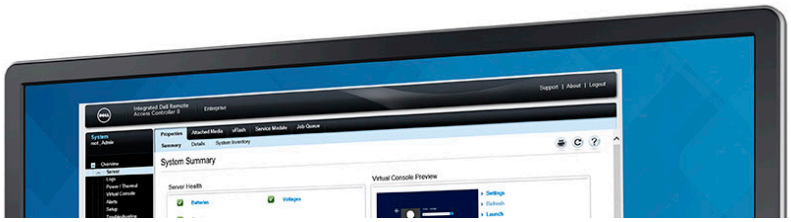

The integrated Dell Remote Access Controller 8 (iDRAC8) with Lifecycle Controller

The Dell iDRAC8 with Lifecycle Controller is designed to increase the productivity of server administrators and increase the availability of your Dell PowerEdge servers.

The integrated Dell Remote Access Controller 8 (iDRAC8) with Lifecycle Controller is the next generation of remote server administration. Embedded in every PowerEdge server, iDRAC 8 provides secure and remote server access for a multitude of common management functions. The iDRAC with Lifecycle Controller operates regardless of operating system state or the presence of a hypervisor and offers a complete set of server management features including configuration, OS deployment, firmware updates, health monitoring and maintenance.

Remote access offers the following benefits:

- **Increased availability:** Early notification of potential or actual failures can help prevent a server failure or reduce recovery time in the case of a failure.
- **Improved productivity and lower operating cost:** Extending the reach of administrators to larger numbers of distant servers can make IT staff more productive while driving down operational costs such as travel.
- **Security**: By providing secure access remote servers, administrators can carry out critical management functions while maintaining server and network security.

Agent-free management

Dell's agent-free management puts IT administrators in control. Once a PowerEdge server is connected to power and networking, that system can be monitored and managed from in front of the system with just a USB key or from a distant location. With no need for software agents, an IT administrator can monitor, manage, update, troubleshoot and remediate Dell servers regardless of operating system or hypervisor presence. With features like zero-touch deployment, iDRAC8 with Lifecycle Controller extends administrators' reach to larger numbers of remote servers and increases IT staff productivity.

Note: for customers who desire to continue with legacy monitoring techniques, Dell provides two alternatives:

- OpenManage Server Administrator (OMSA), a software agent available for a variety of Linux and Windows operating systems
- iDRAC Service Module, Dell's new, lightweight service, can perform most of the tasks OMSA does but with a much smaller footprint.

Secure remote management

Security is a top priority for iDRAC users. With that in mind, the iDRAC8's web interface, remote RACADM utility, and WS-MAN interfaces all support TLS 1.2. Every web page served by the iDRAC8 web server is delivered with TLS encryption at 256-bit strength (unless configured otherwise). Dell also supports encryption on the virtual KVM (virtual console redirection) and virtual media over TLS. The iDRAC8's Virtual Console and Media also benefit from SSL encryption. Additionally, the iDRAC8 firmware is equipped with a default security certificate, which can be replaced by a customer with one of their own choosing.

Automation of hardware management

Dell PowerEdge servers with iDRAC8 and Lifecycle Controller are ideally suited to "bare metal" deployment due to the easy-to-use but advanced automation Dell provides. When ordered with the appropriate settings, Dell servers can simply be plugged into power and the local network and will begin deployment. Dell servers ship from our factory with embedded driver packs for supported operating systems to help get your system up and running quickly. With iDRAC8 Enterprise, auto-reconfiguration of replacement parts, including the main system board, simplifies infrastructure maintenance. Embedded management features give customers the ability to restore previous configuration settings including firmware.

iDRAC8 key features	
Standards-based management automation	iDRAC8 supports these industry-standard management APIs: IPMI, WS-MAN and Redfish, enabling scalable, secure management automation. Scripting is enabled with the RACADM command line interface and the Python and PowerShell libraries.
Agent-Free Storage Management	No need for storage agents when you can configure storage devices in real-time through the iDRAC interface without rebooting, which also provides greater system availability. Monitor 12Gb SAS and PCIe-SSD storage via iDRAC with no OS agents.
Easy Restore	Dell servers can automatically restore hardware configuration and license information after replacing components, including even the system board. Return system to production in minutes using the in-chassis backup with configuration, service tag and iDRAC license.
iDRAC Direct	Secure front-panel USB connection to iDRAC web interface which eliminates the need for crash carts or a trip to the hot aisle of your data center. You can use the same port to insert a USB key to upload new system profile for secure, rapid system configuration.
iDRAC Quick Sync	Monitor and configure server wirelessly in seconds via free Dell OpenManage mobile app and supported NFC-capable phones/ tablets.
Real-Time Storage Configuration	No need for storage agents when you can configure storage devices in real-time through the iDRAC interface without rebooting, which also provides greater system availability.
Zero touch deployment and provisioning	When ordered with DHCP enabled from the factory, PowerEdge servers can be automatically configured when they are initially powered up and connected to your network. This process uses profile-based configurations that ensure each server is configured per your specifications. This feature requires an iDRAC Enterprise license.
Agent-Free Performance Monitoring	Monitor basic memory, CPU, and I/O performance metrics through iDRAC No need for OS agents to monitor performance! And no impact to the OS or any of the components. Plus, customizable thresholds can alert via SNMP, RACADM, or WSman when warning/critical levels are crossed.

iDRAC8 with Lifecycle Controller server options

	200-500 Series Rack/Tower only	200-500 Rack/Tower (upgrade option) 600+ Rack/Tower (standard) All FX modules (FM, FC)	All M1000e blades and VRTX modules
iDRAC8 Basic	✓ Standard	–	–
iDRAC8 Express	✓ Upgrade	✓ Standard	–
iDRAC8 Express for Blades	–	–	✓ Standard
iDRAC8 Enterprise	✓ Upgrade	✓ Upgrade	✓ Upgrade
iDRAC8 Enterprise with vFlash	✓ Upgrade	✓ Upgrade	✓ Upgrade

iDRAC8 with Lifecycle Controller feature and license options

Feature/License	iDRAC Basic	iDRAC Express	iDRAC Express for Blades	iDRAC Enterprise
Server model	**200-500 series Rack/Tower servers (standard)**	**200-500 Rack/Tower (upgrade option) 600+ Rack/Tower (standard) All FX modules (FM, FC)**	**All M1000e blades and VRTX modules**	**All servers (upgrade option)**
Interfaces/Standards				
DCMI 1.5	✓	✓	✓	✓
IPMI 2.0	✓	✓	✓	✓
Network Time Protocol		✓	✓	✓
Racadm command line (local/ remote)	✓	✓	✓	✓
SMASH-CLP (SSH-only)	✓	✓	✓	✓
SSH	✓	✓	✓	✓
Telnet	✓	✓	✓	✓
Web-based GUI	✓	✓	✓	✓
WS-MAN API	✓	✓	✓	✓
Connectivity				
Dedicated NIC[2]	✓	✓	✓	✓[2]
DHCP	✓	✓	✓	✓
Dynamic DNS	✓	✓	✓	✓
Front panel USB	✓	✓	✓	✓
IPv4	✓	✓	✓	✓
IPv6	✓	✓	✓	✓
OS passthrough	✓	✓	✓	✓
Shared NIC	✓	✓	N/A	✓[1]
VLAN tagging	✓	✓	✓	✓
Security				
Directory services (AD, LDAP)				✓
IP blocking		✓	✓	✓
Local users	✓	✓	✓	✓
PK authentication		✓	✓	✓
Role-based authority	✓	✓	✓	✓
Single sign-on				✓
SSL encryption	✓	✓	✓	✓
Two-factor authentication				✓

Feature/License	iDRAC Basic	iDRAC Express	iDRAC Express for Blades	iDRAC Enterprise
Remote Presence				
Boot control	✓	✓	✓	✓
Power control	✓	✓	✓	✓
Quality/bandwidth control				✓
Remote File Share				✓
Serial-over-LAN	✓	✓	✓	✓
Virtual Console chat				✓
Virtual Console collaboration (6 users)				✓
Virtual Console via HTML5, Java or Active X			✓	✓
Virtual Flash partitions				✓[2,3]
Virtual Folders				✓
Virtual Media			✓	✓
VNC connection to OS				✓
Power and Thermal				
Historical power counters		✓	✓	✓
Power capping				✓
Power Center integration				✓
Power thresholds & alerts		✓	✓	✓
Real-time power graphing		✓	✓	✓
Real-time power meter	✓	✓	✓	✓
Temperature graphing		✓	✓	✓
Temperature monitoring	✓	✓	✓	✓
Health Monitoring				
Configurable thresholds	✓	✓	✓	✓
CPU monitoring	✓	✓	✓	✓
Email alerting		✓	✓	✓
Fan monitoring	✓	✓	✓	✓
Full agent-free monitoring	✓	✓	✓	✓
HD monitoring (enclosure)	✓	✓	✓	✓
Memory monitoring	✓	✓	✓	✓
NIC monitoring	✓	✓	✓	✓
Out of Band Performance Monitoring				✓
Power supply monitoring	✓	✓	✓	✓
Predictive failure monitoring	✓	✓	✓	✓
RAID, HBA, and NVMe storage monitoring	✓	✓	✓	✓
Redfish Eventing	✓	✓	✓	✓
SNMPv1, v2, and v3 (traps and gets)	✓	✓	✓	✓
WS-MAN Eventing	✓	✓	✓	✓
Update				
Auto-update				✓
Embedded update tools	✓	✓	✓	✓
Remote agent-free update	✓	✓	✓	✓
Sync with repository (scheduled updates)				✓
Deployment and Configuration				

Feature/License	iDRAC Basic	iDRAC Express	iDRAC Express for Blades	iDRAC Enterprise
Auto-Discovery		✓	✓	✓
Embedded driver pack	✓	✓	✓	✓
Embedded OS deployment tools	✓	✓	✓	✓
Full configuration inventory	✓	✓	✓	✓
Inventory export	✓	✓	✓	✓
Profile-based configuration	✓	✓	✓	✓
Remote OS deployment	✓	✓	✓	✓
System Retire/Repurpose	✓	✓	✓	✓
Zero-touch configuration				✓
Diagnostics, Service and Logging				
Boot capture				✓
Crash screen capture		✓	✓	✓
Crash video capture [4]				✓
Easy Restore (system configuration)	✓	✓	✓	✓
Embedded diagnostic tools	✓	✓	✓	✓
Embedded Health Report (SupportAssist)	✓	✓	✓	✓
Health LED / LCD	✓	✓	✓	✓
iDRAC Direct (front USB management port)	✓	✓	✓	✓
iDRAC Service Module (iSM)	✓	✓	✓	✓
License management	✓	✓	✓	✓
Lifecycle Log	✓	✓	✓	✓
Manual reset for iDRAC	✓	✓	✓	✓
OS watchdog [4]	✓	✓	✓	✓
Part Replacement		✓	✓	✓
Quick Sync (requires NFC bezel)	✓	✓	N/A	✓
Remote Syslog				✓
Server Configuration Backup				✓
Server Configuration Restore	✓	✓	✓	✓
System Event Log	✓	✓	✓	✓
Virtual NMI	✓	✓	✓	✓
Work notes	✓	✓	✓	✓

[1] Not available with blade servers
[2] 500 series and lower rack and tower servers require a hardware card to enable this feature; this hardware offered at additional cost
[3] Requires vFlash SD card media
[4] Requires iDRAC Service Module (iSM) or OpenManage Server Administrator (OMSA)

OpenManage portfolio

iDRAC with Lifecycle Controller (LC) is part of the OpenManage portfolio of systems management tools, solutions and technologies. By leveraging the embedded iDRAC with LC, customers can simplify and automate management through all stages of lifecycle management: deployment, updates, monitoring and maintenance. Efficient, intuitive and easily tailored to fit your specific needs, Dell OpenManage tools improve performance, productivity and availability of critical assets. And with integrations and connections to most third-party management platforms, Dell servers with OpenManage are readily adopted in a wide variety of IT environments.

End-to-end technology solutions

Reduce IT complexity, lower costs and eliminate inefficiencies by making IT and business solutions work harder for you. You can count on Dell for end-to-end solutions to maximize your performance and uptime. A proven leader in Servers, Storage and Networking, Dell Enterprise Solutions and Services deliver innovation at any scale. And if you're looking to preserve cash or increase operational efficiency, Dell Financial Services™ has a wide range of options to make technology acquisition easy and affordable. Contact your Dell Sales Representative for more information.**

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