

Dell Systems Management

Overview Guide

Notes, cautions, and warnings

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

 **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.

Chapter 1: Dell Systems Management	5
Dell Systems Management Offerings.....	5
Chassis and Server Solutions.....	6
Dell Consoles.....	6
Automation Enablers.....	6
Integration with third-party consoles.....	7
Dell Update Utilities.....	7
Dell Resources.....	7
Chapter 2: Systems Management Product Overview.....	8
Chassis and Server Solutions.....	8
Integrated Dell Remote Access Controller	8
Dell Open Server Manager (OSM)	8
iDRAC Service Module.....	8
Dell OpenManage Enterprise—Modular Edition.....	9
Secured Component Verification.....	9
Dell Consoles.....	10
OpenManage Enterprise.....	10
APEX AIOps Observability for PowerEdge.....	11
OpenManage Enterprise AIOps Observability Plugin for PowerEdge.....	11
Dell OpenManage Enterprise Power Manager Plugin.....	11
Dell OpenManage Enterprise Services Plugin	11
Dell Update Manager Plugin	12
Dell OpenManage Enterprise Integration for VMware vCenter (OMEVV).....	12
Dell OpenManage Enterprise Integration for Microsoft System Center (OMEMSSC)	13
Dell Repository Manager.....	13
Dell OpenManage Mobile.....	13
Automation Enablers.....	14
Dell System Update	14
Dell OpenManage Ansible Modules.....	15
Terraform Providers	15
iDRAC Restful APIs (Redfish Standards based).....	15
Other Embedded Management Automation Interfaces.....	15
Dell Remote Access Controller Administration CLI.....	16
OpenManage RESTful APIs.....	16
GitHub Scripting Libraries.....	16
Integration With Third-Party Consoles.....	17
Dell OpenManage Integration with Microsoft Windows Admin Center.....	17
Dell OpenManage Integration for VMware vCenter.....	17
OpenManage Integration with ServiceNow.....	18
Dell Update Utilities.....	18
Dell Update Packages.....	18
Dell Server Update Utility.....	18
Dell Update Manager Plugin	19

Chapter 3: Legacy — Dell Hardware Management Tools.....	20
OpenManage Server Administrator.....	20
Baseboard Management Controller Management Utilities.....	20
Dell Remote Access Configuration Tool.....	20
Dell IPMI Tool.....	21
 Chapter 4: Legacy — Dell Systems Management Tools.....	 22
Chassis Management Controller.....	22
Dell Server Deployment Pack for Microsoft Endpoint Configuration Manager formerly Microsoft System Center Configuration Manager.....	22
Dell Server PRO System Center Management Pack for Microsoft System Center Virtual Machine Manager.....	23
Dell OpenManage Integration for Microsoft System Center (OMIMSSC) for System Center Operations Manager (SCOM).....	23
Dell OpenManage Integration for Microsoft Endpoint Configuration Manager (MECM) formerly System Center Configuration Manager.....	23
Dell OpenManage Integration for Microsoft System Center for System Center Virtual Machine Manager.....	24
 Chapter 5: Accessing support content from the Dell support site.....	 26
 Chapter 6: Contacting Dell.....	 27

Dell Systems Management

Dell delivers management solutions that help IT Administrators deploy, update, monitor, and manage IT assets. OpenManage solutions and tools enable you to quickly respond to problems by helping them to manage Dell servers 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) and Consoles like OpenManage Enterprise, OpenManage Power Manager Plugin, and tools like Repository Manager.

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 top systems management vendors and frameworks such as Ansible, thus making Dell platforms to deploy, update, monitor, and manage.

The key tools for managing Dell PowerEdge servers are iDRAC and the one to many OpenManage Enterprise (OME) console. OpenManage Enterprise helps the system administrators in complete life cycle management of multiple generations of PowerEdge servers. In addition, OpenManage Enterprise has additional functions that can be added with plugins like OpenManage Enterprise Services, Update Manager, and APEX AIOps Observability(AIOps Observability), formerly CloudIQ. Power Manager can be added with higher-level OME Advanced to help for fleet-wide power policies and carbon footprint measurements. Now with OME Advanced+, it also includes partner integrations, starting with the OpenManage Enterprise integration for VMware vCenter. Other tools such as Repository Manager, which enables simple yet comprehensive change management, help make management of PowerEdge easier for your administrators.

OpenManage tools integrate with systems management frameworks from other vendors such as VMware and Microsoft. It enables you to use the skills of the IT staff to efficiently manage Dell PowerEdge servers.

The four main pillars of Dell systems management closely align with the issues and business challenges that are faced by many IT departments.

- Automating IT management
 - Dell offers comprehensive automation management for reducing OPEX and increasing uptime and overall efficiency.
 - A comprehensive suite of tools to automate according to your needs.
- Management made simple
 - Simple but powerful tools for managing your Dell servers
 - Integrated tools that streamline support engagements
 - Innovative at-the-box management features
- Secure by default.
 - Dell servers offer robust security defenses to prevent the next generation of malicious attacks.
 - Security is designed deep into the hardware and firmware architecture for optimal protection.
- Smarter infrastructure management
 - It offers a next-generation 1-to-many console to manage your IT and server infrastructure.
 - Embedded intelligence that is infrastructure-aware to optimize troubleshooting and deployment

This document provides an overview of the OpenManage Systems Management offerings to help IT administrators choose the appropriate tools to completely manage Dell PowerEdge servers.

Topics:

- [Dell Systems Management Offerings](#)

Dell Systems Management Offerings

Dell suite of Systems Management offerings consist of a wide variety of tools, products, and services. The strategy is to use an existing systems management framework that you may be using.

However, if you do not have a framework, Dell provides in-house tools or tools from partners. Dell also offers professional services to install or train on any of the Dell products and tools. All the solutions are centered on PowerEdge server hardware management featuring iDRAC.

Dell OpenManage Enterprise automates the full span of server life cycle management activities along with powerful RESTful APIs to script or integrate with your choice of frameworks. It helps in discovery, configuration, deployment, updates, and remediation. These tasks are performed within a single console that unifies management of tower, rack, and modular platforms. OpenManage Enterprise helps in standardizing and supporting IT management policies and practices.

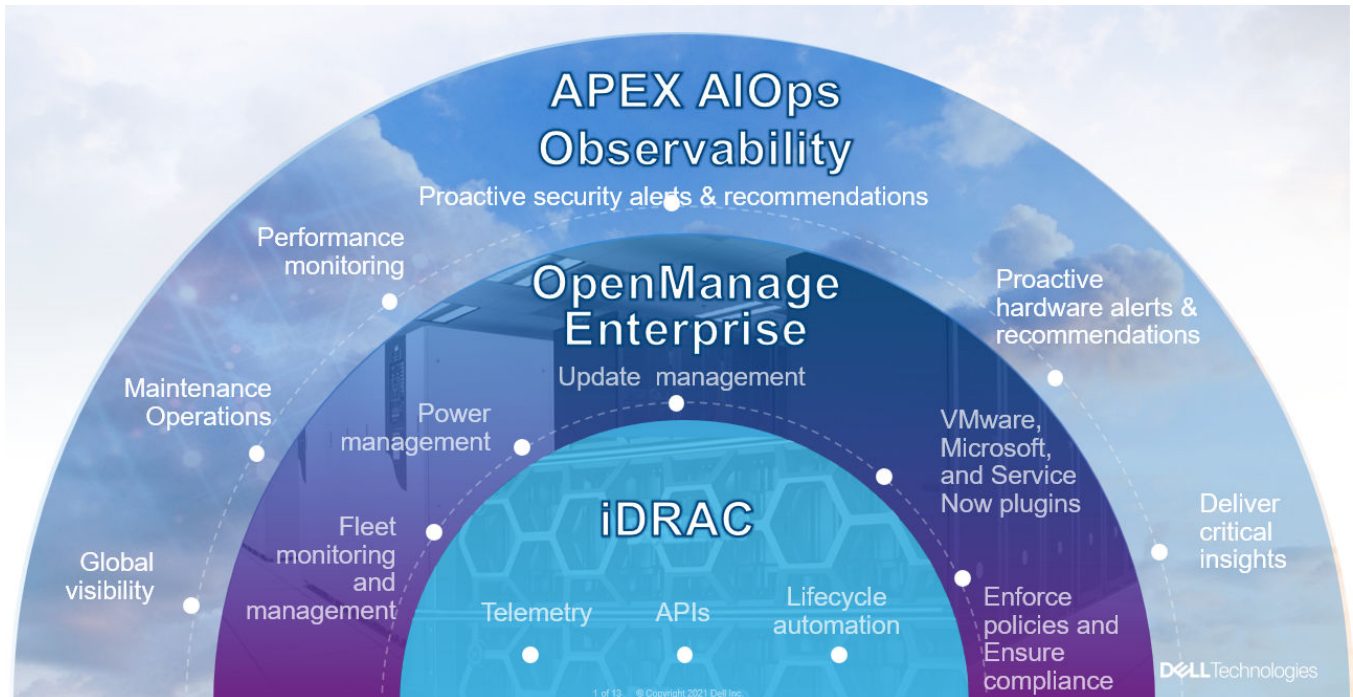


Figure 1. Dell Systems Management Offerings

Chassis and Server Solutions

- Integrated Dell Remote Access Controller (iDRAC)
- iDRAC Service Module (iSM)
- Dell OpenManage Enterprise - Modular Edition (OME-Modular)
- Secured Component Verification (SCV)

Dell Consoles

- Dell OpenManage Enterprise (OpenManage Enterprise)
 - Dell OpenManage Enterprise Power Manager Plugin (PMP)
 - APEX AIOps Infrastructure Observability (APEX AIOps Observability) for PowerEdge, formerly CloudIQ for PowerEdge
 - Dell OpenManage Enterprise Services Plugin (OMES)
 - Dell Update Manager Plugin (UMP)
 - Dell OpenManage Enterprise Integration for VMware vCenter (OMEVV)
- Dell Repository Manager (DRM)
- Dell OpenManage Mobile (OMM)

Automation Enablers

- Dell System Update (DSU)
- OpenManage Ansible Modules
- Terraform Providers
- iDRAC RESTful APIs (follows DMTF standard and OEM extensions)
- Other Embedded Management Automation Interfaces
- RACADM CLI
- OpenManage RESTful APIs (non-DMTF standard, OEM implementation)

- [GitHub Scripting Libraries](#)

Integration with third-party consoles

- Dell Windows Server Agent-based and iDRAC7, iDRAC8 SNMP Management Packs for SCOM
- Dell OpenManage Enterprise Integration for Microsoft System Center (OMEMSSC)
- Dell OpenManage Integration with Microsoft Windows Admin Center (WAC)
- Dell OpenManage Integration for VMware vCenter (OMIVV)
- Dell OpenManage Integration with ServiceNow

Dell Update Utilities

- [Dell Repository Manager \(DRM\)](#)
- [Dell Update Packages \(DUP\)](#)
- [Dell Server Update Utility \(SUU\)](#)
- [Dell System Update \(DSU\)](#)
- [Dell Update Manager Plugin \(UMP\)](#)

Dell Resources

For additional information about white papers, videos, blogs, forums, technical material, tools, usage examples, and other information, go to the [OpenManage](#) page or the following product pages:

- For OpenManage Enterprise page, see [OpenManage Enterprise](#).
- For Integrated Dell Remote Access Controller (iDRAC) page, see [iDRAC](#).
- For iDRAC Service Module (iSM) page, see [iSM](#).
- For OpenManage Ansible Modules page, see [OpenManage Ansible Modules](#).
- For OpenManage Enterprise Modular page, see [OpenManage Enterprise Modular](#)
- For OpenManage Mobile (OMM) page, see [OMM](#).
- For OpenManage Enterprise Integration for VMware vCenter (OMEVV) and OpenManage Integration for VMware vCenter (OMIVV), see [OMEVV](#)
- For OpenManage Integration for Microsoft System Center (OMIMSSC), see [OMIMSSC](#).
- For Dell Repository Manager (DRM) page, see [DRM](#).
- For Dell System Update (DSU) page, see [DSU](#).
- For Dell Platform Specific Bootable ISO (PSBI) page, see [PSBI](#)
- For OpenManage Enterprise Power Manager page, see [OpenManage Enterprise Power Manager](#).
- For OpenManage Integration with ServiceNow (OMISNOW) page, see [OMISNOW](#).
- For OpenManage Secure Enterprise Key Manager page, see [OpenManage Secure Enterprise Key Manager](#).
- For REDFISH API Whitepapers, see the following:
 - [iDRAC Redfish Frequently Asked Questions - Starter Guidance](#).
 - [iDRAC9 User Interface to Redfish Mapping](#).
 - [iDRAC9 RACADM to Redfish Mapping](#).
- For iDRAC Redfish repository, see [GitHub - dell/iDRAC-Redfish-Scripting: Python and PowerShell scripting for Dell EMC PowerEdge iDRAC REST API with DMTF Redfish](#).

Systems Management Product Overview

This section provides an overview for the Dell Systems Management suite of products.

Topics:

- [Chassis and Server Solutions](#)
- [Dell Consoles](#)
- [Automation Enablers](#)
- [Integration With Third-Party Consoles](#)
- [Dell Update Utilities](#)

Chassis and Server Solutions

Integrated Dell Remote Access Controller

The integrated Dell Remote Access Controller (iDRAC) delivers advanced, agent-free, local and remote server administration. Embedded in every PowerEdge server, iDRAC provides a secure means to automate a multitude of common management tasks. Because iDRAC is embedded in every PowerEdge server, there is no additional software to install; plug in power and network cables, and iDRAC is ready to go. Even before installing an operating system (OS) or hypervisor, IT administrators have a complete set of server management features at their fingertips.

With iDRAC in place across the Dell PowerEdge portfolio, the same IT administration techniques and tools can be applied throughout. This consistent management platform allows easy scaling of PowerEdge servers as an organization's infrastructure needs to grow. Customers will be able to use the iDRAC RESTful API for the latest in scalable administration methods of PowerEdge servers. With this API, iDRAC enables support for the Redfish standard and enhances it with Dell extensions to optimize at-scale management of PowerEdge servers. By having iDRAC at the core, the entire OpenManage portfolio of Systems Management tools allows every customer to tailor an effective, affordable solution for any size environment.

iDRAC performs firmware update, backup and restore, life cycle log, and hardware inventory export. For more information, see the [iDRAC documents](#).

Dell Open Server Manager (OSM)

Dell Open Server Manager (OSM) built on OpenBMC™ is a Dell implementation of OpenBMC for PowerEdge servers. OpenBMC is a Linux Foundation project to produce an open-source Baseboard Management Controller (BMC) firmware stack that is designed to run across heterogeneous infrastructure. OpenBMC allows you to remotely monitor, manage, and control a server. OpenBMC appeals to anyone who wants consistent system management across different infrastructures, while maintaining code transparency for security validation and trust. Open Server Manager is a Dell project that is designed, tested, and validated to securely run OpenBMC on select PowerEdge platforms.

iDRAC Service Module

This module complements iDRAC with monitoring and configuration information from the operating system(OS). You can also access a limited version of the iSM interface from the OS. You can enable and disable features on iSM by the iDRAC interfaces to control the CPU and memory that is consumed on the operating system of the server.

The iDRAC Service Module provides the following key features:

- View operating system (OS) information.
- Replicate Lifecycle Controller logs to operating system logs.
- Perform automatic system recovery.
- Populate Windows Management Instrumentation (WMI) information.

- Use the Prepare to Remove option on a NVMe class PCIe SSD.
- Access iDRAC interfaces using host IP.
- Remote full power cycle
- Smart alerts from drives
- iDRAC UI launcher from host OS (Windows OS only)
- Use remote iDRAC hard reset for 13th generation or later PowerEdge servers.
- Access iDRAC MIB compatible SNMP traps from the host operating system.
- TLS protection enabled for iSM to iDRAC communication over OS-BMC Passthru.
- Single sign on (SSO) to access iDRAC UI from the Host OS Administrator desktop (Windows and Linux).
- IPv6 communication between iSM to iDRAC over OS-BMC Passthru (Windows and Linux).

For more information, see [iDRAC Service Module](#) and [iDRAC9](#).

Dell OpenManage Enterprise—Modular Edition

The Dell OpenManage Enterprise—Modular Edition (OME-Modular Edition) helps to transform how you manage the infrastructure and enable the business quickly. It is a unified web or RESTful API interface that manages all the nodes including compute and networking. It helps reduce costs and consolidates multiple tools for ease of access and monitoring. The simplified administration helps deploy and monitor at scale, from one to many chassis, with the support for remote management. The Agile and intelligent automation drives faster hardware rollouts and reduces repetitive tasks for accelerated life cycle management.

It runs on the PowerEdge M9002m management module (MM) firmware. OME-Modular facilitates configuration and management of a stand-alone PowerEdge MX7000 chassis or group of MX7000 chassis from one User Interface (UI). You can use OME-Modular to deploy servers and update firmware. You can also manage the overall health of the chassis and its components such as compute sleds, networks, input, or output modules (IOMs). OME-Modular also facilitates hardware enabling:

- Connectivity of management network
- Discovery, inventory
- Monitoring and power control operations and thermal functions

You can use OME-Modular to manage key workloads on the MX7000 platforms.

- Large and unstructured data and analytics
- Hyperconverged and traditional workloads
- Database workloads
- Software defined storage
- HPC and performance workloads

The lead chassis in the Multi Chassis Management (MCM) enables you to perform the following tasks across up to 20 chassis:

- Manage servers across multiple MX chassis.
- Deploy or update servers from the lead chassis without launching the member chassis web interface.
- Manage fabric switch engines in SmartFabric mode using the OME-Modular web interface.
- Manage alert logs and actions.
- Manage virtual MAC or WWN identity pools.
- Deploy compute sleds using server profiles and templates.

OME-Modular offers simple and static roles such as the chassis administrator, compute manager, fabric manager, storage manager, and viewer roles while, OpenManage Enterprise offers static and dynamic groups with role-based access control (RBAC).

For more information, see [Dell OpenManage Enterprise-Modular](#).

Secured Component Verification

Secured Component Verification (SCV) is a supply chain assurance offering that enables you to verify that the PowerEdge server you have received matches what was manufactured in the factory. To validate components, a certificate containing the unique system component IDs is generated during the factory assembly process. This certificate is signed in the Dell factory and is stored in the system, later used by the SCV application. The SCV application validates the system inventory against the SCV certificate. For more information, see [Secured Component Verification \(SCV\)](#).

Dell Consoles

The following consoles help in monitoring, managing the infrastructure, and the Lifecycle management of the PowerEdge servers:

OpenManage Enterprise

OpenManage Enterprise is the flagship Systems Management Console product for Dell Power Edge, and additional Dell hardware. It simplifies, centralizes, and automates the full span of server life cycle management activities. It helps in discovery, configuration, deployment, updates, and remediation. These tasks are performed within a single console that unifies management of tower, rack, and modular platforms. OpenManage Enterprise helps in standardizing and supporting IT management policies and practices.

Serving as the central hub of inventory of your PowerEdge environment, OpenManage Enterprise also now allows for easier and more modular functions with plugins that can be downloaded and added to OpenManage Enterprise capabilities. Core plugins include OpenManage Enterprise Services to tie out with support and ticket creation, Update Manager to help have a centralized firmware file management leveraging your inventory, and APEX AIOps Observability (formerly CloudIQ) integration for unified monitoring of the Dell Technologies equipment. With OpenManage Enterprise Advanced, it expands to include Power Manager for expanded power policies and reporting. Now with OpenManage Enterprise Advanced+, it also includes partner integrations, starting with OpenManage Enterprise Integrations for VMware vCenter and Microsoft Systems Center.

OpenManage Enterprise has a plethora of systems administration functionality that simplifies experiences for the customers:

- Reduced time and effort that is required to manage small and large-scale IT environments using HTML5 user interface.
- Simplified UI workflow provides a single management layer that unifies the management of PowerEdge tower, rack, and modular platforms.
- Packaged and delivered as virtual appliance and supports ESXi, Hyper-V, and KVM.
- Redesigned architecture on SLES with the PostgreSQL database. Operating system and database licenses are no longer required.
- Centralized user management with role-based access control.
- Enabled with customer automation and solution integration using Northbound API.
- Enhanced policy-driven management.

OpenManage Enterprise licenses:

Many features of OpenManage Enterprise are available for no-charge. It includes the following:

- Monitoring and Alerts
- Support for plugins: Update Manager, OpenManage Enterprise Services, and AIOps Observability.
- Reporting
- Firmware Updates
- View and manage the iDRAC and OpenManage Enterprise licenses you purchased in the Dell IT Digital Locker. Bind them to specific servers.

Customers can also purchase an OpenManage Enterprise Advanced license when they need the following functionality:

- Power Manager plug-in
- Advanced configuration such as Bare-metal deployment and cloning, Configuration compliance, Autodeployment, IOA provisioning, and VLAN management, MX profile management
- Includes all features of no-charge OpenManage Enterprise.
- Support for internal password rotation. OpenManage Enterprise creates encrypted credentials to access iDRAC. These credentials can be rotated regularly and automatically.

Also, the OpenManage Enterprise Advanced+ license is available which consolidates all the partner licenses:

- VMware (OMEVV) as plug-in
- Microsoft System Center (OMEMSSC) as two plugins
 - LCM plug-in for MECM and SCVMM
 - Monitoring Plugin for SCOM
- ServiceNow license (no plug-in)
- Any partner plugins in future
- Includes all features of OpenManage Enterprise Advanced license.
- Support for customers who use CyberArk Credential Provider software. OpenManage Enterprise can access iDRAC passwords from the CyberArk vault.

For more information, see [Support for Dell OpenManage Enterprise/](#).

APEX AIOps Observability for PowerEdge

APEX AIOps Observability is a cloud-based AIOps monitoring portal of Dell Technologies. It provides intelligent insights to resolve issues with Dell servers, storage, data protection, and networking products quickly. Through its OpenManage Enterprise plug-in, APEX AIOps Observability provides the advantages of a single user interface to monitor all PowerEdge servers enterprise-wide, across many OpenManage Enterprise instances. It leverages telemetry, machine learning, and other algorithms to proactively monitor and analyze server health and performance to speed troubleshooting and time-to-resolution.

APEX AIOps Observability is available at no additional charge for products with a valid ProSupport (or higher) contract. Servers use secure networking to send telemetry from OpenManage Enterprise to APEX AIOps Observability using the OpenManage Enterprise AIOps Observability plugin. APEX AIOps Observability is hosted on Dell Technologies secure private cloud.

OpenManage Enterprise AIOps Observability Plugin for PowerEdge

Dell OpenManage Enterprise (OME) AIOps Observability plugin is an add-on to OME that enables you to select device groups to connect to APEX AIOps Observability. Additionally users can select what data to send up for their PowerEdge systems and opt-in to different features and functions in APEX AIOps Observability like maintenance operations or cybersecurity tracking. After the users install and configure the systems to connect to APEX AIOps Observability, users then can navigate to the Console to monitor their systems.

Dell OpenManage Enterprise Power Manager Plugin

Dell OpenManage Enterprise Power Manager is a plugin for OpenManage Enterprise V3.2 and later. Power Manager provides power and thermal monitoring and management at one-to-many levels. The features of Power Manager are:

- **Measure and manage power consumption and monitors thermal readings**—OpenManage Enterprise Power Manager provides greater insights into energy usage of the data center through detailed measurement of energy consumption throughout a data center. Power Manager provides administrators the ability to measure and manage the power consumption of up to 8,000 servers and track both short-term and long-term historical data. In addition to PowerEdge servers and components, Power Manager also displays the power consumption of servers of other vendors.
- **Create and implement multiple usage policies**—Power Manager simplifies the implementation of power policies across a data center. When it is used with the 14th generation or later versions of the PowerEdge servers, OpenManage Enterprise Advanced license and an iDRAC Enterprise license, administrators can control power consumption to each row, rack, or group of PE servers. In addition, administrators can create reports on energy usage, including Virtual Machine Power Mapping and thermal readings on a group-by-group basis.
- **Reduce consumption during low-load hours**—Power Manager helps administrators to save power by allowing management of a server room according to business needs. Power Manager allows administrators to implement policies that reduce the power consumption when the demand on the systems is lower. It can also assign maximum power to the servers that run the most important applications.
- **Calculate and report carbon emissions**—Power Manager calculates and reports carbon emissions as related to PowerEdge usage. Power Manager also reports on low-usage servers so they may be uninstalled or repurposed.

For more information, see [OpenManage Power Manager Plugin User's Guide](#).

Dell OpenManage Enterprise Services Plugin

OpenManage Enterprise Services, previously known as OpenManage Enterprise SupportAssist, is a Plugin for OpenManage Enterprise v3.5 and later. It integrates with OpenManage as a Plugin, streamlining your service experience. It is Dell's auto case creation and remote monitoring technology that enables Dell Technologies support to resolve issues with minimal effort from your team, replacing manual routines and downtime with automated support.

Once connected, the OpenManage Enterprise Services Plugin helps with the power to:

- **Prevent outages with secure remote monitoring**—The best time to solve a problem is before it happens. OpenManage Enterprise Services Plugin monitors system health proactively by detecting future failures. Help systems stay up and running without unplanned downtime.
- **Active troubleshooting**—OpenManage Enterprise Services Plugin automates case creation and sends diagnostic information to Dell Technologies support which enables to resolve issues with minimal effort.

- Get the best performance with actionable recommendations—Your data center must perform efficiently to support your remote workforce. Equip your team with on-demand reporting and recommendations to help them make data-driven decisions.

OpenManage Enterprise Services Plugin securely collects only system state information. System state information includes configuration, event notifications, and system diagnostic information. For more information about how OpenManage Enterprise Services Plugin securely monitors your enterprise environment, go to [Support for Dell OpenManage Enterprise Services \(previously OpenManage Enterprise SupportAssist\)](#).

Dell Update Manager Plugin

Dell Update Manager Plugin (UMP) brings Dell Repository Manager functionality to OpenManage Enterprise. UMP streamlines the custom repository creation, baseline creation, catalog creation, and downloads of update packages to a single easy workflow. UMP allows for easy management of the repository, including; delete, import, and schedule refreshes. With UMP, you get an overview screen that shows key information, including Repository Name, Catalog used for creation, version, and color-coded criticality. UMP does not require a license to use.

You can use Dell Update Manager Plugin to:

- Update repository, catalog, or baseline creation in a single workflow.
 - Using solution catalogs such as ESXi, Azure Stack, and Validated MX Stack.
 - Using DRM created catalog and Server Update Utility (SUU) catalogs that are at a network location.
 - Adding baselines automatically to the OpenManage Enterprise Firmware and Compliance page.
- Automate downloading of DUP packages to OpenManage Enterprise that allows efficient deployment of updates.
- Delete or import DUPs into custom repositories.
- Schedule refresh of custom updates for repository, catalog, and baseline .
- UMP v1.1 and later versions support OpenManage Enterprise 3.6 Scope-Based Access Control.

Table 1. UMP and OpenManage Enterprise

UMP	OpenManage Enterprise
UMP 1.0	OpenManage Enterprise 3.5
UMP 1.1	OpenManage Enterprise 3.6 or 3.7
UMP 1.2	OpenManage Enterprise 3.8
UMP 1.3	OpenManage Enterprise 3.9
UMP 1.4	OpenManage Enterprise 3.10
UMP 1.5.1	OpenManage Enterprise 4.0.x or 4.1

For more information, see Update Manager Plugin User's Guide available at the [OpenManage Enterprise Update Manager](#) page.

Dell OpenManage Enterprise Integration for VMware vCenter (OMEVV)

The new Dell OpenManage Enterprise Integration for VMware vCenter (OMEVV), like the OpenManage Integration for VMware vCenter (OMIVV), enables you to monitor, provision, and manage PowerEdge server hardware and firmware. You can perform these tasks through a dedicated Dell menu that can be accessed directly through the VMware vCenter console. Also, you can use the OpenManage Enterprise as a full-featured administration portal. OMEVV also enables granular control and reporting of the hardware environment using the same role-based access control model as vCenter. This new plug-in helps you to:

- Monitor PowerEdge hardware inventory directly in Host and Cluster views and provide a plug-in dashboard within vCenter.
- Bubble up hardware system alerts for configurable actions in vCenter.
- Manage firmware alongside vSphere Lifecycle Manager in vSphere 7.0 and higher.
- Set baselines for server configuration and firmware levels with cluster aware updates for non-vSphere Lifecycle Manager vSphere and vSAN clusters
- Deploy ESXi to new PowerEdge servers faster and add them to be managed in vCenters.

With the release of OpenManage Enterprise 4.1 and its expansion of plug-in capabilities, OpenManage Enterprise Integration for VMware vCenter (OMEVV) 1.3 has also been released. This new plug-in provides the same functionality of OMIVV leveraging

OpenManage Enterprise as a more full-featured administration portal. Future major releases of vSphere and PowerEdge servers are supported by this new architecture.

For more information, see the [OpenManage Enterprise Integration for VMware vCenter \(OMEVV\)](#).

Dell OpenManage Enterprise Integration for Microsoft System Center (OMEMSSC)

Operations Manager Plugin

The Operations Manager plug-in enables the monitoring of Dell hardware assets that are discovered in OpenManage Enterprise using the System Center Operation Manager (SCOM) console. The plug-in monitors device inventory, health, and alerts for Dell servers, modular systems, and network switches. The Operations Manager plug-in allows for:

- Connect System Center Operations Manager console to OpenManage Enterprise.
- Push hardware monitoring data and alerts to the connected Operations Manager console.
- Alert cause and resolution viewable within System Center Operations Manager
- Customizable monitoring intervals

VMM and Configuration Manager Plugin

The VMM and Configuration Manager plug-in enables full life-cycle management using OpenManage Enterprise and offers system operating system deployment on Dell PowerEdge servers.

- Connect System Center Virtual Machine Manager, and Microsoft Endpoint Configuration Manager consoles to OpenManage Enterprise.
- Perform discovery and sync devices in OpenManage Enterprise or System Center consoles.
- Perform operating system deployment on PowerEdge servers and create operating system deployment templates.
- Leverage OpenManage Enterprise functionality for server configuration, updates, and compliance

OMEMSSC requires Open Manage Enterprise version 3.10 or later and the OpenManage Enterprise Advanced+ license on each managed PowerEdge server. For more information, see [Support for OpenManage Enterprise Operations Manager | Documentation](#) and [Support for OpenManage Enterprise VMM and Configuration Manager | Documentation](#).

Dell Repository Manager

Dell Repository Manager (DRM) is an application that helps you to:

- Identify the updates that are relevant to the systems in your data center.
- Identify and notify when updates are available.
- Package the updates into different deployment format.

To automate the creation of baseline repositories, DRM provides advanced integration capabilities with iDRAC/LC, OpenManage Enterprise, OpenManage Integration for VMware vCenter and OpenManage Integration for Microsoft System Center (OMIMSSC). Also, DRM packages updates into custom catalogs that can be used for deployment.

Dell Repository Manager can create the following deployment tools:

- Custom catalogs
- Smart Bootable ISO
- Smart Deployment Package
- Custom Server Update Utility (SUU)

For more information, see Dell Repository Manager User's Guide available on the [Dell Repository Manager](#) page.

Dell OpenManage Mobile

Dell OpenManage Mobile (OMM) is a mobile application for managing servers and related devices from Android and iOS mobile devices. OMM enables IT administrators to perform a subset of server configuration, monitoring, and remediation tasks from anywhere and anytime.

Advantages of using OpenManage Mobile

- View inventory, monitor health status, and perform basic setup of servers, MX7000 chassis, and its sleds.

- Streamline monitoring and troubleshooting of PowerEdge MX7000 modular infrastructure through Augmented Reality view of chassis components.
- Discover any server issues by signing up for proactive notifications from OpenManage Enterprise.
- View the server information about a large screen and get the equivalent of a large LCD display on the mobile device.
- Reduce the need for cumbersome crash carts by using a mobile device to access the system console.
- Scan the iDRAC credentials that are stored in QR code for ease-of-use and faster first-time login.
- Batch update factory default iDRAC passwords for Dell PowerEdge 14th generation servers.

Accessing PowerEdge servers from OpenManage Mobile

There are three ways OpenManage Mobile can access and manage the Dell PowerEdge servers:

- **Access iDRAC at-the-server or MX7000 at-the-chassis** —On the 14th generation of the PowerEdge servers or MX7000: OMM can access PowerEdge 14th generation servers or MX7000 through Quick Sync 2 module. After it gets connected, IT administrators can configure IP addresses and BIOS settings, share Dell OME Services Plugin reports, view server inventory, health status and logs, or power cycle a server. Quick Sync 2 is supported on many PowerEdge rack and tower servers, such as R940, R940xa, R840, R740, R740xd, R640, R540, R440, R6415, R6515, R6525, R7515, R7425, R7415, and T640. On the 13th generation of the PowerEdge servers: OMM can access PowerEdge 13th generation servers through the Quick Sync bezel. After connected, IT administrators can configure IP addresses, view server inventory, health status and logs, or power cycle a server. Quick Sync bezel is supported on PowerEdge R730, R730xd, and R630 servers.

 **NOTE:** For **at-the-server** access, you must install the Quick Sync 2 module or the Quick Sync bezel.

 **NOTE:** For **at-the-chassis** access, you must install the Quick Sync 2 module on the MX7000.

- **Access iDRAC or MX7000 remotely** — OMM can access the 12th, 13th, and 14th generation of the PowerEdge servers remotely over a secure, internal network from anywhere. After connected, IT administrators can configure IP addresses and BIOS settings, share Dell OME Services Plugin reports, view server inventory, health status and logs, or power cycle a server. When you access an MX7000 lead chassis remotely, you automatically get access to any of the member chassis and sleds. The access to MX7000 remotely happens through OpenManage Enterprise Modular running on that MX7000.

 **NOTE:** Features vary by server-model and generation. To access iDRAC, OpenManage Enterprise remotely, there is no additional hardware required other than the Android or IOS devices.

- **Access servers remotely through OpenManage Enterprise console**—OMM can connect to the PowerEdge servers through the OpenManage Enterprise—3.1. IT administrators can monitor all systems-managed using OpenManage Enterprise including Dell chassis, servers, storage, networking, and firewall appliances and other OME-supported third-party hardware. OMM can also receive proactive notifications from the OME console.

Automation Enablers

- Dell System Update (DSU)
- OpenManage Ansible Modules
- Terraform Providers
- iDRAC RESTful APIs (follows DMTF standard and OEM extensions)
- Other Embedded Management Automation Interfaces
- RACADM CLI
- OpenManage RESTful APIs (non-DMTF standard, OEM implementation)
- GitHub Scripting Libraries

Dell System Update

Dell System Update (DSU) is a CLI optimized application that is used to distribute the Dell PowerEdge server updates for Linux and Microsoft Windows operating systems. DSU is a script optimized tool that provides enhanced ease of use automation and flexibility. DSU works on a wide range of operating systems, including RHEL, SLES, Ubuntu, and Windows Server.

Dell System Update v1.7 or higher allows performing update to remote systems using either in-band through Windows and Linux or out-of-band through iDRAC.

 **NOTE:** DSU v1.4 and higher has been enhanced to facilitate the creation of Smart bootable ISO.

For more information, see the [DELL System Update \(DSU\)](#) page.

Dell OpenManage Ansible Modules

[Dell OpenManage Ansible Modules](#) enable data center and IT administrators to use Red Hat Ansible to automate and orchestrate the provisioning, configuration, deployment, and update of PowerEdge Servers. It uses the management automation capabilities in-built into the iDRAC, OpenManage Enterprise, and OpenManage Enterprise-Modular. Ansible is an automation tool that can configure systems, deploy software, and perform more advanced IT tasks such as continuous deployments or zero downtime rolling updates. With OpenManage Ansible Modules for PowerEdge servers, data center and IT administrators can rapidly deploy their infrastructure, change server configurations, and manage configuration drift against a known baseline.

For more information, see the [Support for Dell OpenManage Ansible Modules](#) page.

Terraform Providers

HashiCorp's Terraform is an open-source infrastructure as code software tool that enables DevOps organizations to programmatically provision, configure, and modify infrastructure using human-readable configuration files or plans that are written in HashiCorp Configuration Language (HCL). Terraform provider for OpenManage Enterprise provides resources and data sources that interacts with REST APIs provided by OpenManage Enterprise. It enables server administrators or DevOps engineers to use Terraform for automated provisioning and deployment of PowerEdge servers using OpenManage Enterprise.

For more details, see the [github](#) page.

iDRAC Restful APIs (Redfish Standards based)

iDRAC provides a range of standards-based applications programming interfaces (APIs) that enable scalable and automated management of the PowerEdge servers. Standard systems management APIs is developed by organizations such as the Institute of Electrical and Electronics Engineers (IEEE) and Distributed Management Task Force (DMTF). These APIs are widely used by commercial systems management products and by custom programs and scripts that are developed by IT staff to automate management functions such as discovery, inventory, health status checking, configuration, update, and power management. The APIs supported by iDRAC include the following:

- iDRAC RESTful API—It provides a RESTful interface that expands upon the DMTF Redfish standard with the Dell operations. It includes the RESTful server configuration, modular server feature support, and detailed operating system networking inventory and status.
- iDRAC RESTful API—with Redfish support: In 2015, the DMTF Scalable platforms Management Forum published iDRAC RESTful API—with Redfish support. It is an open industry-standard specification and schema that is designed to meet the needs of IT administrators for simple, modern, and secure management of scalable platform hardware. Dell is a key contributor to the iDRAC RESTful API standard, acting as co-chair of the SPMF, promoting the benefits of iDRAC RESTful API, and working to deliver those benefits within industry-leading systems management solutions. iDRAC RESTful API is a next generation management standard using a data model representation inside a hypermedia RESTful interface. The data model is defined in terms of a standard, machine-readable schema, with the payload of the messages expressed in JSON and the OData v4 protocol.

For more information, see the [Developer portal](#).

For [PowerEdge Central iDRAC](#) Top Assets, see the following:

- [iDRAC9 Redfish API FAQ Technical White Paper](#)
- [iDRAC9 RACADM CLI to Redfish Command Mapping White Paper](#)
- [iDRAC9 Graphical User Interface to Redfish Command Mapping White Paper](#)
- [iDRAC9 Redfish API](#) (sign in to the Developer portal to access the link).

Other Embedded Management Automation Interfaces

- **WSMan:** The Web Services For Management (WSMan) API, first published by the DMTF in 2008, is the most mature and robust API provided by iDRAC. WSMan uses a Simple Object Access Protocol (SOAP) with data modeled using the Common Information Model. WSMan provides interoperability between management applications and managed resources,

and identifies a core set of web service specifications and usage requirements that expose a common set of operations central to all systems management.

 **NOTE:** From the 17th Generation of PowerEdge servers, WSMAN is not supported. It is recommended to use Redfish API commands instead.

- **IPMI:** The Intelligent Platform Management Interface (IPMI) is a message-based, hardware-level interface specification that can operate over both LAN and serial interfaces. IPMI is supported broadly by server vendors, systems management solutions, and open source software.
- **SNMP:** The Simple Network Management Protocol (SNMP) helps in standardizing the management of network devices. SNMP allows commercial management consoles created for monitoring network switches and routers to also monitor X86 servers. SNMP is primarily used to deliver event messages to alert administrators of problems on their systems but can also be used to discover, inventory, and configure servers.

Dell Remote Access Controller Administration CLI

The Remote Access Controller Administration (RACADM) command-line utility provides a scriptable interface to perform inventory, configuration, update, and health status check of the PowerEdge servers. RACADM operates in multiple modes:

- Local—supports running RACADM commands from the managed server's operating system.
- SSH—known as firmware RACADM; is accessible by logging in to iDRAC using SSH.
- Remote—supports running RACADM commands from a remote management station such as a laptop or desktop.

RACADM is supported by iDRAC. Local and remote RACADM is supported on Windows Server, the Windows clients, and on Red Hat, SuSe, and Ubuntu Linux.

Using a text-based interface for all iDRAC functions, RACADM supports the viewing and changing of all server attributes. This includes BIOS, iDRAC, PERC, NIC, and HBA settings as well as server cooling and power-status and settings. RACADM also supports profile-based server configuration management, detailed hardware and firmware inventory, and access to server logs.

For more information, see the **RACADM command line Reference Guide for iDRAC** available at [Dell Manuals](#) page.

OpenManage RESTful APIs

There is a strong need for well-supported APIs for minimizing or eliminating human errors from operational processes which drive innovation since it reduces TCO and frees up resources, for rapid scale up and down of the infrastructure based on the organizational needs by creating replicable scripting and DevOps, for integrating new solutions to the existing ones and also managing a heterogeneous HW environment.

To achieve this flexibility, scalability, consistency, and unified experience OpenManage products support northbound RESTful APIs.

The embedded management APIs or the iDRAC APIs are conformant to the Redfish DMTF standards and are responsible for automating end to end server management functionalities. Other value-added capabilities like Telemetry streaming, and Server configuration Profiles use the Dell proprietary RESTful APIs.

The console APIs for OpenManage Enterprise and all the plugins to OpenManage Enterprise like the PowerManager Plugin or the OpenManage Enterprise Services Plugin or the Update Manager Plugin and also the OpenManage Enterprise Modular and OMIVV products are modeled after the Redfish standards and are Dell proprietary RESTful APIs.

For more information, see the [Developer](#) portal.

GitHub Scripting Libraries

To help in automating system management tasks and simplify API integration, Dell provides the PowerShell and Python libraries and script examples using the OpenManage RESTful APIs and iDRAC RESTful API with Redfish interface. These libraries and examples are available on the [Dell GitHub](#) page. The [iDRAC Support](#) page offers a library of technical white papers detailing the use of the embedded management APIs. To access sample scripts of iDRAC and OpenManage Enterprise APIs, see [iDRAC](#) and [OpenManage Enterprise](#) GitHub repositories respectively.

Integration With Third-Party Consoles

The Dell integrations are:

- Dell Windows Server Agent-based and iDRAC7, iDRAC8 SNMP Management Packs for SCOM
- Dell OpenManage Enterprise Integration for Microsoft System Center (OMEMSSC)
- Dell OpenManage Integration with Microsoft Windows Admin Center (WAC)
- Dell OpenManage Integration for VMware vCenter (OMIVV)
- Dell OpenManage Integration with ServiceNow

Dell OpenManage Integration with Microsoft Windows Admin Center

Dell OpenManage Integration with Microsoft Windows Admin Center (OMIMSWAC) extension empowers customers to break down information silos that threaten their TCO, IT operations. The Dell OpenManage WAC extension enables streamlined life cycle management of :

- PowerEdge servers that are supported on Windows Server
- Hyper-V, Failover clusters based of PowerEdge servers running on-premises and Azure hybrid environments.
- HCI clusters based of AX nodes part of the Dell-Integrated System for Microsoft Azure Stack HCI, a new hyperconverged infrastructure (HCI) operating system that is delivered as an Azure service.
- HCI clusters based of AX nodes, storage spaces direct ready nodes part of the Dell HCI Solutions for Microsoft Windows server.
- Onboard HCI and Server Configuration Profile policies for at-scale compliance from the Azure portal.

Customers looking for a modern, easy to use in-box tool, browser-based console to manage servers, clusters, and hyperconverged infrastructure could take advantage of the Microsoft Windows Admin Center console. When combined with the Dell OpenManage Integration offers deep hardware monitoring and enhanced life cycle management of the servers, nodes, clusters, and hyperconverged infrastructure.

For more information, see the KB article available at the [Support for Dell OpenManage Integration with Microsoft Windows Admin Center](#) page.

Dell OpenManage Integration for VMware vCenter

The Dell OpenManage Integration for VMware vCenter (OMIVV) allows you to monitor, provision, and manage PowerEdge server hardware and firmware. You can perform these tasks through a dedicated Dell menu that can be accessed directly through the VMware vCenter console. OMIVV also allows granular control and reporting for the hardware environment using the same role-based access control model as vCenter. The OpenManage Management Pack for vRealize Operations Manager is available with OMIVV v4.0 onwards. It helps in checking hardware health and alerting into vRealize operations, which also includes dashboard and reporting on the server environment.

 **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.

- Alerting and monitoring the environment for servers and chassis
- Monitoring and reporting for servers and chassis
- Updating firmware on servers, including with vSAN clusters and vSphere Lifecycle Manager
- Deploying enhanced options

With the release of OpenManage Enterprise 3.9 and its expansion of plug-in capabilities, OpenManage Enterprise Integration for VMware vCenter (OMEVV) 1.0.1 has also been released. This new plug-in provides the same functionality of OMIVV leveraging OpenManage Enterprise as a more full-featured administration portal. Future major releases of vSphere and PowerEdge servers are supported by this new architecture.

For more information, see the [OpenManage Enterprise Integration for VMware vCenter \(OMEVV\)](#) page.

OpenManage Integration with ServiceNow

Dell OpenManage Integration with ServiceNow helps enterprise organizations in improving their operations efficiency. It bridges the gap between their service and operations management processes. It is a native application within the ServiceNow platform that provides an interface between OpenManage Enterprise infrastructure management capabilities and ServiceNow service and operations management capabilities. The integration provides automation capabilities to transfer data between these two platforms, helping operations and service management teams in faster detection, diagnosis and resolution of issues that impacts the business services and the IT infrastructure health. Also, OpenManage Integration with ServiceNow also integrates with the OpenManage Enterprise Services Plugin for viewing and tracking the support cases that are raised with Dell Support right from within the ServiceNow platform. With this integration, operation and service management teams can keep themselves abreast of the technical support tickets that have been raised with Dell support and track their progress from incident to resolution.

With this integration, you can do the following:

- Synchronize PowerEdge server information between OpenManage Enterprise and ServiceNow Configuration Management Database (CMDB).
- Monitors alerts for servers
- Create incidents automatically for a critical and warning alerts for servers.
- View and monitor the support tickets that are raised with Dell Support.

For more information, see the [Support for Dell OpenManage Ansible Modules](#) page.

Dell Update Utilities

The following table lists the update utilities and the supported operating systems.

Table 2. Dell Update Utilities

Product	Windows	Linux
Dell Repository Manager	Yes	Yes
Dell Update Packages	Yes	Yes
Dell Server Update Utility	Yes	Yes
Dell System Update	Yes	Yes
Dell Update Manager Plugin (OpenManage Enterprise)	N/A	N/A

Dell Update Packages

Dell Update Packages (DUP) is a self-contained executable that is supported by Microsoft Windows or Linux that updates a component on a server.

DUPs can be ran in UI or in CLI mode.

For more information, see the [Dell Update Packages](#) page.

Dell Server Update Utility

Dell Server Update Utility (SUU) is an application that contains a collection of updates, inventory collector, and update applicator. When you run SUU on a target system, it determines which updates are appropriate and applies the ones that are applicable.

SUU can be downloaded from a supported platform Drivers and Download page on the [Dell Support](#) site or a custom SUU can be created using Dell Repository Manager (DRM).

For more information, see Dell Server Update Utility User's Guide available on the [Dell Server Update Utility](#) page.

Dell Update Manager Plugin

Dell Update Manager Plugin (UMP) brings Dell Repository Manager functionality to OpenManage Enterprise v3.5 and above. UMP streamlines the custom repository creation, baseline creation, catalog creation, and downloads of update packages to a single easy workflow. UMP allows for easy management of the repository, including; delete, import, and schedule refreshes. With UMP, you get an overview screen that shows key information, including Repository Name, Catalog used for creation, version, and color-coded criticality. UMP does not require a license to use.

Legacy — Dell Hardware Management Tools

Topics:

- [OpenManage Server Administrator](#)
- [Baseboard Management Controller Management Utilities](#)
- [Dell Remote Access Configuration Tool](#)
- [Dell IPMI Tool](#)

OpenManage Server Administrator

 **NOTE:** This product is going to End of Life in 2024.

The 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). It can communicate using following interfaces - UI, WMI, SNMP and CLIView system configuration, health, and performance. Use Server Administrator to:

- View system configuration, health, inventory, and Asset information of the system and provide functions to shut down the server remotely from the OMSA UI console.
- Perform monitoring and configuration functions for all the supported RAID and non-RAID controllers and enclosures without using the Option ROM utilities.

For more information, see the OpenManage Server Administrator Storage Management User's Guide available at [ESM Manuals](#).

Baseboard Management Controller Management Utilities

The Baseboard 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 Baseboard Management Controller Management Utilities User's Guide available at [ESM Manuals](#).

Dell Remote Access Configuration Tool

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

- Discover or import the iDRAC IP addresses on the network.
- Update the firmware for the selected iDRAC.
- Configure standard or extended schema-based Active Directory settings for selected iDRAC.
- Create the 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 [ESM Manuals](#).

Dell IPMI Tool

The Dell IPMI Tool is scriptable-console-application programs that are used to control and manage remote systems using the IPMI version 2.0 protocol.

For complete information, see the Dell Baseboard Management Controller Management Utilities User's Guide available at [ESM Manuals](#).

Legacy — Dell Systems Management Tools

Topics:

- [Chassis Management Controller](#)
- [Dell Server Deployment Pack for Microsoft Endpoint Configuration Manager formerly Microsoft System Center Configuration Manager](#)
- [Dell Server PRO System Center Management Pack for Microsoft System Center Virtual Machine Manager](#)
- [Dell OpenManage Integration for Microsoft System Center \(OMIMSSC\) for System Center Operations Manager \(SCOM\)](#)
- [Dell OpenManage Integration for Microsoft Endpoint Configuration Manager \(MECM\) formerly System Center Configuration Manager](#)
- [Dell OpenManage Integration for Microsoft System Center for System Center Virtual Machine Manager](#)

Chassis Management Controller

The Chassis Management Controller is an embedded systems management hardware and software solution for managing multiple servers, I/O modules, and shared power or cooling using either a web interface or a command-line interface.

The CMC uses the iDRAC technology to update BIOS or component firmware and configure BIOS settings in a one-to-many operation.

CMC is available for the following chassis:

- **PowerEdge M1000e**—It provides the infrastructure for companies who choose to deploy blade-based server solutions. A single Chassis Management Controller interface with multichassis 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.
- **PowerEdge VRTX**—The chassis is a revolutionary, easy-to-manage, remote, and office-optimized platform that converges 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 onboard RAID controller. It can hold up to four server nodes, up to 48 TB of integrated, shared storage, and network switching. The PowerEdge VRTX offers the ability to use the 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.
- **PowerEdge FX2/FX2s**—The FX2 enclosure enables servers and storage to share power, cooling, management, and networking. It includes redundant Power Supply Units (1100 W, 1600 W, 2000 W, and 2400 W) and eight cooling fans. With a compact highly flexible design, the FX2 chassis lets you efficiently add resources to your infrastructure when and where you need them, so you can let demand and budget determine your level of investment. The FX2 enclosure also offers I/O modules to several I/O aggregators that can simplify cabling, improve East/West traffic within the server, and enable LAN/ SAN convergence—reducing cost and complexity.

For more information about CMC, see the [PowerEdge M1000E](#) documents.

Dell Server Deployment Pack for Microsoft Endpoint Configuration Manager formerly Microsoft System Center Configuration Manager

 **NOTE:** This integration is deprecated and End of Life from Dell.

Dell server Deployment Pack uses OpenManage Deployment Toolkit (DTK) and PxE-based OS deployment to automate bare-metal configuration and deployment of various Microsoft operating systems on PowerEdge servers across your network.

 **NOTE:** DTK is End of Life from Dell.

 **NOTE:** Dell Server Deployment Pack is end of life, v4.1A02 is the last release of the product as the dependent DTK is end of life. The recommended product is Dell OpenManage Integration for Microsoft System Center (OMIMSSC) for Microsoft Endpoint Configuration Manager (MECM) formerly System Center Configuration Manager (SCCM) and System Center Virtual Machine Manager (SCVMM).

For more information, see the latest documentation of the Dell Server Deployment Pack User's Guide available at [Enterprise Systems Management Manuals](#).

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

Dell server PRO Management Pack integrates PowerEdge server knowledge on temperature, memory, and power supplies with Microsoft System Center Virtual Machine Manager (SCVMM) and Operations Manager (SCOM) to efficiently manage servers that host virtual workloads running on Microsoft Hyper-V. Remedial actions can be quickly implemented when a system is compromised.

For more information, see Dell server PRO Management Pack for Microsoft System Center Virtual Machine Manager User's Guide available at [ESM Manuals](#).

Dell OpenManage Integration for Microsoft System Center (OMIMSSC) for System Center Operations Manager (SCOM)

Dell OpenManage Integration for Microsoft System (OMIMSSC) for System Center Operations Manager(SCOM) appliance, the Dell Windows Server Agent-based and iDRAC7, iDRAC8 SNMP Management Packs for SCOM helps you to discover, monitor, and accurately depict the status on a defined network segment in agent-free and agent-based, SNMP Management Pack approach.

- Dell PowerEdge Servers, Integrated Dell Remote Access Controllers (iDRAC)
- OpenManage Enterprise - Modular Edition (OME-Modular)
- Dell PowerVault NX NAS Storage Array
- Dell Network Switches

The OMIMSSC appliance and management packs provide Dell-specific views that you can use to observe and analyze the system status in a defined network environment. Synchronization of all supported Dell devices that are discovered within the enrolled Operations Manager console. For the detailed list of monitoring features applicable with the agent-free and agent-based solutions see the product documentation.

For more information, see Microsoft System Center Operations Manager Server Management Pack User's Guide available at the [ESM Manuals](#) page, and for the KB article, see the [Support for Dell EMC OpenManage Integration for Microsoft System Center Operations Manager](#) page.

Dell OpenManage Integration for Microsoft Endpoint Configuration Manager (MECM) formerly System Center Configuration Manager

Dell OpenManage Integration for Microsoft System Center (OMIMSSC) for Microsoft Endpoint Configuration Manager (MECM) formerly System Center Configuration Manager provides agent-free, operating system and hypervisor agnostic configuration, operating system deployment, and firmware updates for PowerEdge servers. Automated processes reduce the steps, time, and cost in configuring servers from a bare-metal state and also in preparing remote one to many operating system deployments within multivendor operating system and hypervisor environments.

For more information, see Dell OpenManage Integration for Microsoft System Center (OMIMSSC) for Microsoft Endpoint Configuration Manager (MECM) formerly System Center Configuration Manager User's Guide available on the [ESM Manuals](#) page and for KB articles, see [Support for Dell EMC OpenManage Integration for Microsoft System Center for Microsoft Endpoint Configuration Manager](#) and for [System Center Virtual Machine Manager](#).

Dell OpenManage Integration for Microsoft System Center for System Center Virtual Machine Manager

Dell OpenManage Integration for Microsoft System Center (OMIMSSC) for System Center Virtual Machine Manager helps to automate and simplify hardware configuration and operating system deployment.

It helps in:

- Hardware configuration
- Operating system deployment
- Hypervisor deployments
- Cluster deployments
- Repurposing of supported Dell PowerEdge servers
- Automated Cluster Deployment of Dell Microsoft Storage Spaces Direct Ready Nodes [S2D Ready Nodes]
- Simplified Lifecycle Management that includes the Cluster Aware Firmware Update capabilities.

By using OpenManage Integration for Microsoft System Center (OMIMSSC), you can do the following:

- Using Update Center for a simplified and enhanced experience to achieve a multistep workflow in a single window.
- Automatically group rack and modular servers into virtual groups that are based on cluster, chassis, hosts, and unassigned server groups at the discovery phase.
- Managing hosts by synchronizing SCVMM hosts with OpenManage Integration for Microsoft System Center (OMIMSSC) appliance.
- Installing as a Virtual Appliance (software model) for a simplified implementation and initial configuration with SCVMM.
- Checking the PowerEdge server compliance to ensure that the required firmware revision is installed.
- Performing autodiscovery and handshake to enable iDRAC with LC on bare-metal servers. It helps to locate the SCVMM console through the OpenManage Integration for Microsoft System Center (OMIMSSC) appliance.
- Discovering unassigned PowerEdge servers manually while using static IP for the iDRAC with LC network.
- Viewing key inventory details of discovered servers, which help IT Administrators to select appropriate servers to deploy in the data center.
- Preparing an ideal server configuration, also known as a Golden Configuration, based on the IT Administrator defined standards to enable rapid and consistent replication of the same configuration on servers that are targeted for deployment into the virtual environment.
- Enabling IT Administrators in developing and maintaining policy and profile-based configuration templates to reduce repetitive management tasks and time consumption.
- Deploying the operating system and hypervisor by using the following options:
 - iDRAC with LC, which contains driver packs for all supported operating systems for operating system deployments.
 - Prepare customized Microsoft Windows Preinstallation Environment (WinPE) images with operating system drivers optionally available from Dell OpenManage Server driver pack.

 **NOTE:** DTK is an End of Life, use OpenManage server driver pack for bare metal deployments.

- Replicate hypervisor deployments with or without using the LC driver packs based on the selected Golden Configuration and also replicate BIOS, RAID, and Boot Order settings.
- Installing server operating systems remotely.
- Viewing data logs of jobs and tasks that are performed within the DLCI appliance.
- Using Active Directory credentials for authentication and access to iDRAC/LC.
- Automating the S2D cluster deployment on bare-metal Dell Ready Nodes Servers in an SCVMM environment.
- Performing Cluster Aware Firmware Update from prevalidated solution catalog
- Using precanned operational templates for S2D ready nodes
- Automating Logical Switch and Logical Network
- Performing compliance check for servers with operational template before deployment.
- Simplifying End to End deployment with a three-step process—Discovery, Logical Switch, and Deploying Cluster.

For more information, see Dell OpenManage Integration for Microsoft System Center (OMIMSSC) for System Center Virtual Machine Manager User's Guide available on the [ESM Manuals](#) page, and for KB articles, see [Support for Dell EMC OpenManage Integration for Microsoft System Center for Microsoft Endpoint Configuration Manager](#) and for [System Center Virtual Machine Manager](#) .

Accessing support content from the Dell support site

Access supporting content related to an array of systems management tools using direct links, going to the Dell support site, or using a search engine.

- Direct links:
 - [OpenManage Integration for VMware vCenter](#)
 - [Dell OpenManage Enterprise](#)
 - [iDRAC](#)
 - [Dell Serviceability tools](#)
- Dell support site:
 1. Go to [Dell Support](#) site.
 2. Click **Browse all products**.
 3. From the **All products** page, click **Software**, and then click the required link.
 4. Click the required product and then click the required version.

Type the name and version of the document in the Search box.

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, see [Contact Dell](#).