Dell OpenManage Systems Management Overview Guide
Version 4.0

Notes, Cautions, and Warnings

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

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

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

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Dell Systems Management

Dell delivers management solutions that help IT Administrators effectively deploy, update, monitor, and manage IT assets. Dell OpenManage solutions and tools allow customers to quickly respond to problems by helping them to manage Dell servers effectively and efficiently; in physical, virtual, local, and remote environments, operating in-band and out-of-band (agent-free). The OpenManage portfolio includes innovative embedded management tools such as the integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller.

Dell has developed comprehensive systems management solutions based on open standards and has integrated with management consoles that can perform advanced management of Dell hardware. Dell has connected or integrated the advanced management capabilities of Dell hardware into offerings from the industry's top systems management vendors, thus making Dell platforms easy to deploy, update, monitor, and manage IT environments.

If you have standardized on offerings from industry leaders such as BMC Software, Microsoft, Symantec, VMware, or other vendors, you can extend the existing systems management framework and the skills of the IT staff to efficiently manage Dell servers, storage, business-client PCs, and networking equipments using Dell's Systems Management tools, utilities, and consoles.

Dell's systems management solution consists of a set of software products that help you to discover, monitor, manage, update, and deploy software or firmware on Dell servers. The products focus on:

- Reducing complexity and saving time
  - Eliminating need for additional utilities
  - Eliminating tasks that increase time
- Achieving efficiency and controlling costs
  - Improving asset management
  - Optimizing resource utilization
- Empowering productivity by connecting to major systems management consoles and protecting investments
  - Providing features in tools that customers choose, thus adapting to customers' mode of operation
  - Automating to reduce downtime and human error

These software products are useful for administrators to control and manage Dell servers, storage, network, and client devices from a single workstation.

This document provides a list of Dell Systems Management offerings using the Dell OpenManage Suite of products and the Dell OpenManage Connections. The document provides overviews for different products and a feature matrix that helps you choose the appropriate set of integrations and connections to manage your Dell systems.

Dell Systems Management Offerings

Dell's suite of Systems Management offerings extend a wide variety of tools, products, and services. Dell's strategy is to leverage an existing systems management framework that you may be currently using.

However, if you do not have a framework, Dell provides in-house tools or tools from our partners. Dell also offers professional services to install or train on any of the Dell products and tools along with other services to manage your environment. All the solutions are centered around Dell's PowerEdge server hardware management featuring iDRAC with Lifecycle Controller. The following figure shows the Dell systems management offerings.
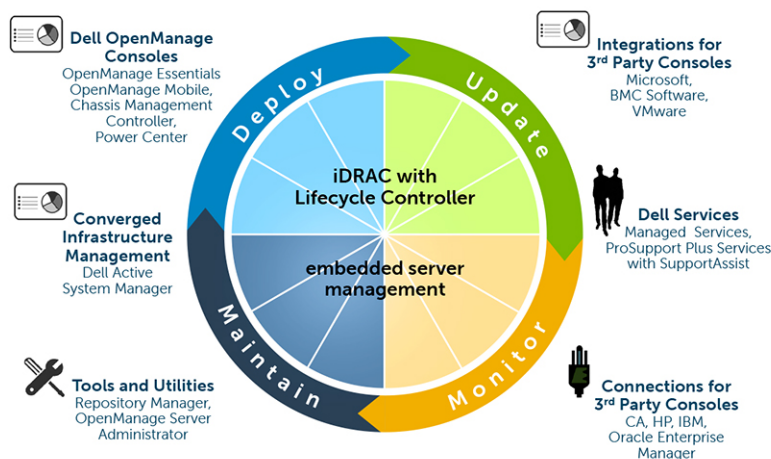
Figure 1. Dell Systems Management Offerings

Dell Hardware Management Tools

- Integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller (LC)
- Dell Chassis Management Controller (CMC) for blade servers
- Dell OpenManage Server Administrator (OMSA)
- iDRAC Service Module
- Baseboard Management Controller Management Utilities
- OpenManage Client Instrumentation (OMCI)

Dell Consoles

- Dell OpenManage Essentials (OME)
- Dell OpenManage Mobile
- Dell Remote Access Configuration Tool (DRACT)
- Dell OpenManage Power Center (OMPC)

Dell Services

- Managed Services
- Professional Services
- SaaS Management

Dell Tools and Utilities

- Update Utilities
  - Dell Repository Manager (DRM)

- Dell Update Packages (DUP)
- Dell OpenManage Server Update Utility (SUU)
- PowerEdge Driver Maintenance Packs (PDMP)
- Yellow Dog Update Modified Repository (YUM)
- Deployment Utilities

  - Dell OpenManage Systems Build and Update Utility
  - Dell OpenManage Deployment Toolkit (DTK)
- Configuration Utilities and Interfaces

  - RACADM
  - WSMAN
  - Dell IPMITool
  - OpenManage Server Administrator CLI
  - Dell OpenManage Mobile

Integration With Third Party Consoles

- Microsoft System Center Operations Manager (SCOM) Server Management Pack Suite
- Dell Lifecycle Controller Integration (DLCI) pack for Microsoft System Center Configuration Manager (ConfigMgr)
- Dell Server PRO Management Pack for Microsoft System Center Virtual Machine Manager (SCVMM)
- Dell OpenManage Integration for VMware vCenter
- BMC Software
- iDRAC with BMC Software BladeLogic Server Automation (BSA)
- OpenManage Server Administrator with BMC ProactiveNet Performance Management Suite.

Connections For Third Party Consoles

- Dell OpenManage Connection for Computer Associates Network and Systems Management (CA NSM)
- Dell Smart Plug-in (SPI) for HP Operations Manager for Windows
- Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus
- Dell OpenManage Connection for IBM Tivoli Enterprise Console
- Dell OpenManage Connection for IBM Tivoli Network Manager (ITNM) IP Edition
- Dell OpenManage Plug-in for Oracle Enterprise Manager (OEM)

Social Media Reference

To know more about the product, best practices, and information about Dell solutions and services, you can access the social media platforms such as Dell TechCenter. You can access blogs, forums, whitepapers, how-to videos, and so on from the **www.delltechcenter.com/idrac**.

Other Documents You May Need

You can access the user guides, release notes, installation guides, quick start guides, and so on for the products mentioned in this guide using the following URLs:

- For Enterprise System Management documents — **dell.com/openmanagemanuals**
- For Remote Enterprise System Management documents — **dell.com/esmmanuals**

- For Serviceability Tools documents — **dell.com/serviceabilitytools**
- For Client System Management documents — **dell.com/OMConnectionsClient**
- For OpenManage Connections Enterprise systems management documents — **dell.com/ OMConnectionsEnterpriseSystemsManagement**
- For OpenManage Connections Client systems management documents — **dell.com/ OMConnectionsClient**

Contacting Dell

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Visit **dell.com/support**
2. Select your support category.
3. Verify your country or region in the Choose a Country/Region drop-down menu at the top of page.
4. Select the appropriate service or support link based on your need.

Accessing Documents From Dell Support Site

You can access the required documents in one of the following ways:

- From the following links:
  - For all Systems Management documents — **dell.com/softwaresecuritymanuals**
  - For Enterprise Systems Management documents — **dell.com/openmanagemanuals**
  - For Remote Enterprise Systems Management documents — **dell.com/esmmanuals**
  - For Serviceability Tools documents — **dell.com/serviceabilitytools**
  - For Client Systems Management documents — **dell.com/OMConnectionsClient**
  - For OpenManage Connections Enterprise Systems Management documents — **dell.com/ OMConnectionsEnterpriseSystemsManagement**
  - For OpenManage Connections Client Systems Management documents — **dell.com/ OMConnectionsClient**
- From Dell Support site as follows:
  - Go to **dell.com/support/manuals**.
  - In the **Tell us about your Dell system** section, under **No**, select **Choose from a list of all Dell products** and click **Continue**.
  - In the **Select your product type** section, click **Software and Security**.
  - In the **Choose your Dell Software** section, click the required link from the following:
    * **Client System Management**
    * **Enterprise System Management**
    * **Remote Enterprise System Management**
    * **Serviceability Tools**
  - To view the document, click the required product version.

- Using search engines as follows:
  - Type the name and version of the document in the **Search** box.

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Systems Management Product Overviews

This section provides product overviews for the Dell systems management suite of products.

Dell Hardware Management Tools

The following table lists the hardware management tools and the operating systems they are supported on.

Table 1. Dell Hardware Management Tools

Product	Windows	Linux	ESXi
Integrated Dell Remote Access Controller 7 with Lifecycle Controller 2	Yes	Yes	Yes
Dell Chassis Management Controller for Servers	Yes	Yes	Yes
Dell OpenManage Server Administrator	Yes	Yes	Yes
iDRAC Service Module	Yes	Yes	Yes
Baseboard Management Controller Management Utilities	Yes	Yes	No
Dell OpenManage Client Instrumentation	Yes	Yes	No

Integrated Dell Remote Access Controller With Lifecycle Controller

The Integrated Dell Remote Access Controller 7 (iDRAC7) is designed to enhance the productivity of server administrators and improve the overall availability of Dell servers. iDRAC7 achieves this by alerting administrators about the server problems, enabling remote server management, and reducing the need for an administrator to physically visit the server.

iDRAC7 with Lifecycle Controller allows administrators to deploy, update, monitor and manage Dell servers from any location without the use of agents in a one-to-one or one-to-many method. This out-of-band management allows the updates to be sent from Dell or appropriate third-party consoles directly to iDRAC with Lifecycle Controller on a Dell PowerEdge server, regardless of the operating system that may or may not be running.

- The Lifecycle Controller console provides local one-to-one deployment for operating system installation, updates, configuration, and for performing diagnostics on single local servers. This eliminates the need for multiple option ROMs for hardware configuration.
- The Lifecycle Controller Remote Services further enables remote systems management in a one-to-many method. Remote Services is accessible over the network using the secure Web services interface and can be programmatically utilized by applications and scripts. Remote services enable management consoles to perform one-to-many bare-metal server provisioning. The combination of the Auto-discovery feature to identify and authenticate the attached Dell system to the network and integration with one-to-many management consoles reduces the manual steps required for server setup and management. The interface is aimed at simplifying many tasks, some of which include remotely deploying an operating system, remote update and inventory, and remotely automating the setup and configuration of new and already-deployed Dell systems. Developed on the industry

standard Unified Extensible Firmware Interface (UEFI) platform and Web Services for Management (WSMAN) interfaces, Lifecycle Controller provides an open environment for console integration that also allows custom scripting for Lifecycle Controller.

iDRAC7 with Lifecycle Controller provides the following benefits:

- **Increase Availability** — Early notification of potential or actual failures can help prevent a server failure or reduce recovery time in the case of a failure.
- **Improve Productivity and Lower Total Cost of Ownership** — Extending the reach of administrators to larger numbers of distant servers can make IT staff more productive while reducing the operational costs such as travel.
- **Secured Connectivity** — By providing secure access to remote servers, administrators can carry out business-critical functions, while maintaining server and network security.
- **Simplified Management through Automation** - Lifecycle Controller provides local or remote automation through the Lifecycle Controller GUI and WS-Management, reducing overall steps and providing a repeatable process for systems management.

You can perform the following:

- The Dell servers (through iDRAC) can automatically check and update the latest firmware for various components from the network repository or directly from **dell.com** based on a recurring schedule. You can perform all the updates in a single reboot. It can establish firmware baselines for server groups.
- Automatically perform regular backups of the server configuration and firmware based on a recurring schedule.
- Automatically configure components in a server or multiple servers using DHCP provisioning and XML configuration files that iDRAC accesses from a network share.
- Automatically configure iDRAC to use the dedicated Network Interface Card (NIC) if a link is detected on the iDRAC dedicated NIC.

iDRAC shares Lifecycle Controller features such as firmware update, backup and restore, lifecycle log, and hardware inventory export. For complete information, see *iDRAC7 User's Guide*, *Lifecycle Controller User's Guide*, and *Lifecycle Controller Remote Services Quick Start Guide*.

Dell Chassis Management Controller for Servers

The Dell Chassis Management Controller is an embedded systems management hardware and software solution for managing multiple servers, IO modules, and shared power or cooling using either the Web interface or the command line interface. It provides a secure interface that enables an administrator to inventory, perform configuration, and monitor tasks, remotely turn on or turn off servers, and enable alerts for events on servers and components in the servers. The CMC leverages the iDRAC with Lifecycle Controller technology to update BIOS or component firmware and configure BIOS settings in a one-to-many operation.

CMC is available for the following chassis:

- Dell PowerEdge M1000e - This chassis is Dell's first blade server solution. It provides the infrastructure (industry-leading power and cooling, networking, and blade manageability) for companies who choose to deploy blade-based server solutions. A single Chassis Management Controller interface with multi-chassis management capability can manage and see up to nine chassis, 288 servers, 54 power supplies, and 81 fans with no additional cabling. The chassis has slots for two, redundant CMC modules, so that administrators can connect to the chassis even if one Chassis Management Controller module is not working.
- Dell PowerEdge VRTX - The chassis is a revolutionary, easy-to-manage, remote and office-optimized platform that converge servers, storage and networking into a compact package. One of the key features is that it provides *shared storage across multiple server nodes* and the on-board RAID controller. It can hold up to four server nodes, up to 48 TB of integrated, shared storage, and network

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switching. The Dell PowerEdge VRTX offers the ability to use PCIe slots that no other blade server solution provides. By combining the density of blade servers with the flexibility of rack server I/O options with PowerEdge VRTX, Dell gives you the flexibility to use less expensive PCIe cards while still being managed through shared chassis management.

For complete information on CMC, see the following documents based on the chassis:

- *Dell Chassis Management Controller for PowerEdge M1000e User's Guide*
- *Dell Chassis Management Controller for PowerEdge VRTX User's Guide*

Dell OpenManage Server Administrator

The Dell OpenManage Server Administrator provides a comprehensive one-to-one systems management solution for both local and remote servers and their storage controllers and Direct Attached Storage (DAS). Server Administrator helps to:

- Simplify single-server-monitoring with a secure command line or Web-based management.
- View system configuration, health, and performance.
- View information about systems that are operating normally, systems that are having problems, and systems that require remote recovery operations.
- Shut down and restart the server.
- Perform functions for all the supported RAID and non-RAID controllers and enclosures from a single GUI, without using the Option ROM utilities.
- Send unique system identifiers such as system service tag, chassis service tag, and system FQDN and Enhanced Error Message Initiative (EEMI) messages (Message ID) with the SNMP trap varbinds.

To enable storage management through Server Administrator, the storage management service must be installed. This helps to:

- Configure a system's locally-attached RAID and non-RAID disk storage using enhanced features.
- Configure data-redundancy, assign hot spares, import foreign disk configuration, or rebuild the failed physical disks to protect data.
- Generate Physical Disk firmware reports.

For complete information, see the *Dell OpenManage Server Administrator User's Guide* and *Dell OpenManage Server Administrator Storage Management User's Guide* available at **dell.com/ openmanagemanuals**.

iDRAC Service Module

The iDRAC Service Module is a software application that is recommended to be installed on the server (it is not installed by default). This module complements iDRAC with monitoring information from the operating system. It does not have an interface but complements iDRAC by providing additional data to work with iDRAC interfaces such as the Web interface, RACADM, and WSMAN. You can configure the features monitored by the iDRAC Service Module to control the CPU and memory consumed on the server's operating system.

The iDRAC Service Module provides the following monitoring features:

- Operating System information
- Replicate Lifecycle Controller logs to operating system logs
- Automatic system recovery options

For more information, see the *iDRAC7 User's Guide* available at **dell.com/esmmanuals**.

Baseboard Management Controller Management Utilities

The Basic Management monitors the system for critical events by communicating with various sensors on the system board and sends alerts and logs, events, when certain parameters exceed their preset thresholds. The Baseboard Management Controller supports the industry-standard Intelligent Platform Management Interface (IPMI) specification, enabling you to remotely configure, monitor, and recover systems.

For complete information, see the *Dell Baseboard Management Controller Management Utilities User's Guide* available at **dell.com/esmmanuals**.

OpenManage Client Instrumentation

Client Instrumentation refers to software applications that enable remote management of a client system. The Dell OpenManage Client Instrumentation (OMCI) software enables remote management application programs to access the Dell Enterprise Client system information, monitor the status, or change the state of the system such as remotely shutting down the system. OMCI uses key system parameters through standard interfaces allowing administrators to manage inventory, monitor system health, and gather information of deployed Dell Enterprise client systems. For more information on OMCI, see the *OpenManage Client Instrumentation User's Guide* available at **dell.com/OMConnectionsClient**.

Dell Consoles

The following table lists the consoles and the operating systems they are supported on.

Table 2. Dell Consoles

Product	Windows	Linux
Dell OpenManage Essentials	Yes	-
Dell OpenManage Mobile	Yes	-
Dell Remote Access Configuration Tool	Yes	-
Dell OpenManage Power Center	Yes	Yes

Dell OpenManage Essentials

Dell OpenManage Essentials is the newest one-to-many management console for managing Dell PowerEdge servers and direct- attached storage as it provides a simple and easy interface for system administrators to maximize the uptime and health of Dell systems. It helps to:

- Monitor health status and events for Dell PowerEdge servers, Dell clients, Dell Power Distribution Units (PDU), Dell Uninterruptible power supply (UPS), EqualLogic or MD series storage, and Dell PowerConnect and Force 10 switches. It also includes status polling that detects change in health status.
- Provide hardware-level control and management for Dell PowerEdge server, blade system, and internal storage arrays.
- Allow hardware control of Windows, Linux, VMware, and HyperV environments.
- Enable management and control of Dell Blade chassis, EqualLogic or MD series storage, PowerConnect switch through context-sensitive link and launch of their respective element management tools.
- Schedule daily, weekly, or monthly tasks.

- Integrate with the following Dell solutions:

  - Dell Repository Manager — Builds customized server update baselines that OpenManage Essentials can use.
  - OpenManage Power Center — Optimize power consumption in the servers.
  - Dell SupportAssist – Enables automatic hardware failure notification to be sent securely to Dell technical support for intelligent analysis and diagnosis to optimize availability and reduce manual intervention. This solution is available as part of Dell ProSupport and ProSupport Plus at no additional cost.
- Provides PowerShell–based CLI support to discover and group systems.
- Provides REST interface API support for 3rd Party Integration.

OpenManage Essentials is a Dell hardware element management solution that is optimized for managing the Dell hardware infrastructure. It can be integrated to other point solutions to provide end-to-end IT infrastructure management. Hereafter, OpenManage Essentials replaces the legacy Dell IT Assistant.

For complete information, see the *Dell OpenManage Essentials User's Guide* available at **dell.com/openmanagemanuals**.

Dell OpenManage Mobile

OpenManage Mobile is a software application that enables you to remotely and securely perform a subset of datacenter monitoring and server remediation tasks from your Android handheld device. OpenManage Mobile connects to your datacenter through the Dell OpenManage Essentials management console. This allows you to monitor all systems managed by OpenManage Essentials such as Dell servers, storage, networking, and Firewall appliances and any other supported third party appliance from your android mobile device.

OpenManage Mobile can also connect to a server directly through the iDRAC interface. Once connected, a user can perform several basic management functions directly on the server.

Key Features of OpenManage Mobile:

- Connect to multiple OpenManage Essesntials installed servers from a single mobile device.
- Connect to multiple 12th generation servers individually through the iDRAC interface.
- Receive critical alert notification on your mobile device as they arrive into your OpenManage Essentials management console.
- Acknowledge, forward, and delete alerts from your mobile device.
- Browse through device details, firmware inventory, and event logs of individual systems.
- Perform several server management functions such as power on, power cycle, reboot, and shutdown from the mobile application.

Dell Remote Access Configuration Tool

Dell Remote Access Configuration Tool is a one-to-many application that discovers and configures iDRACs from a single console. It helps to:

- Discover or import iDRAC IP addresses on the network.
- Update firmware for the selected iDRACs.
- Configure standard or extended schema-based Active Directory settings for selected iDRACs.
- Create iDRAC objects on the Active Directory server for extended schema-based Active Directory.

For complete information, see *Dell Remote Access Configuration Tool User's Guide* available at **dell.com/esmmanuals**.

Dell OpenManage Power Center

Dell OpenManage Power Center is a one-to-many application that can read power usage information from Dell servers, Power Distribution Units (PDU), and Uninterruptible Power Supplies (UPS). It can aggregate this information into rack, row, and room-level views. Additionally, for servers with the iDRAC7 Enterprise version, you can cap or throttle the amount of power consumed. This is done in response to a need to reduce consumption due to external events such as brownout and failure of data center cooling devices. Capping can also be used to safely increase the number of servers in a rack to match the power that has been provisioned to that rack. It helps to:

- Track power and thermal at rack, row, and room level
- Rack-level power capping
- Risk mitigation with predefined policies

For complete information, see *Dell OpenManage Power Center User's Guide* available at **dell.com/ openmanagemanuals** .

Dell Tools And Utilities

The following table lists the tools and utilities and the operating systems they are supported on.
Table 3. Dell Tools And Utilities

Product	Windows	Linux
Dell Repository Manager	Yes	-
NOTE: Dell Repository Manager can create Windows or Linux based update tools and it can run on Windows Virtual Machines.		
Dell Update Packages	Yes	Yes
Dell OpenManage Server Update Utility	Yes	Yes
PowerEdge Driver Maintenance Packs	Yes	-
Yellow Dog Update Modified Repository	-	Yes
Dell OpenManage Systems Build and Update Utility	Yes	Yes
Dell OpenManage Deployment Toolkit	Yes	Yes
RACADM	Yes	Yes
Dell IPMITool	Yes	Yes
WSMAN	Yes	Yes
Dell OpenManage Server Administrator CLI	Yes	Yes

Dell Repository Manager

The Dell Repository Manager is a standalone Windows-based application that helps simplify the process of managing downloads and baseline component configurations, firmware, and driver updates. Dell Repository Manager can compare differences between two repositories at the bundle and component level. It allows you to create deployment tools using a custom repository. The tool can create and

manage repositories for servers, select PowerVault and EquaLogic storage, and Dell Optiplex/Dell Latitude/Dell Precision client systems.

Dell Repository Manager primarily utilizes the catalogs located on the Dell FTP site, but also provides the capability to search for newer files that are located on the Dell Support site. Additionally, Dell Repository Manager allows you to schedule searches for newer updates.

The Dell Repository Manager provides advanced integration capabilities with Dell OpenManage Essentials, Dell PowerEdge M1000e chassis, Dell OpenManage Integration for VMware vCenter that allows these programs to work with DRM to provide optimized repositories for accessing component updates.

The Dell Repository Manager supports the following features:

- User Query — Define filters for searching for the required updates.
- Custom Baseline — Define custom baseline configurations.
- Flexible Output — Get multiple output options to simplify BIOS and firmware updates, and driver provisioning during operating system deployment and post Operating system updates.
- Custom Repository — Define and manage a custom local repository that contains only the required updates.
- Search Latest Updates — Manually search the Dell support site for the latest updates or schedule operating system task to search the Dell support site.
- Manage a local repository — Compare a local repository with another repository (Dell online repository), check the differences, and then update the local repository.
- Jobs Queue services — Run time-consuming tasks at the background.
- Centralized Data Management — For customized repositories.
- Search Dell Support Site – Find updates that are newer than the versions available in the FTP Catalog.
- Scheduled Search for new updates – Set up a recurring search that discovers new updates when they are released

Dell Repository Manager can create the following:

- Custom Server Update Utility
- Light weight deployment pack
- Raw Data packs (INI files)
- Deployment media (bootable Linux ISO)

You can perform the following tasks using Dell Repository Manager:

- Import repositories
- Modify repositories
- Export a bundle
- Search a repository on the basis of filters and search criteria that you specify
- Save a repository to a local folder
- Export components to new and existing repositories
- Work with Jobs Queue
- Work with My Repository

For complete information, see *Dell Repository Manager User's Guide* available at **dell.com/support/ manuals**.

Dell Update Packages

The Dell Update Package is a self-contained executable in a standard package format that updates an application or component firmware on a server.

DUPs are available for components such as system BIOS, Embedded Systems Management (ESM) firmware, iDRAC firmware, network firmware and drivers, Remote Access Controller firmware, RAID controller firmware and device drivers, NIC firmware, OpenManage application, and so on.

You can use DUPs to:

- Apply an individual update to a system by using an interactive command line interface (CLI).
- Install device drivers in interactive and non-interactive modes.
- Execute multiple updates on the system by using a script comprised of non-interactive commands that you write using the CLI feature.
- Leverage the scheduling of your operating system and software distribution utilities to apply updates remotely to any number of systems.

You can apply the updates using the operating system, iDRAC Web interface, RACADM CLI, or WSMAN interface.

For complete information, see *Dell Update Package User's Guide* available at **dell.com/openmanagemanuals** .

Dell OpenManage Server Update Utility

The Dell Server Update Utility (SUU) is an application (available in both DVD or .iso format) for identifying and applying updates to your system. You can use this utility to update managed system or to view the updates available for systems that it supports. The application compares the versions of components currently installed on the system with the available updates for those components. You can download SUU from **dell.com/support/manuals** or order it as part of the OpenManage Subscription Kit. Additionally, use Dell Repository Manager to create a customized SUU that contains only the updates available for the systems that are managed.

For complete information, see *Dell Server Update Utility User's Guide* available at **dell.com/support/manuals**.

Dell PowerEdge Driver Maintenance Pack

The Dell PowerEdge Driver Maintenance Pack provides updates grouped using Microsoft Windows Server that enabled you to manage and deploy updates from within the operating system. This last maintenance pack will be available in December 2013. This package will remain available throughout 2014.

Yellowdog Updater, Modified

The Yellowdog Updater, Modified repository provides updatesRed Hat and SuSE operating systems in the RPM Package Manager format that is utilized by the Open source YUM Tool.

Dell OpenManage System Build and Update Utility

The Dell System Build and Update Utility provides one-to-one and one-to-many deployment and single-server update capabilities in the pre-operating system environment. It:

- Includes the required tools and latest drivers to quickly setup, configure, and optimize Dell systems and software.
- Provides quick and easy configuration of multiple servers from operating system installation to application setup.
- Simplifies single server updates with the latest system software features, including inventories, reports and prerequisite checks.
- Applies updates, manages reboot, and generates a final report.

For complete information, see the *Dell OpenManage Systems Build and Update Utility User's Guide* available at **dell.com/openmanagemanuals**

NOTE: Dell Server Build and Update Utility (SBUU) will not be available in the releases following OpenManage 7.4. Dell recommends using Dell Lifecycle Controller 2 as replacement for SBUU.

Dell OpenManage Deployment Toolkit

The Dell OpenManage Deployment Toolkit includes a set of utilities for configuring and deploying Dell PowerEdge systems. It is designed for customers who want to build scripted installations to deploy large numbers of servers without making many changes to their current deployment process.

In addition to the command-line utilities used to configure various system features, the Deployment Toolkit also provides sample scripts and configuration files to perform common deployment tasks. These files and scripts describe the use of Deployment Toolkit in Microsoft Windows Pre-installation Environment (Windows PE), and embedded Linux environments. It helps to:

- Provide the tools necessary to automate the pre-operating system configuration tasks and the unattended operating system installation tasks when deploying PowerEdge systems.
- Scale to support one-to-many system deployment efforts.
- Facilitate consistent system configurations across multiple systems.
- Provide diverse and useful deployment tools that can be utilized in different ways.
- Manage RAID configuration.

For complete information, see the *Dell Deployment Toolkit User's Guide* available at **dell.com/support/ manuals**.

Remote Access Controller Administration

The RACADM command-line utility provides a scriptable interface that allows you to locally or remotely configure iDRAC. The RACADM utility runs on the management station and the managed system.

You must install DRAC Tool to use RACADM. For complete information, see the *RACADM Command Line Reference Guide for iDRAC and CMC* available at **dell.com/support/manuals**.

WSMAN Profiles

iDRAC7 with Lifecycle Controller implements Dell Common Information Model (DCIM) profiles that provide data and methods for multiple hardware subsystems. These profiles are provided through the WS-Management interface, which can be accessed remotely through several industry standard tools. For more information on the data available through DCIM profiles and the tools available for WS-MAN, see **delltechcenter.com/lc**.

Dell IPMITool

The Dell IPMITool are scriptable-console-application programs used to control and manage remote systems using the IPMI version 1.5 and later protocol.

For complete information, see the *Dell Baseboard Management Controller Management Utilities User's Guide* available at **dell.com/esmmanuals**.

OpenManage Server Administrator Command Line Interface

Dell OpenManage Server Administrator provides a comprehensive, one-to-one systems management solution by using a command line interface (CLI). Server Administrator CLI has the following primary commands:

- omconfig — Allows you to configure the system's hardware and direct attached storage.
- omhelp — Displays short text help for CLI commands.
- omreport — Displays reports of the management information of a system.

For complete information, see *OpenManage Server Administrator Command Line Interface User's Guide* available at **dell.com/support/manuals**.

Integration With Third Party Consoles

The following table lists the Dell plug-ins and the operating systems they are supported on.
Table 4. Integration With Third Party Consoles

Product	Windows	Linux	Hypervisor
Microsoft System Center Operations Manager Server Management Pack	Yes	-	-
NOTE: Use Dell Connections License Manager for managing licenses and the licensable features provided with the Server Management Pack.			
Dell Lifecycle Controller Integration pack for Microsoft System Center Configuration Manager	Yes	-	-
Dell Server PRO Management Pack for Microsoft System Center Virtual Machine Manager (Hyper-V)	Yes	-	Yes
Dell OpenManage Integration for VMware vCenter (ESX/i to vCenter)	-	-	Yes
BMC Software	Yes	Yes	-

Microsoft System Center Operations Manager Server Management Pack

System Center Operations Manager Server Management Pack is a set of management packs enabling the following functions through System Center Operations Manager:

- In-band discovery and monitoring rack, towers, and blades
- Out-of-band discovery of 12th generation PowerEdge servers

- Discovery and monitoring of CMC and DRAC/MCs with support for chassis-blade correlation
- Discovery and monitoring of DRACs
- Monitoring power and NIC performance
- Integration with the following Dell solutions:
    - OpenManage Power Center
    - Dell License Manager
    - Warranty
- Link and launch one to one systems management interfaces from Operations Consoles for detailed troubleshooting:
    - OpenManage Server Administrator
    - DRAC Console
    - CMC Console
    - Remote Desktop Console (for Windows)

For complete information, see *Microsoft System Center Operations Manager Server Management Pack User's Guide* available at **dell.com/support/manuals**.

Dell Lifecycle Controller Integration Pack for Microsoft System Center Configuration Manager

The Dell Lifecycle Controller Integration pack contains Dell Lifecycle Controller Integration, DSDP, DCIP that enable the following functions in SCCM to manage the systems:

- Auto-discovery and handshake
- System viewer utility
- Configuration utility
- Launching the iDRAC
- Task viewer
- Platform restore
- Dell server update catalogs

    NOTE: Dell Server Update Catalogs are integrated and automatically downloaded through Microsoft System Center Configuration Manager console whenever they are released by Dell.

For complete information, see *Dell Lifecycle Controller Integration pack for Microsoft System Center Configuration Manager User's Guide* available at **dell.com/support/manuals**.

Dell Server PRO Management Pack for Microsoft System Center Virtual Machine Manager

Dell PRO Pack manages Dell physical devices and their hosted virtual machines (VMs) by leveraging the monitoring and alerting capabilities of Microsoft System Center Operations Manager (SCOM) and remediation capabilities of System Center Virtual Machine Manager (SCVMM). It recommends remedial actions when monitored-objects transition to an unhealthy state (for example, virtual disk failure or predictive drive error).

For complete information, see *Dell Server PRO Management Pack for Microsoft System Center Virtual Machine Manager User's Guide* available at **dell.com/support/manuals**.

Dell OpenManage Integration for VMware vCenter

The Dell OpenManage Integration for VMware vCenter allows IT administrators to monitor, provision, and manage Dell PowerEdge server hardware and firmware from a dedicated Dell menu accessed through the VMware vCenter console using the same role-based access control model as vCenter.

> **NOTE:** The Dell Repository Manager integrates with Dell OpenManage Integration for VMware vCenter. The Dell Repository Manager provides advanced functionality, simplifies the discovery and deployment of new updates.

You can manage and monitor Dell hardware within the virtualized environment, such as:

- Alerting and environment monitoring
- Single server monitoring and reporting
- Firmware updates
- Enhanced deployment options

For complete information, see **delltechcenter.com**.

BMC Software

Dell along with BMC Software integrates Dell server, Dell storage, and Dell network management functionality with the BMC Software's process and datacenter automation products. Dell and BMC Software's partnership helps to make sure that Dell and BMC Software–based IT infrastructure and services provide the highest level of datacenter and business services manageability. The integration between Dell and BMC Software products is highlighted by Dell's own IT organization as BMC Software helps Dell IT automate key processes and accelerate responsiveness by deploying multiple BMC Software solutions.

Connections For Third Party Consoles

The following table lists the connections products and the management station operating systems they are supported on.

Table 5. Connections For Third Party Consoles

Product	Windows	Linux	ESXi
Dell OpenManage Connection for Computer Associates Network and Systems Management	Yes	-	-
Smart Plug-in for HP Operations Manager	Yes	-	Yes
NOTE: Use Dell Connections License Manager for managing licenses and licensable features available with Smart Plug-in.			
Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus	Yes	Yes	Yes
Dell OpenManage Connection for IBM Tivoli Enterprise Console	Yes	-	-
Dell OpenManage Connection for IBM Tivoli Network Manager (ITNM) IP Edition	Yes	Yes	Yes

Product	Windows	Linux	ESXi

> **NOTE:** Use Dell Connections License Manager for managing licenses and licensable features available with Dell OpenManage Connection for ITNM IP Edition.

Product	Windows	Linux	ESXi
Dell OpenManage Plug-in for Oracle Enterprise Manager (OEM)	Yes	Yes	Yes

Dell OpenManage Connection for Computer Associates Network and Systems Management

The Dell OpenManage Connection for Computer Associates Network and Systems Management allows you to monitor Dell PowerEdge servers and PowerVault storage arrays from within the Computer Associates (CA) Network and Systems Management (NSM) console. It helps to:

- Monitor and group Dell systems from an existing Computer Associates systems management framework.
- Display Dell system health information in real-time within the CA NSM console.
- Receive an alert and quickly take corrective action if a Dell system becomes compromised.
- Use an existing systems management framework when Dell systems complete your data center.

For complete information, see *Dell OpenManage Connection for CA NSM User's Guide* available at **dell.com/support/manuals**.

Dell Smart Plug-in for HP Operations Manager for Windows

The smart plug-in enables the following functions through HP Operations Manager:

- Grouping and monitoring of Dell PowerEdge rack, tower and blade servers (9th generation to 12th generation) based on operating systems and chassis model.
- Agent-free monitoring of 12th generation PowerEdge servers.
- Grouping and monitoring of DRACs with Server-DRAC association.
- Hierarchical views and monitoring of CMCs and DRAC/MCs.
- Grouping and monitoring of Dell Storage devices (MD Storage Arrays, EqualLogic PS-Series Arrays).
- Integration with following Dell Solutions:

  - OpenManage Essentials
  - OpenManage Power Center
  - MD Storage Manager
  - Warranty
- Link and launch one to one systems management interfaces from Operations Consoles for detailed troubleshooting.
- Support for both manual message acknowledgement and automatic message correlation.
- Detailed knowledge articles for device alerts troubleshooting and resolution.

For complete information, see *Dell Smart Plug-in For HP Operations Manager For Microsoft Windows User's Guide* available at **dell.com/support/manuals**.

Dell OpenManage Connection for IBM Tivoli Netcool OMNIbus

Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus provides event-monitoring capabilities to monitor Dell PowerEdge Servers, Dell Remote Access Controllers (DRACs), Chassis, and Storage devices.

The Dell OpenManage Connection monitors Dell devices by receiving alerts on the Netcool/OMNIbus console. Following features are supported on different components of Netcool/OMNIbus such as Probe, ObjectServer Web GUI, and Desktop:

- Event Monitoring of Dell PowerEdge Servers (9th generation to 12th generation), DRACs, PowerEdge VRTX, PowerEdge M1000e, PowerEdge 1955 chassis, PowerVault MD Storage Arrays, and EqualLogic Storage Arrays.
- Automatic Event Correlation of Dell Server and Dell EqualLogic SNMP traps.
- One-to-one Console launch support of Dell Servers, DRACs, Chassis, and Storage devices.
- One-to-many Dell Console launch from device events in Netcool/OMNIbus console (OpenManage Essentials).

For complete information, see the *Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus User's Guide* available at **dell.com/support/manuals**.

Dell OpenManage Connection for IBM Tivoli Enterprise Console

The Dell OpenManage Connection for IBM Tivoli Enterprise Console is a systems management plug-in that extends the management of Dell PowerEdge systems and Dell PowerVault storage systems to users of the Tivoli Enterprise Console management product. It allows users to integrate the management of Dell systems to make them easier to manage. The Connection also allows systems management professionals to take corrective action on Dell systems when a Dell-specific alert is received at the enterprise. These alerts include, but are not limited to, temperature, fan speed, and chassis intrusion. For more information, see the *Dell OpenManage Connection for Tivoli Enterprise Console User's Guide* available at **dell.com/OMConnectionsEnterpriseSystemsManagement**.

Dell OpenManage Connection for IBM Tivoli Network Manager IP Edition

Dell OpenManage Connection for IBM Tivoli Network Manager (ITNM) IP Edition enables the datacenter customers to monitor the Dell devices in an environment managed by the existing ITNM console. It helps customers to discover the Dell devices and then monitor the overall health of the Dell devices periodically. It also supports console launch of Dell devices and Dell Tools to perform further analysis.

Dell OpenManage Connection for ITNM provides the following features:

- Discovery, classification, and monitoring of PowerEdge and PowerVault servers from 9th generation to 12th generation using an agent-based, in-band mode through the Dell Open Manage Server Administrator (OMSA). The 12th generation systems also support an agent-free, out-of-band mode, using Integrated Dell Remote Access Controller 7 (iDRAC7).
- Discovery, classification, and monitoring of Dell PowerEdge VRTX, PowerEdge M1000e, PowerEdge 1955 chassis (DRAC/MC), EqualLogic and PowerVault MD Arrays.
- Topology and hierarchical view of Dell devices as Dell Server, Dell Storage, Dell Chassis, and Dell DRACs.
- Dell device association (12th generation server with iDRAC, EqualLogic Blade Array with Chassis Management Controller and blade server and DRAC with VRTX CMC, M1000e CMC, and DRAC/MC).
- Periodic monitoring of Dell Connections License Manager (DCLM) for license availability.
- Device specific one-to-one console launch from Dell device nodes in ITNM console.
- One-to-many Dell console launches from Dell device nodes in ITNM console:
  - Dell Connections License Manager (DCLM)
  - Dell OpenManage Essentials (OME)
  - Dell OpenManage Power Center (OMPC)

– Dell device warranty information page
- SNMP trap monitoring and alert correlation supported with Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus.

> **NOTE:** Dell OpenManage Connection for ITNM IP Edition requires Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus for event or trap monitoring support of the Dell devices.

Dell OpenManage Plug-in for Oracle Enterprise Manager

Dell OpenManage Plug-in for Oracle Enterprise Manager provides a proactive approach to data center management that delivers features for monitoring Dell server, storage, and networking infrastructures in environment managed by Oracle Enterprise Manager that is easy and cost-effective. It also supports console launch of Dell devices and Dell tools to perform further analysis.

The following are the key features supported by Dell OpenManage Plug-in for Oracle Enterprise Manager:

- Discovery, inventory, and monitoring of the following Dell hardware:
    - 12th generation PowerEdge servers using agent-free, out-of-band mode through the Integrated Dell Remote Access Controller 7 (iDRAC7) with Lifecycle Controller.
    - 9th generation to 12th generation PowerEdge servers using in-band mode through the OpenManage Server Administrator (OMSA) agent.
    - Compellent, EqualLogic, PowerVault MD, and PowerVault NX storage arrays
    - PowerEdge VRTX and M1000e chassis
    - Force10 and PowerConnect switches
- Automatic mapping of Oracle Database workload to the host server. Other targets (storage and switches) can be linked manually in the Oracle Enterprise Manager.
- Device association of Dell blade systems (Dell blade servers, EqualLogic Blade Arrays, and Force10 Blade IO modules with PowerEdge VRTX and M1000e chassis)
- Configuration and management of Dell devices by launching the following Dell 1:1 and 1:Many Console solutions directly from the OEM Console:
    - Integrated Dell Remote Access Controller (iDRAC) console
    - OpenManage Server Administrator (OMSA) console
    - EqualLogic Group Manager console
    - Compellent Storage Center console
    - Chassis Management Controller consoles for M1000e chassis and VRTX chassis
    - OpenManage Switch Administrator console
    - OpenManage Essentials console

For complete information, see the *Dell OpenManage Plug-in for Oracle Enterprise Manager User's Guide* available at **dell.com/support/manuals**.

Dell Server Management Operations

Dell's approach to systems management is centered on the server lifecycle – Deploy, Update, Monitor, and Maintain. To manage an infrastructure properly and efficiently, you must perform these functions easily and quickly. This allows you to invest more time and energy on business improvements, and less on maintenance.

The figure illustrates the various operations that can be performed during a server's lifecycle.
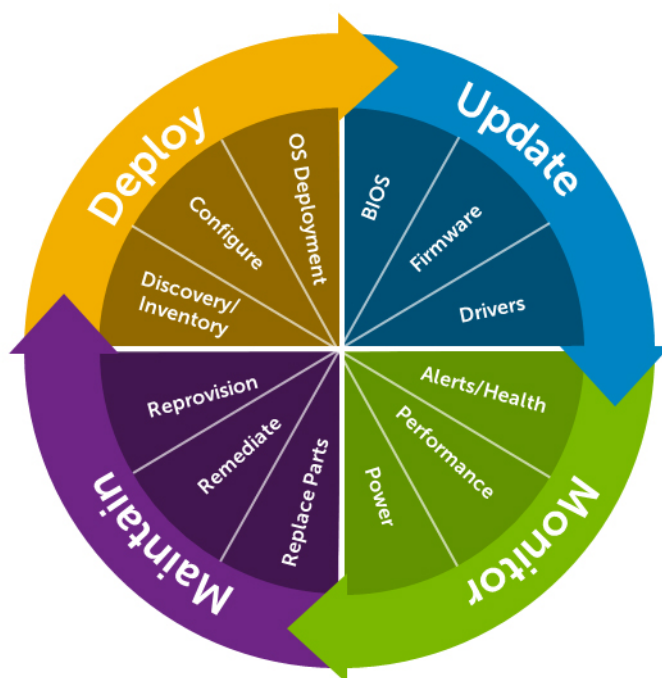
Figure 2. Server Lifecycle

The following table lists the products that are recommended for one-to-one and one-to-many operations, and when they are used in the server's lifecycle. However, you can use the one-to-many tools for one-to-one, and some of the one-to-one tools can be automated for one-to-many.

Table 6. Server Management Operations

Operation	One-To-One	One-To-Many
Deploy	• Lifecycle Controller GUI • Deployment Toolkit (DTK) • Systems Build and Update Utility (SBUU)	• Altiris Deployment Solution for Dell Server • Dell OpenManage Integration for VMware vCenter • DLCI for Microsoft System Center Configuration Manager (SCCM)

Operation	One-To-One	One-To-Many
		• BMC Software BladeLogic • Lifecycle Controller Remote Services
Update	• Integrated Dell Remote Access Controller (iDRAC) • Lifecycle Controller GUI • Dell Update Packages (DUP) • Server Update Utility (SUU) • Systems Build and Update Utility (SBUU) • Yellow Dog Updater Modified (YUM) • Dell Repository Manager	• Dell OpenManage Essentials • Dell OpenManage Integration for VMware vCenter • DLCI for Microsoft System Center Configuration Manager • BMC Software BladeLogic • Lifecycle Controller Remote Services
Monitor	• Basic Management Controller (BMC) • iDRAC • Open Manage Server Administrator (OMSA)	• Dell OpenManage Essentials • Dell OpenManage Power Center • Dell OpenManage Integration for VMware vCenter • BMC Software ProactiveNet • Microsoft System Center Operations Manager (SCOM) Server Management Pack Suite • Dell Server PRO Management Pack for Microsoft System Center Virtual Machine Manager (SCVMM)
Maintain	• Basic Management with IPMI • iDRAC • Lifecycle Controller GUI	• Lifecycle Controller Remote Services

The Dell OpenManage portfolio of systems management products and services is comprehensive and delivers solutions under the following categories of operations:

- Deploy (see Deploy — One-To-One and Deploy — One-To-Many)
- Update (see Update — One-To-One and Update — One-To-Many)
- Monitor (see Monitor — One-To-One and Monitor — One-To-Many)
- Maintain (see Maintain — One-To-One and Maintain — One-To-Many)

Deploy

Table 7. Deploy — One-To-One

Feature Name	OMSA	LC	System Setup	DTK	BMC*	iDRAC7 (Rack, Tower, and Blades)	SBUU
Auto-discovery	-	-	Yes	-	-	-	-
Auto Configuration	-	-	-	-	-	Yes	-

Feature Name	OMSA	LC	System Setup	DTK	BMC*	iDRAC7 (Rack, Tower, and Blades)	SBUU
OS Deployment	-	Yes	-	-	-	Yes	Yes
Configure							
BIOS	Yes	Yes	Yes	Yes	-	-	-
*BMC**	-	-	-	-	Yes	-	-
OMSA Web Server	Yes	-	-	-	-	-	-
Probes or Sensors	Yes	-	-	-	Yes	Yes	-
Boot Order	Yes	-	-	-	-	Yes	-
LCD Panel Security	Yes	Yes	-	-	-	-	-
vFlash	-	Yes	-	-	-	Yes	-
RAID Configuration and Operations	Yes	Yes	-	Yes	-	Yes	-
Local Key Encryption	Yes	Yes	-	-	-	-	-
Break Mirror	-	Yes	-	-	-	-	-
HII Configuration	-	Yes	Yes	-	-	-	-
Power Capping	Yes	-	Yes	-	-	Yes	-
Power Redundancy (For Rack and Tower)	-	-	Yes	-	-	Yes	-
SOL and Serial Port	Yes	-	-	-	-	Yes	-
iDRAC Network Configuration	-	Yes	Yes	-	-	Yes	-
SSL		-	-	-	-	Yes	-
Terminal Mode	Yes	-	-	-	-	Yes	-
Local Users	Yes	-	-	-	-	Yes	-
Active Directory	Yes	-	-	-	-	Yes	-
Smart Card	Yes	-	-	-	-	Yes	-
Virtual Console	-	-	-	-	-	Yes	-
Virtual Media	-	-	-	-	-	Yes	-

Feature Name	OMSA	LC	System Setup	DTK	BMC*	iDRAC7 (Rack, Tower, and Blades)	SBUU
Certificate Management	Yes	-	-	-	-	Yes	-
License Management	-	-	-	-	-	Yes	-

* BMC indicates Baseboard Management Controller

Table 8. Deploy — One-To-Many

Feature Name	LC-RS	CMC	Power Center	DRACT	DTK	CCTK	OME	SCOM SMP	DLCI for SCCM	SPI for HPOM	IBM Netcool/ OMNIbus
Auto-discovery	Yes	Yes	-	-	-	-		-	Yes	-	-
Auto Configuration	Yes	-	-	-	-	-	-	-	-	-	-
In-band Discovery	-	-		-	-	-	Yes	Yes	-	Yes	Yes
Out-of-band Discovery (Systems)	-	-	-	-	-	-	Yes	Yes	-	Yes	Yes
Out-of-band Discovery (iDRAC)	-	-	-	Yes	-	-	Yes	Yes	-	Yes	Yes
OS Deployment	Yes	-	-	-	Yes	-	-	-	-	-	-
Configure											
BIOS	Yes	Yes	-	-	Yes	Yes	Yes	-	Yes	-	-
BMC*	-	-	-	-	-	-	Yes	-	-	-	-
OMSA Web Server	-	-	-	-	-	-	Yes	-	-	-	Yes
Lifecycle Controller	-	-	-	-	-	-	Yes	-	-	-	-
Probes or Sensors	-	-	-	-	-	-	-	-	Yes	-	-
Boot Order	-	Yes	-	-	-	-	Yes	-	Yes	-	-

Feature Name	LC-RS	CMC	Power Center	DRACT	DTK	CCTK	OME	SCOM SMP	DLCI for SCCM	SPI for HPOM	IBM Netcool/OMNIbus
LCD Panel Security	-	-	-	-	-	-	-	-	Yes	-	-
vFlash	Yes	-	-	-	-	-	-	-	Yes	-	-
RAID Configuration and Operations	Yes	-	-	-	-	-	-	-	Yes	-	-
Local Key Encryption	Yes	-	-	-	-	-	-	-	Yes	-	-
Break Mirror	Yes	-	-	-	-	-	-	-	Yes	-	-
HII Configuration	-	-	-	-	-	-	-	-	Yes	-	-
Power Capping	-	Yes	Yes	-	-	-	-	-	Yes	-	-
Power Redundancy (For Rack and Tower)	-	-	-	-	-	-	-	-	Yes	-	-
Grid Redundancy	-	Yes	-	-	-	-	-	-	-	-	-
Energy Consumption Setting	-	-	Yes	-	-	-	-	-	-	-	-
Group Power Policy	-	-	Yes	-	-	-	-	-	-	-	-
iDRAC Network Configuration	Yes	Yes	-	-	-	-	-	-	-	-	-
SSL	-	Yes	-	-	-	-	-	-	-	-	-
Terminal Mode	-	-	-	-	-	-	-	-	-	-	-
Local Users	-	Yes	-	-	-	-	Yes	-	-	-	-
Active Directory	-	Yes	-	Yes	-	-	Yes	-	-	-	-
Smart Card	-	-	-	-	-	-	-	-	-	-	-

Feature Name	LC-RS	CMC	Power Center	DRAC T	DTK	CCTK	OME	SCOM SMP	DLCI for SCCM	SPI for HPOM	IBM Netcool/ OMNIbus
Physical Topology	-	-	Yes	-	-	-	-	Yes	-	Yes	-
Logical Grouping	-	-	Yes	-	-	-	-	Yes	-	Yes	-
Certificate Management	Yes	Yes	-	-	-	-	-	-	-	-	-
License Management (see Note)	Yes	-	-	-	-	-	-	-	-	-	-
Task Scheduling	-	-	-	-	-	-	Yes	-	Yes	-	-

* BMC indicates Baseboard Management Controller

NOTE: Alternatively, use Dell License Manager for one-to-many license management for iDRAC7 licenses or use Dell Connections License Manager for managing licenses and the licensable features provided with the Dell Connections products. To download the license manager, go to **support.dell.com**.

Update

Table 9. Update — One-To-One

Feature Name	LC	iDRAC7 (Rack, Tower, and Blades)	SUU	DUP	DRM
BIOS Firmware	Yes	-	Yes	Yes	Yes
PSU Firmware	Yes	-	Yes	Yes	Yes
Diagnostics (No Rollback)	Yes	Yes	Yes	Yes	Yes
Operating System Driver Packs (No Rollback)	Yes	Yes	Yes	Yes	Yes
NIC Firmware	Yes	Yes	Yes	Yes	Yes
iDRAC Firmware	Yes	Yes	Yes	Yes	Yes
RAID Controller Firmware	Yes	Yes	Yes	Yes	Yes
Physical Disk Firmware	-	-	Yes	Yes	Yes
Enclosure Firmware	Yes	-	Yes	Yes	Yes
Lifecycle Controller (No Rollback)	Yes	-	Yes	Yes	Yes

Feature Name	LC	iDRAC7 (Rack, Tower, and Blades)	SUU	DUP	DRM
Part Replacement (RAID and NIC)	Yes	-	-	-	-
Lifecycle Controller Repair Package	-	Yes	-	-	-
CPLD	Yes	-	-	Yes	Yes
FC Cards	Yes	-	-	-	Yes
Backplane	Yes	-	-	-	Yes
Automatic Firmware Update	-	Yes	-	-	-

Table 10. Update — One-To-Many

Feature Name	LC-RS	CMC	DRACT	OME	DLCI for SCCM
BIOS Firmware	Yes	Yes	-	Yes	Yes
PSU Firmware	Yes	-	-	Yes	Yes
Diagnostics (No Rollback)	-	Yes	-	Yes	Yes
Operating System Driver Packs (No Rollback)	Yes	Yes	-	Yes	Yes
NIC Firmware	Yes	Yes	-	Yes	Yes
iDRAC Firmware	Yes	Yes	Yes	Yes	Yes
RAID Controller Firmware	Yes	Yes	-	Yes	Yes
Lifecycle Controller (No Rollback)	Yes	Yes	-	-	Yes
Part Replacement (RAID and NIC)	Yes	-	-	-	Yes
CPLD	Yes	-	-	-	Yes
FC Cards	Yes	-	-	-	-
Backplane	Yes	-	-	-	-
Automatic Firmware Update	Yes	-	-	-	-

Monitor

Table 11. Monitor — One-To-One

Feature Name	OMSA	LC	BMC*	iDRAC7 (Rack, Tower, and Blades)
View and Export Current Inventory	-	Yes	-	Yes
View and Export Factory Shipped Inventory	-	Yes	-	-
System Health	Yes	-	-	Yes
Storage Health	Yes	-		Yes
Power Monitoring	Yes	-	-	Yes
Performance	Yes	-	-	Yes
Probe (Sensor) Monitoring	-	-	Yes	Yes
Components Information	Yes	-	-	Yes
Alerts	Yes	-	-	Yes
Platform Events	Yes	-	Yes	Yes
SNMP Traps	Yes	-	Yes	Yes
Lifecycle Log	Yes	-	-	Yes
POST Code Information	Yes	-	-	Yes
Last Crash Screen	Yes	-	-	Yes
Video Capture	-	-	-	Yes
CMC Health Status	-	-	-	Yes
WWN/MAC Address	-	-	-	Yes
Reporting	Yes	-	-	Yes

* BMC indicates Baseboard Management Controller

Table 12. Monitor — One-To-Many

Feature Name	LC-RS	CMC	Power Center	OME	SCOM SMP	SPI for HPOM
View Current Inventory	Yes	Yes	-	Yes	Yes	-
Export Current Inventory	Yes	Yes	-	Yes	-	-
View and Export Factory Shipped Inventory	Yes	-	-	Yes	-	-
System Health	-	Yes	-	Yes	Yes	Yes
Power Monitoring	-	Yes	Yes	Yes	Yes	Yes

Feature Name	LC-RS	CMC	Power Center	OME	SCOM SMP	SPI for HPOM
Performance	-	Yes	-	Yes	Yes	-
Probe (Sensor) Monitoring	-	Yes	-	Yes	Yes	Yes
Alerts	-	Yes	-	Yes	Yes	Yes
Platform Events	Yes	Yes	-	Yes	-	-
Lifecycle Log	Yes	Yes	-	Yes	-	-
CMC Health Status	-	Yes	-	Yes	Yes	Yes
WWN/MAC Address	-	Yes	-	Yes	Yes	-
Reporting	-	Yes		Yes	Yes	-

Maintain

Table 13. Maintain — One-To-One

Feature Name	OMSA	LC	BMC*	iDRAC7 (Rack, Tower, and Blades)	CMC	SUU	DRM
View Current Firmware Versions	-	Yes	-	Yes	Yes	Yes	Yes
Delete and Reset System	Yes	Yes	-	-	-	-	-
Backup and Export Server Profile	-	Yes	-	Yes	-	-	-
Restore Server Profile	-	Yes	-	Yes	-	-	-
Hardware Diagnostics	-	Yes	-	-	-	-	-
Manage Repositories	-	-	-	-	-	-	Yes
Maintenance, Warranty, and Depreciation	Yes	-	-	-	-	-	-
Power Control Functions	Yes	-	-	Yes	-	-	-
Tech Support Report	-	-	-	Yes	-	-	-

* BMC indicates Baseboard Management Controller

Table 14. Maintain — One-To-Many

Feature Name	LC-Remote Services	CMC	OME	DLCI for SCCM
View Current Firmware Versions	Yes	Yes	Yes	Yes
Delete and Reset System	Yes	Yes	-	Yes
Backup and Export Server Profile	Yes	-	-	Yes

Feature Name	LC-Remote Services	CMC	OME	DLCI for SCCM
Restore Server Profile	Yes	-	-	Yes
Hardware Diagnostics	-	-	-	-
Manage Repositories	-	-	-	-
Maintenance, Warranty, and Depreciation	-	-	-	-
Power Control Functions	-	Yes	-	-
Task Scheduling	-	-	Yes	-
Tech Support Report	Yes	-	-	-