Dell OpenManage Systems Management Overview Guide

Version 2.0

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.

Contents

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 quick 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 Dells'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 product overviews 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 covers 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.
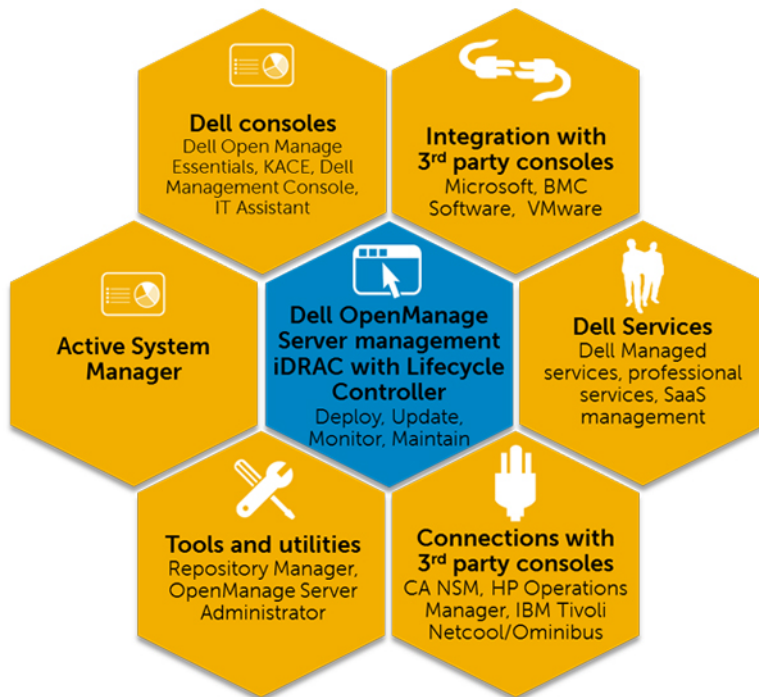
Figure 1. Dell Systems Management Offerings

Dell Hardware Management Products

- Integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller (LC)
- Dell Chassis Management Controller (CMC) for blade servers
- Dell OpenManage Server Administrator (OMSA)
- Basic management utilities with IPMI

Dell Consoles

- Dell OpenManage Essentials (OME)
- Dell Management Console (DMC)
- Dell IT Assistant (ITA)
- Dell Remote Access Configuration Tool (DRACT)
- Dell OpenManage Power Center (OM PC)

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

  – RACADM
  – IPMITool

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 Management Plug-in for VMware vCenter
- BMC Software

Connections With 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 Tivoli Enterprise Console

Systems Management Product Overview

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
Dell OpenManage Server Administrator	Yes	Yes	Yes
Dell OpenManage Client Instrumentation	Yes	Yes	No
Basic Management Utilities with IPMI	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.
- Remote Services are standards-based Web services, APIs that enable applications and scripts to integrate; for example, bare-metal provisioning and one-to-many operating system deployments, for servers that are remotely located.

iDRAC7 with Lifecycle Controller helps to:

- **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.
- **Secure Environment** — By providing secure access to remote servers, administrators can carry out business-critical functions, while maintaining server and network security.
- **Enhance Embedded Management through Lifecycle Controller** — Lifecycle Controller provides local deployment and simplified serviceability through Lifecycle Controller GUI and WS-Management interfaces for remote deployment, integrated with Dell OpenManage Essentials and partner consoles.

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 User's 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.

A single Chassis Management Controller interface with multi-chassis management capability can manage and see up to nine chassis, up to 288 servers, 54 power supplies, and 81 fans with no additional cabling. The Dell M1000e 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. On the home page, an administrator can select a server and view its detailed inventory, the latest error log entries, and perform the most frequent actions such as power control.

The Chassis Management Controller interface integrates with iDRAC. This allows you to launch iDRAC Web interface and perform various maintenance and management functions. 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.

For complete information, see the *Dell Chassis Management Controller User's Guide* and the *RACADM Command Line Reference 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/support/manuals**.

Basic Management Utilities with IPMI

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/support/manuals**.

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 Management Console	Yes	-
Dell OpenManage IT Assistant	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.
- Provides PowerShell–based CLI support to discover and group systems.

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/support/manuals**.

Dell Management Console

Dell Management Console extends Altiris Server Management suite to provide Dell hardware manageability within a single enterprise management solution that allows IT administrators to manage hardware, software, operating systems, virtual machines, IT incidents, and so on. This product is suited for medium to large enterprise customers to establish an end-to-end IT management framework for their entire data center. Dell Management Console is not an optimized hardware management solution, but is a part of Dell enterprise management offerings that consists of Dell Management Console and Altiris Server Management Suite.

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

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/support/manuals**.

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 brown-outs 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/support/manuals** .

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
IPMITool	Yes	Yes
SMCLP	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 both Dell OpenManage Essentials and Dell Management Plug-in 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.

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. Using the Dell Repository Manager along with other OpenManage tools you can ensure that the managed systems are up-to-date.

DUPs are available for components such as BIOS, Embedded Systems Management (ESM) firmware, iDRAC firmware, RAID controller firmware, NIC firmware, OpenManage application, and so on.

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

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.

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/support/manuals**

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**.

IPMITool

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/support/manuals**.

SMCLP

The Server Management Command Line Protocol (SMCLP) specification enables CLI–based systems management. It defines a protocol for management commands transmitted over standard character-oriented streams. This protocol accesses a Common Information Model Object Manager (CIMOM) using a human-oriented command set. The SMCLP is a sub-component of the Distributed Management Task Force (DMTF) SMASH initiative to streamline systems management across multiple platforms. The SMCLP specification, along with the Managed Element Addressing Specification and numerous profiles to SMCLP mapping specifications, describes the standard verbs and targets for various management task executions.

For complete information, see *iDRAC7 User's Guide* available at **dell.com/support/manuals**.

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 Management plug-in 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 PowerCenter
    - Dell License Manager
    - Warranty
- Link and launch one to one systems management interfaces from Operations Consoles for detailed troubleshooting:
    - OMSA
    - 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/System Center Essentials (SCOM/SCE) 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 Management Plug in for VMware vCenter

The Dell Management Plug-in 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 Management Plug in 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 With Third Party Consoles

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

Table 5. Connections With Third Party Consoles

Product	Windows	Linux	Hypervisor
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	-	-

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**.

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 rack, towers, and blades 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 PowerCenter
    - 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 servers and Dell EqualLogic systems. 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 Servers and Dell EqualLogic Storage Arrays
- Automatic Event Correlation of Dell Server and Dell EqualLogic SNMP Traps
- One-to-one Console launch support of Dell servers and Dell EqualLogic devices.

For complete information, see the *Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus 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 available for one-to-one and one-to-many operations, and when they are used in the server's lifecycle:

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)	- Symantec Deployment Server - Dell Management plug-in for VMware vCenter - DLCI for Microsoft System Center Configuration Manager (SCCM) - 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 & Update Utility (SBUU) - Yellow Dog Updater Modified (YUM) - Dell Repository Manager	- Dell OpenManage Essentials - Dell OpenManage IT Assistant (ITA) - Dell Management Console - Dell Management plug-in 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 IT Assistant - Dell OpenManage Power Center - Dell Management Console - Dell Management plug-in 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	-	-	-	-
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	-	-	-
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	-

Feature Name	OMSA	LC	System Setup	DTK	BMC*	iDRAC7 (Rack, Tower, and Blades)	SBUU
Virtual Media	-	-	-	-	-	Yes	-
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	ITA	DMC	OME	SCOM SMP	DLCI for SCCM	SPI for HPOM	IBM Netcool/ OMNIbus
Auto-discovery	Yes	Yes	-	-	-	-				-	Yes	-	-
In-band Discovery	-	-	-	-	-	-	Yes	Yes	Yes	Yes	-	Yes	Yes
Out-of-band Discovery (Systems)	-	-	-	-	-	-	-	Yes	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	-	Yes	-	-
BMC*	-	-	-	-	-	-	-	Yes	Yes	-	-	-	-
OMSA Web Server	-	-	-	-	-	-	-	Yes	Yes	-	-	-	Yes
Lifecycle Controller	-	-	-	-	-	-	-	Yes	Yes	-	-	-	-
Probes or Sensors	-	-	-	-	-	-	-	-	-	-	Yes	-	-
Boot Order	-	Yes	-	-	-	-	-	Yes	Yes	-	Yes	-	-
LCD Panel Security	-	-	-	-	-	-	-	-	-	-	Yes	-	-
vFlash	Yes	-	-	-	-	-	-	-	-	-	Yes	-	-

Feature Name	LC-RS	CMC	Power Center	DRACT	DTK	CCTK	ITA	DMC	OME	SCOM SMP	DLCI for SCCM	SPI for HPOM	IBM Netcool/ OMNI bus
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	Yes	-	-	-	-
Active Directory	-	Yes	-	Yes	-	-	-	Yes	Yes	-	-	-	-
Smart Card	-	-	-	-	-	-	-	-	-	-	-	-	-
Physical Topology	-	-	Yes	-	-	-	-	-	-	Yes	-	Yes	-
Logical Grouping	-	-	Yes	-	-	-	-	-	-	Yes	-	Yes	-

Feature Name	LC-RS	CMC	Power Center	DRACT	DTK	CCTK	ITA	DMC	OME	SCOM SMP	DLCI for SCCM	SPI for HPOM	IBM Netcool/ OMNIbus
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
Part Replacement (RAID and NIC)	Yes	-	-	-	-
Lifecycle Controller Repair Package	-	Yes	-	-	-
CPLD	Yes	-	-	Yes	Yes

Feature Name	LC	iDRAC7 (Rack, Tower, and Blades)	SUU	DUP	DRM
FC Cards	Yes	-	-	-	Yes
Backplane	Yes	-	-	-	Yes

Table 10. Update — One-To-Many

Feature Name	LC-RS	CMC	DRACT	ITA	DMC	OME	DLCI for SCCM
BIOS Firmware	Yes	Yes	-	Yes	Yes	Yes	Yes
PSU Firmware	Yes	-	-	-	Yes	Yes	Yes
Diagnostics (No Rollback)	-	Yes	-	-	Yes	Yes	Yes
Operating System Driver Packs (No Rollback)	Yes	Yes	-	Yes	Yes	Yes	Yes
NIC Firmware	Yes	Yes	-	-	Yes	Yes	Yes
iDRAC Firmware	Yes	Yes	Yes	-	Yes	Yes	Yes
RAID Controller Firmware	Yes	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	-	-	-	-	-	-

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 Sipped Inventory	-	Yes	-	-
System Health	Yes	-	-	Yes
Storage Health	Yes	-		Yes
Power Monitoring	Yes	-	-	Yes
Performance	Yes	-	-	Yes
Probe (Sensor) Monitoring	-	-	Yes	Yes

Feature Name	OMSA	LC	BMC*	iDRAC7 (Rack, Tower, and Blades)
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	ITA	DMC	OME	SCOM SMP	SPI for HPOM
View Current Inventory	Yes	Yes	-	-	-	-	Yes	-
Export Current Inventory	Yes	Yes	-	-	-	-	-	-
View and Export Factory Shipped Inventory	Yes	-	-	-	-	-	-	-
System Health	-	Yes	-	-	Yes	Yes	Yes	Yes
Power Monitoring	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Performance	-	Yes	-	Yes	Yes	Yes	Yes	-
Probe (Sensor) Monitoring	-	Yes	-	-	Yes	Yes	Yes	Yes
Alerts	-	Yes	-	Yes	Yes	Yes	Yes	Yes
Platform Events	-	Yes	-	-	-	-	-	-
Lifecycle Log	Yes	Yes	-	Yes	Yes	Yes	-	-
CMC Health Status	-	Yes	-	-	-	-	Yes	Yes
WWN/MAC Address	-	Yes	-	-	-	-	Yes	-
Reporting	-	Yes		Yes	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	-	-	-

* 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
Restore Server Profile	Yes	-	-	Yes
Hardware Diagnostics	-	-	-	-
Manage Repositories	-	-	-	-
Maintenance, Warranty, and Depreciation	-	-	-	-
Power Control Functions	-	Yes	-	-
Task Scheduling	-	-	Yes	-

References

- **OpenManage products** — dell.com/openmanage
- **Dell Tech Center** — delltechcenter.com
- **OpenManage Manuals** — dell.com/support/manuals. On this page, click **Choose from a list of all Dell products** and click **Continue**, navigate to **Software, Monitors, Electronics & Peripherals** → **Software** → **Enterprise System Management** , and then click the appropriate link to access a product documentation.
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