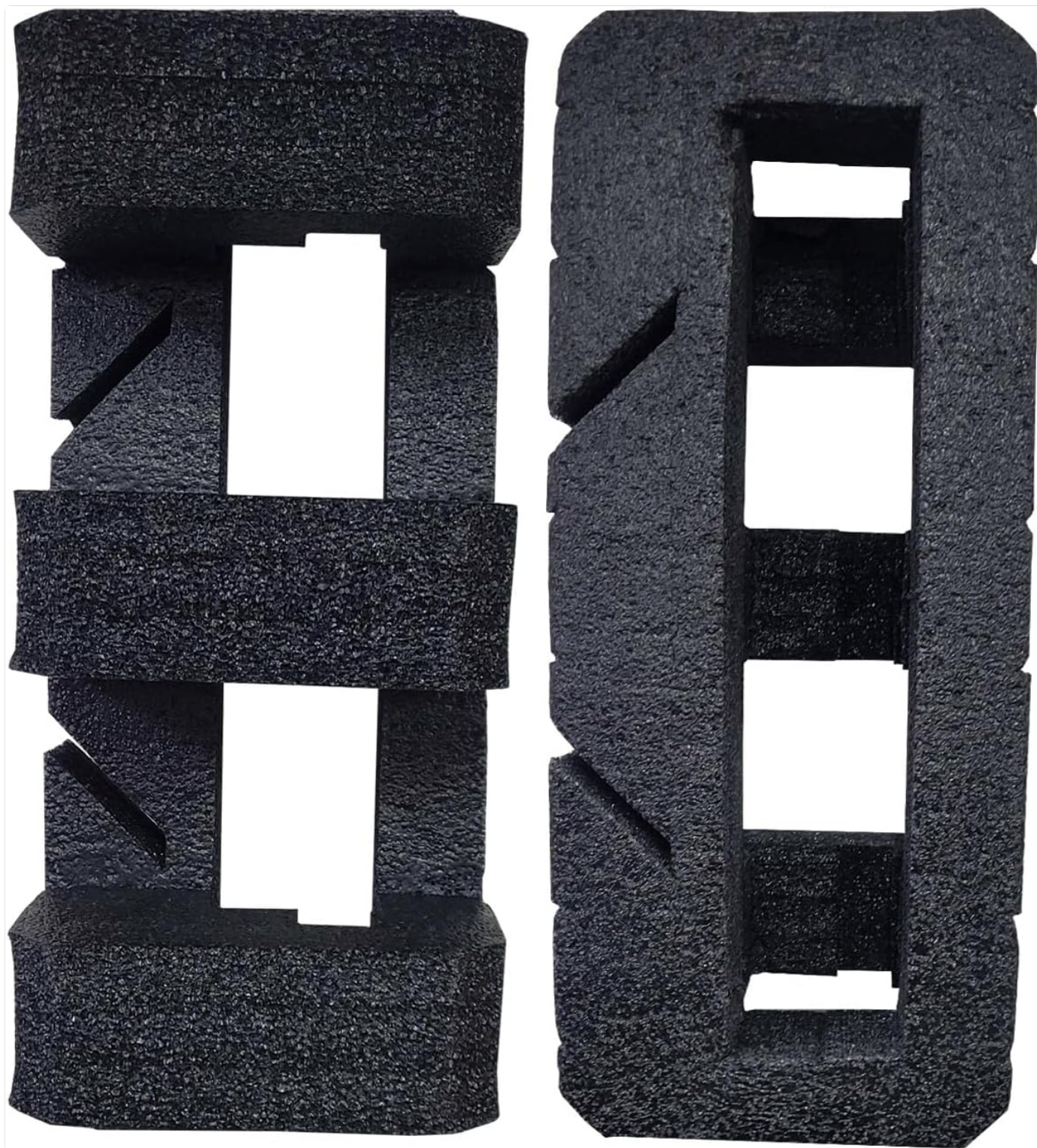


Figure 2.2: Protective foam inserts used for server shipping.

2.2 Rail Kit Installation

The server includes a rail kit for mounting into a standard 19-inch server rack. Follow the instructions provided with the rail kit for proper installation. Ensure the rails are securely fastened to the rack before attempting to mount the server.



Figure 2.3: Server rail kit for rack mounting.

2.3 Hardware Installation (Memory and Storage)

Hard drives and memory upgrades are typically included separately and require installation. Refer to the server's service manual for detailed instructions on installing DDR4 memory modules and 2.5-inch SATA SSDs into the appropriate bays. Ensure proper seating and connection of all components.



Figure 2.4: Internal view of the server, highlighting memory and storage areas.

2.4 Power and Network Connections

Connect the redundant power supplies to separate power sources for fault tolerance. Connect network cables to the Broadcom BCM5720 Quad Port 1GbE BASE-T network controller ports. The server also features a dedicated iDRAC port for remote management.



Figure 2.5: Rear panel of the server with power and network connections.

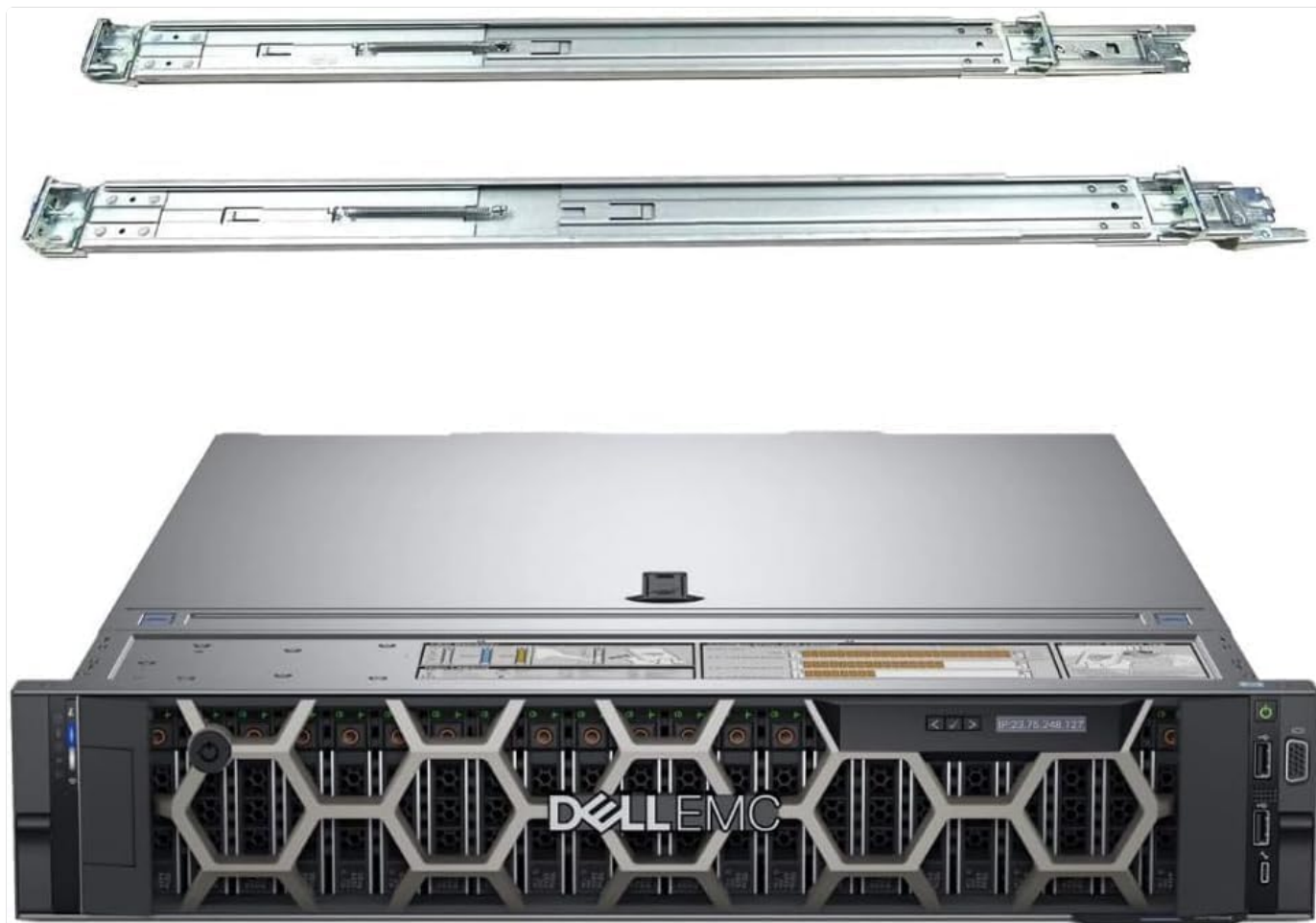


Figure 2.6: Front panel of the server.

2.5 Initial Power On and Operating System Installation

After all hardware is installed and connected, power on the server. Access the BIOS/UEFI settings to configure boot options. Install your preferred operating system, such as Windows Server or Linux, using a bootable USB drive or network installation.

3. OPERATING

3.1 Local Operation

The server can be operated directly using a connected keyboard, mouse, and monitor. The front panel provides status indicators and basic controls.

3.2 Remote Management with iDRAC9

The integrated Dell Remote Access Controller 9 (iDRAC9) allows for comprehensive remote management of the server. This includes power control, virtual media, remote console access, and hardware monitoring, even when the operating system is not running. Access iDRAC via its dedicated network port and a web browser.

3.3 Storage Configuration (RAID)

The PERC H730 12Gb/s RAID Controller with 2GB NV Cache manages the server's storage. Configure RAID arrays through the controller's BIOS utility or a dedicated management tool to optimize performance and data redundancy for your 15.36TB SATA SSD storage.

3.4 Power Management

The server features redundant, hot-swappable power supplies, ensuring continuous operation even if one power supply fails. Monitor power status through iDRAC or the operating system's power management tools.

4. MAINTENANCE

4.1 Regular Inspections

Periodically inspect the server for dust accumulation, especially around cooling fans and vents. Ensure all cables are securely connected.

4.2 Cleaning

Use compressed air to gently clean dust from internal components and cooling vents. Ensure the server is powered off and disconnected from power sources before performing any internal cleaning.

4.3 Firmware and Software Updates

Regularly update the server's firmware (BIOS, iDRAC, RAID controller) and operating system software to ensure optimal performance, security, and compatibility. Refer to the Dell support website for the latest updates.

4.4 Component Replacement

Components like power supplies are hot-swappable, allowing replacement without powering down the server. For other components like memory or drives, consult the service manual for proper replacement procedures, which may require powering down the server.

5. TROUBLESHOOTING

5.1 Power Issues

- **No Power:** Verify power cables are securely connected to both the server and power outlets. Check power supply status indicators.
- **Redundant Power Supply Failure:** If one power supply fails, the server should continue operating on the remaining unit. Replace the faulty power supply promptly.

5.2 Boot Issues

- **Server Fails to Boot:** Check for POST error codes or messages on the console. Verify memory and CPU installation.
- **Operating System Not Loading:** Check boot order in BIOS/UEFI. Verify the integrity of the operating system installation.

5.3 Storage Issues

- **Drive Failure:** The RAID controller will typically indicate a failed drive. Replace the faulty SSD according to the RAID controller's instructions.
- **RAID Array Degradation:** If a drive fails in a redundant RAID configuration, the array will operate in a degraded state. Replace the drive to rebuild the array.

5.4 Network Connectivity

- **No Network Access:** Verify network cable connections. Check network adapter status in the operating system and iDRAC. Ensure correct IP configuration.

5.5 iDRAC Access Issues

- **Cannot Access iDRAC:** Verify the iDRAC dedicated network port is connected and configured with a valid IP address. Check network settings and firewall rules.

6. SPECIFICATIONS

Feature	Specification
Brand	Dell
Model	PowerEdge R740
Form Factor	2U Rack Server
Processor	Dual Intel Xeon Gold 6130 (16-Core, 2.1 GHz, up to 3.7 GHz Turbo)
Memory	256GB DDR4 PC4-25600 3200MHz Unbuffered Memory
Storage	15.36TB (4 x 3.84TB) Enterprise 2.5" SATA SSD
Storage Controller	PERC H730 12Gb/s RAID Controller w/ 2GB NV Cache
Network Controller	Broadcom BCM5720 Quad Port 1GbE BASE-T, rNDC
Remote Management	iDRAC9 Express
Power Supply	Redundant, Hot-Swappable Power Supplies (Type B - 3 pin North American)
Operating System Support	Windows Server, Linux
Dimensions (Item)	28 x 14 x 20 inches
Total Expansion Slots	8
USB Ports	4
Video Output	1 (DisplayPort)
Cooling Method	Air

7. WARRANTY AND SUPPORT

This Dell PowerEdge R740 server is a renewed product. Warranty and support are typically provided by the seller, Aventis Systems, which offers 90-day easy returns and customer support. For specific warranty terms and technical assistance, please contact Aventis Systems directly or refer to the documentation provided with your purchase. For manufacturer-specific documentation and drivers, visit the official Dell support website and search for the PowerEdge R740 model.

© 2024 Dell. All rights reserved. This document is for informational purposes only.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question