

Dell Lifecycle Controller Integration Version 1.3 for Microsoft System Center Virtual Machine Manager

User's Guide

1

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.

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About Dell Lifecycle Controller Integration for Microsoft System Center Virtual Machine Manager

Dell Lifecycle Controller Integration (DLCI) for Microsoft System Center Virtual Machine Manager (SCVMM) enables hardware configuration, provides a solution to simplify and improve the process of firmware updates, and hypervisor deployment on Dell servers. This plug-in uses the remote deployment feature of the Integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller (LC), providing a seamless user experience. You can leverage Dell's value additions through Microsoft System Center Consoles to manage virtualized environments.

For information about Microsoft System Center Virtual Machine Manager, see Microsoft documentation.

Topics:

- [What's new in this release](#)
- [Existing features](#)

What's new in this release

The features for this release are as follows:

- Export inventory in CSV format — after comparing the servers inventories against the update source you can export the comparison report to CSV file.
- Part replacement — restore the firmware version, or configuration, or both on the new server component.
- Collect and View LC log messages— export, view, download to CSV, and search the LC log messages.
- Jobs and activity logs — improved presentation of jobs and activity logs for better user experience.
- Deploy Windows Server 2016 —support for deploying Windows Server 2016.
- 64-bit Dell Update Packages (DUPs) — support for firmware version update using 64-bit DUPs.
- Support for System Center 2016 Virtual Machine Manager(SC2016 VMM) — you can install DLCI for SCVMM on SC2016 VMM.


Existing features

With DLCI for SCVMM, you can continue to do the following:

- Update sources — create a repository by using DRM, or by connecting to an FTP site.
 - Integration with DRM — export the system inventory information from DLCI for SCVMM into DRM and use DRM to prepare a repository.
 - FTP — connect to Dell FTP (local or online), and get the latest Dell Online catalogs.
 - HTTP — support for Hypertext Transfer Protocol (HTTP) type of update source.
- Test connection — validating the location of update source and the credentials before creating the update source.
- Update groups — group the servers for creating, managing, and performing firmware updates on predefined and custom update groups.
- Polling and notifications — configure notifications to receive alerts when new catalogs are available in update source.
- Protection vaults — location to save system configuration profiles.
- Export server profiles — including firmware images on components such as Basic Input Output System (BIOS), Redundant Array of Independent Disks (RAID), Network Interface Controller (NIC), integrated Dell Remote Access Controller (iDRAC), LC, and so on, to an internal or external location.
- Import server profiles — either retaining or excluding the current RAID settings for the same server or server groups when the existing server profile is corrupt.
- Filters — are used to display information based on the criteria selected in the **Maintenance Center**.

- Allow Downgrade — if enabled, allows you to downgrade the firmware version to an earlier version.
- Cluster-Aware Updating (CAU) — automates the software updating process by using the features of Microsoft on cluster update groups while maintaining the server's availability.
- Integration with Dell Repository Manager (DRM) — providing the server inventory information of the existing servers from the appliance to DRM.
- Auto discover unassigned Dell servers — connect the factory delivered Dell servers to the network, power on the servers, and enter the provisioning server details of the DLCI appliance to automatically discover the servers.
Servers discovered by the appliance are known as unassigned servers, and these servers are available for hypervisor deployment.
- Manually discover unassigned Dell servers — discover the 11th, 12th, and 13th generation of PowerEdge servers and deploy the servers in a virtual environment.
- View inventory of discovered servers — key inventory details about the Dell servers are provided.
- Check for server compliance — for using the features available in the appliance, Dell servers must have the required firmware versions of iDRAC, LC, and Basic Input Output System (BIOS). For information about version numbers, see *DLCI for SCVMM Release Notes*.
- Prepare an ideal server configuration, also known as golden configuration — replicate this configuration on the servers that are deployed into the virtual environment. Also you can:
 - Edit and modify the golden configuration for boot order and BIOS.
 - Customize Dedicated Hot Spare (DHS) strategy for RAID.
- Create and maintain profiles and templates.
- Customize Microsoft Windows Preinstallation Environment (WinPE) — prepare customized WinPE images with the latest Dell OpenManage Deployment Toolkit (DTK) drivers.
- Use LC Driver Injection feature on the latest factory delivered servers that are shipped with the latest driver packs.
Deploy hypervisors with or without LC Driver injection — from the appliance, perform hypervisor deployment based on the golden configuration.
- Launch iDRAC Console from the DLCI Console to view inventory information and do troubleshooting.
- Simplified licensing — you do not require Dell Connections License Manager (DCLM) to manage your licenses any more. More information on licensing is available under **License Center** in Admin portal.
- New credential profile types:
 - Device credential profile — use to login to iDRAC or Chassis Management Controller (CMC).
 - Windows credential profile — use to access Windows Shares.
 - FTP credential profile — use to access FTP site.
 - Proxy server credentials — use to provide proxy credentials.
- Discovery — discover servers with cluster details if the host is a part of a cluster, and chassis details if it is a modular server.
- Synchronize with SCVMM — synchronize all Dell host systems listed in the SCVMM environment with DLCI for SCVMM, where hosts are Hyper-V hosts managed by SCVMM.
 - Resolve Sync Errors — resynchronize the host servers that were not synchronized during an earlier attempt.
- Server management — manage Dell servers in SCVMM environment and keep the servers up-to-date as per Dell recommendations based on latest firmware and other updates. Server management of 11th generation to 13th generation of Dell PowerEdge servers is supported.
 - Key features in server management are as follows:
 - Viewing comparison report — view comparison reports with criticality from an update source, and then create a baseline version. Criticality is how important the update is.
 - Refreshing and exporting firmware inventory — refresh firmware inventory and export the inventory details in `xml` format.
 - Applying updates — apply firmware updates or schedule updates.
 - Applying specific updates — apply only specific component updates, or apply the latest update available on Dell FTP.
 - Applying updates before operating system deployment — before an operating system deployment, apply firmware updates using an appropriate update source.
 - Remotely update servers (one-to-one or one-to-many) for the latest firmware versions for the following:
 - BIOS
 - NIC or LAN on Motherboard (LOM)
 - Power Supply Units (PSUs) from 12th generation of PowerEdge servers onwards

- PowerEdge RAID Controller (PERC) or Serial Attached SCSI (SAS)
- Backplane
- iDRAC (modular and monolithic) with LC

 **NOTE:** Available components are listed under Dell servers.

Installing and setting up DLCI Console Add-in

Installing and setting up DLCI Console Add-in for SCVMM includes the following:

- Review and complete system requirements and then install **DLCI Console Add-in for SCVMM**. For more information, see [Installing DLCI Console Add-in](#).
- Import DLCI Console into the VMM Console. For more information, see [Importing DLCI Console into VMM Console](#).
- View DLCI Console in the VMM Console. For more information, see [Viewing DLCI Console](#).

Topics:

- [Installing DLCI Console Add-in](#)
- [Removing or repairing DLCI Console add-in](#)
- [Importing DLCI Console Add-in into VMM](#)
- [Viewing DLCI Console Add-in](#)

Installing DLCI Console Add-in

Before you begin working with the appliance, install the DLCI Console in the system where the SCVMM Console is installed. Once you install the DLCI Console, you can import the DLCI Console into the SCVMM Console.

Prerequisites: SC2012 VMM R2, SC2012 VMM SP1, or SC2016 VMM console is installed.

If you are installing the DLCI Console for the first time from **Setup and Configuration**, then start from step 3, else start from step 1.

To install the DLCI console add-in, perform the following steps:

1. In the **DLCI Admin Portal — SCVMM**, click **Downloads**.
2. From **DLCI Console Add-in for SCVMM Installer**, click **Download Installer** and save the file to a location.
3. Run the installer file.
4. On the **DLCI Console Add-in for SCVMM** Welcome page, click **Next**.
5. On the **License Agreement** page, select **I accept the terms in the license agreement**, and then click **Next**.
6. In the **Destination Folder** window, by default an installation folder is selected. To change the location, click **Change**, complete the changes, and then click **Next**.
7. On the **Ready to Install the Program** page, click **Install**.
8. On the **InstallShield Wizard Completed** page, click **Finish**.

Removing or repairing DLCI Console add-in

To remove or repair the DLCI Console add-in, perform the following steps:

1. Run the **DLCI Console Add-in for SCVMM** installer.
2. In **Program Maintenance**, select **Remove** or **Repair** and then click **Next**.
3. In **Ready to Repair or Remove the program**, click **Install**.
4. When the remove or repair task is complete, click **Finish**.

Importing DLCI Console Add-in into VMM

To work with the DLCI appliance, import DLCI Console into the VMM Console.

Prerequisites: For the connection with the appliance to work, in the web browser, clear the proxy setting; however, if the web browser's proxy settings are configured, then in the proxy exception list, include the fully qualified domain name (FQDN) of the appliance.


To import the DLCI Console into the VMM Console:

1. From SCVMM, click **Settings**.
2. In the **Home** ribbon, click **Import Console Add-in**.
3. Click **Import Console Add-in Wizard** > **Select an add-in to import**, browse to select the DLCI Console Add-in for SCVMM (**DLCI_VMM_Console_Addin.zip**), and then click **Next**.
4. In **Confirm the settings**, confirm that the settings are as required and then click **Finish**.
The DLCI Console is imported into the VMM Console and is available under **VMs and Services** > **All Hosts**.

Viewing DLCI Console Add-in

To view the DLCI console add-in in SCVMM:

1. In SCVMM Console, select **Fabric**, and then select **All Hosts Group**.

 **NOTE:** To launch DLCI Console, you can select any host group you have access to.

2. In the **Home** ribbon, select **DLCI Console**.

Getting Started

Management systems are the systems on which DLCI for SCVMM, also known as the appliance and its components, are installed. The components of appliance are:

- Dell Lifecycle Controller Integration (DLCI) Integration Gateway for Microsoft System Center Virtual Machine Manager (SCVMM), also known as DLCI Integration Gateway for SCVMM.
- Dell Lifecycle Controller Integration (DLCI) Console Add-in for Microsoft System Center Virtual Machine Manager (SCVMM), also known as DLCI Console Add-in for SCVMM.

Topics:

- [Logging in to the DLCI Admin Portal — SCVMM](#)
- [DLCI for SCVMM admin portal](#)
- [Logging in to DLCI Console Add-in for SCVMM](#)
- [DLCI Console add-in for SCVMM](#)

Logging in to the DLCI Admin Portal — SCVMM

To log in to DLCI Admin Portal — SCVMM, perform the following steps:

1. From the appliance, note the DLCI Admin Portal — SCVMM URL.
2. In a web browser, go to URL: `https://<IP Address>` or `<FQDN>`.
For example: `192.168.20.30` or `DLCIforSCVMM.myorgdomain.com`.
3. Log in to DLCI Admin Portal — SCVMM by using the user credentials provided while configuring the appliance.

DLCI for SCVMM admin portal

The DLCI Admin Portal — SCVMM user interface contains the following options:

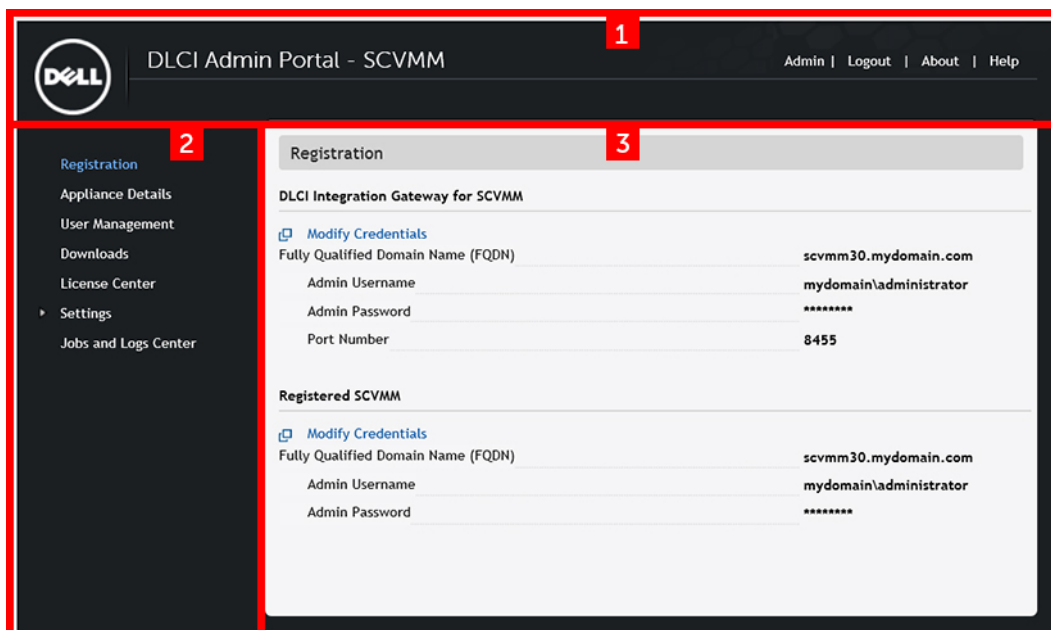


Figure 1. DLCI admin portal — SCVMM

- The heading banner includes the product name and the following options:
 - **Admin** — displays information about the user who has logged in to DLCI for SCVMM — Admin Portal.
 - **Logout** — enables you to log out of the DLCI for SCVMM Admin Portal.
 - **About** — provides information about the DLCI for SCVMM version.
 - **Help** — launches the context sensitive online help.
- The navigation pane contains the following options. For more information about each option see the Online help:
 - **Registration**
 - **Appliance Details**
 - **User Management**
 - **Downloads**
 - **License Center**
 - **Settings**
 - **Service Pack Updates**
 - **Logs**
 - **Jobs and Logs Center**
- The console area displays information about the option selected by you in the navigation pane.

Logging in to DLCI Console Add-in for SCVMM

To log in to DLCI Console Add-in for SCVMM:

- In SCVMM, select **Fabric**, and then select **All Hosts**.
- In the **Home** ribbon, select **DLCI Console**.

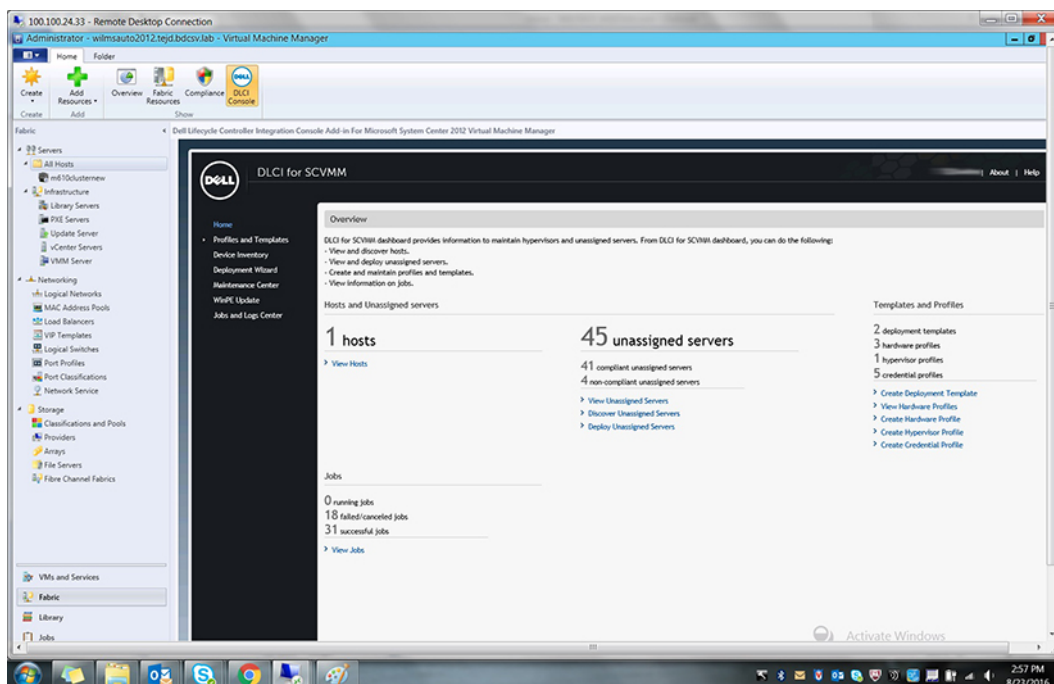


Figure 2. —DLCI Console add-in for SCVMM

DLCI Console add-in for SCVMM

The DLCI Console Add-in user interface contains the following options:

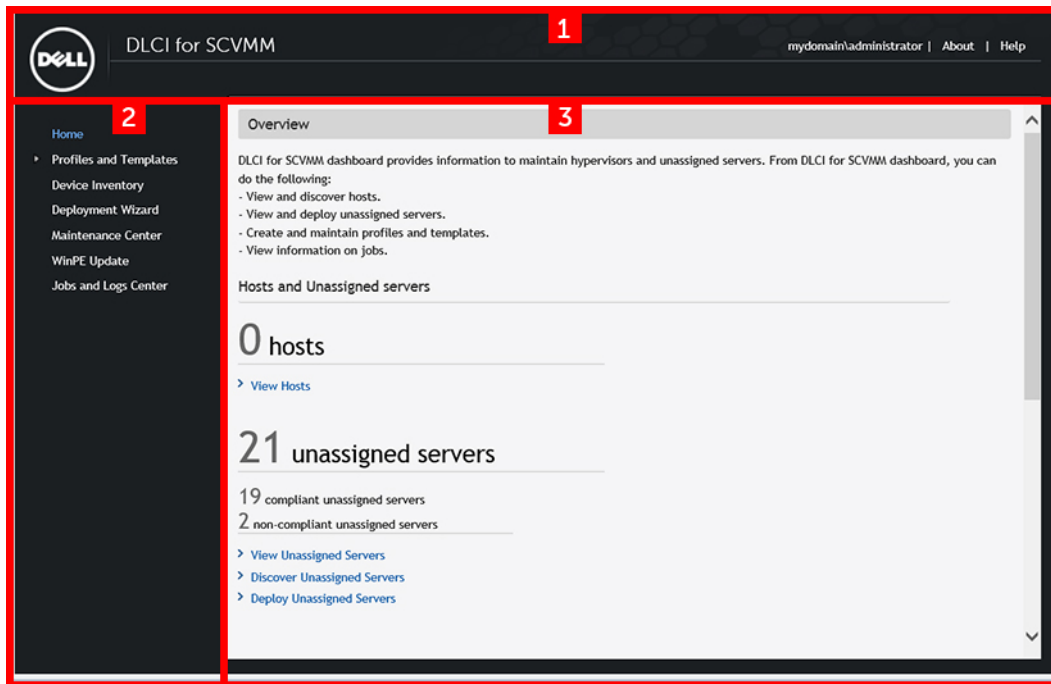


Figure 3. DLCI Console add-in for SCVMM

1. The heading banner contains the product name and the following options:
 - **<Domain>\administrator** — displays information about the user who is logged in to DLCI for SCVMM.
 - **About** — provides information about the DLCI for SCVMM version.
 - **Help** — launches the context-sensitive online help.
2. The navigation pane contains the following options:
 - **Home** — displays the DLCI for SCVMM dashboard.
 - **Profiles and Templates**
 - **Deployment Template**
 - **Hardware Profile**
 - **Hypervisor Profile**
 - **Credential Profile**
 - **Device Inventory**
 - **Deployment Wizard**
 - **Maintenance Center**
 - **WinPE Update**
 - **Jobs and Logs Center**
3. The console area displays information about the option selected by you in the navigation pane.

NOTE: In DLCI Console for SCVMM, if you are working in a wizard, for example a Hardware Profile wizard, and you navigate to any other tab or link in SCVMM Console and then view the DLCI Console Add-in for SCVMM again, the information you had provided is not saved and the DLCI Console displays the **Home** page.

Workflows

This section contains the following workflows:

- [Creating golden configurations](#)
- [Creating and managing credential profiles](#)
- [Creating and managing update sources](#)
- [Creating and managing custom update groups](#)
- [Applying updates on servers](#)
- [Deploying hypervisors](#)
- [Creating, managing and deleting protection vaults](#)
- [Exporting server profiles](#)
- [Importing server profiles](#)
- [Deleting servers](#)
- [Configuring replaced components](#)
- [Collecting and viewing LC logs](#)

Topics:

- [About golden configurations](#)
- [Creating golden configurations](#)
- [Creating, managing, and deleting credential profiles](#)
- [Creating, managing, and deleting update sources](#)
- [Creating, managing, and deleting custom update groups](#)
- [Applying updates on servers](#)
- [Creating, managing, and deleting protection vaults](#)
- [Exporting server profile](#)
- [Importing server profile](#)
- [Hypervisor deployment](#)
- [Deleting servers](#)
- [Configuring replaced components](#)
- [Collecting and viewing LC logs](#)

About golden configurations

A server configuration with the preferred Boot sequence, BIOS, and RAID settings ideally suited for the organization is referred to as golden configuration. These settings are gathered in a hardware profile and deployed on identical servers during hypervisor deployments.

Creating golden configurations

To prepare and use a golden configuration:

1. Ensure that the server with the ideal configuration is discovered and available. For more information on server discovery, depending on the requirement, see [Discovering servers using auto discovery](#) or [Discovering servers using manual discovery](#).
2. Ensure that the server's inventory is up-to-date. For more information, see [Viewing and refreshing firmware inventory](#).

3. To record the ideal configuration, create a hardware profile. To create a hardware profile, see [Creating hardware profile](#).
4. If you want to modify configurations, see [Modifying hardware configuration profile](#).

Creating, managing, and deleting credential profiles

To create a credential profile, see [Creating a credential profile](#).

To manage a credential profile, see [Modifying a credential profile](#).

To delete a credential profile, see [Deleting a credential profile](#).

Creating, managing, and deleting update sources

To create an update source, see [Creating an update source](#).

To manage an update source, see [Modifying an update source](#).

To delete an update source, see [Deleting an update source](#).

Creating, managing, and deleting custom update groups

To create a custom update group, see [Creating a custom update group](#).

To manage a custom update group, see [Modifying a custom update group](#).

To delete a custom update group, see [Deleting a custom update group](#).


Applying updates on servers

You can update the selected servers or server groups using the following sources:

- Online FTP and local FTP source
- Online HTTP and local HTTP
- Local DRM repository

To apply updates on selected servers or server groups:

1. Before you begin updates, view information on update sources and update groups. For more information, see [Server management](#).
2. Discover servers. For more information, see [Discovering servers using auto discovery](#), or [Discovering servers using manual discovery](#).
3. Synchronize servers present in SCVMM environment with DLCI for SCVMM. For more information on synchronization, see [Synchronization with SCVMM](#).
4. Ensure that the servers inventory is up-to-date. For more information, see [Viewing device inventory](#).
5. Ensure that there is an update source created. For more information, see [Creating an update source](#).
6. Ensure that the update source is regularly updated with the latest catalog using polling and notification. For more information, see [Polling and notification](#).
7. Ensure that the required server groups are selected to apply the updates. For more information, see [Applying updates on servers](#).

 **NOTE:** Select **Allow Downgrade** to downgrade the firmware version of the components.

Creating, managing, and deleting protection vaults

1. To create a protection vault, see [Creation of protection vault](#).

2. To manage a protection vault, see [Modifying protection vault](#).
3. To delete a protection vault, see [Deleting protection vault](#).

Exporting server profile

To export server configuration:

1. Create a protection vault. For more information, see [Creating protection vault](#).
2. Export server profile immediately, or schedule it for a later date. For more information, see [Creating export jobs](#).

Importing server profile

To import a server profile:

1. Create a protection vault. For more information, see [Creating protection vault](#).
2. Export a server profile. For more information, see [Creating export jobs](#).
3. Import an exported server profile including, or excluding the RAID configuration. For more information, see [Importing server profile](#).

Hypervisor deployment

Using the appliance, you can perform firmware update and hypervisor deployment based on the golden configuration. You can use the LC Driver Injection feature for the factory delivered servers that ship with the latest driver packs. Also, you can update the driver packs, and get the same benefits of installing latest drivers during hypervisor deployments and firmware updates.

Table 1. Different scenarios for hypervisor deployment

If you require the latest factory drivers and out-of-band drivers	While creating a hypervisor profile, enable LC (Lifecycle Controller) driver injection.
If you want to retain the existing hardware configuration	While creating a deployment template, select only the hypervisor profile.

To work with hypervisor deployment, see the following:

1. [About deployment](#)
2. [Creating credential profiles](#)
3. [Creating update sources](#)
4. [Creating hardware profiles](#)
5. [Creating hypervisor profiles](#)
6. [Creating deployment templates](#)
7. (Optional) [Creating custom update groups](#)
8. (Optional) [Applying updates on servers](#)
9. [Deploying hypervisors](#)

Deleting servers

For information on deleting servers in the appliance, see [Deleting servers from DLCI Console](#).

Configuring replaced components

For updating a replaced server component to the required firmware version or the configuration of the old component, or both, see [Part replacement](#).

Collecting and viewing LC logs

To export and view the LC log files, see [LC logs collection](#).

Setting up the environment for deploying hypervisors

To set up an environment for hypervisor deployment:

1. Prepare [Golden configurations](#).
2. Create a physical computer profile in SCVMM. For more information, see SCVMM documentation.
3. Create a target host group in SCVMM. For more information, see SCVMM documentation.
4. Download the latest Dell Deployment ToolKit (DTK) and create a Windows Preinstallation Environment (WinPE) boot ISO image. For more information, see [WinPE update](#).
5. Set up the systems for auto discovery. For more information, see [Discovering servers using auto discovery](#).
6. (Optional) create an update source. For more information, see [Creating an update source](#).
7. (Optional) create a custom update group. For more information, see [Creating custom update group](#).
8. (Optional) create a hardware profile. For more information, see [Creating a hardware profile](#).
9. Create a hypervisor profile. For more information, see [Creating a hypervisor profile](#).
10. Create a deployment template. For more information, see [Creating a deployment template](#).
11. After the systems are discovered and available in the appliance, do firmware update (optional), and then do the hypervisor deployment. For more information on applying updates, see [Applying updates on servers](#). For more information on deploying hypervisor, see [Deploying hypervisors](#).
12. View job status on firmware update and deployment. For more information, see [Jobs and logs center](#).

Server discovery

You can do out-of-band discovery of unassigned Dell servers and import information about Dell servers into the appliance.

You can discover Hyper-V hosts and modular Hyper-V hosts along with unassigned servers. After discovery, the servers are added to respective predefined update groups. For more information on classification of server groups, see [Server management](#).

Server discovery notes:

- When you discover a Dell PowerEdge server with an operating system and already present in SCCM or SCVMM, then the server is listed as a host server and marked as compliant or non-compliant.
 - A host server is compliant when it contains minimum versions of LC firmware, iDRAC, and BIOS that are required to work with the appliance.
 - If the host is a modular server, then the service tag of the chassis containing the server is also displayed.
 - If the host is part of a cluster, then the Fully Qualified Domain Name (FQDN) of the cluster is displayed.
- When you discover a Dell PowerEdge server that is not listed in SCCM or SCVMM, then the server is listed as an unassigned server and marked as compliant or noncompliant based on their versions of LC firmware, iDRAC, and BIOS.
- If you provide incorrect credential details, then based on the iDRAC version, the following resolutions are available:
 - While discovering a 12th generation Dell PowerEdge server with iDRAC version 2.10.10.10 and later, if incorrect details are provided in the credential profile, the server discovery fails, with the following behavior:
 - For first attempt, server IP address is not blocked.
 - For second attempt, server IP address is blocked for 30 seconds.
 - For third and subsequent attempts, server IP address is blocked for 60 seconds.
 You can reattempt server discovery with correct credential profile details once the IP address is unblocked.
 - While discovering an 11th or 12th generation PowerEdge server with iDRAC versions prior to 2.10.10.10, if server discovery attempts fail due to incorrect credential profile details, then rediscover the server with the correct credential profile details.
 - For iDRAC versions prior to 2.10.10.10, blocking of IP addresses is configurable. For more information, see iDRAC documentation at [Dell.com/idracmanuals](https://www.dell.com/support/manuals). Based on your requirement, you can also disable blocking of IP addresses. And you can also check if the `iDRAC.IPBlocking.BlockEnable` feature is enabled in iDRAC.
 - If the default iDRAC credential profile is changed after a server is discovered and added in the appliance, then no activity can be performed on the server. To work with the server, rediscover the server with the new credential profile.

You can also discover Dell servers using the following options:

- [Auto discovery](#) of servers.
- [Manual discovery](#) based on IP addresses.

Topics:

- [System requirements for managed systems](#)
- [Enabling CSIOR in managed systems](#)
- [Discovering servers using auto discovery](#)
- [Discovering servers using manual discovery](#)
- [Deleting servers from DLCI Console](#)
- [Viewing device inventory](#)
- [Synchronization with SCVMM](#)
- [Synchronizing appliance with SCVMM](#)
- [Resolving synchronization errors](#)
- [Launching iDRAC Console](#)

System requirements for managed systems

Managed systems are the systems that are managed using the appliance. For appliance to discover managed systems, following are the system requirements:

- For the 11th, 12th, and 13th generation of Dell PowerEdge servers, the appliance supports modular and monolithic server models.
- For source configuration and destination configuration, use same type of disks — only Solid-state Drive (SSD), SAS or only Serial ATA (SATA) drives.
- For successful hardware profile RAID cloning, for destination system disks, use same or greater size and number of disks as present in the source.
- RAID sliced virtual disks are not supported.
- iDRAC with shared LOM is not supported.
- Unified Extensible Firmware Interface (UEFI) boot mode is not supported.
- RAID configured on external controller is not supported.
- Enable Collect System Inventory on Restart (CSIOR) in managed systems. For more information, see [Enabling CSIOR in managed systems](#).

Enabling CSIOR in managed systems

To enable CSIOR for 12th and 13th generation of Dell PowerEdge servers:

1. Select **F2** during the post to enter **System Setup**.
2. Select **iDRAC Settings** and click **Lifecycle Controller**.
3. For **Collect system inventory on Restart (CISOR)**, set the option to **Enabled**.

To enable CSIOR for 11th generation PowerEdge servers:

1. Restart the system.
2. During Power-on Self Test (POST), when the system prompts you to enter the iDRAC Utility, press **CTRL + E**.
3. From the available options, select **System Services** and press **Enter**.
4. Select **Collect System Inventory on Restart** and press the right or down keys and set it to **Enabled**.

Discovering servers using auto discovery

Connect the Dell servers to the network and power on the servers for DLCI appliance to automatically discover the servers. The appliance auto discovers unassigned Dell servers by using the remote enablement feature of iDRAC. The appliance works as the provisioning server and uses the iDRAC reference to auto discover Dell servers.

To perform auto discovery on Dell servers:

1. In the appliance, create a device type credential profile (by specifying the iDRAC credentials and marking it as default) for Dell servers. For more information, see [Creating a credential profile](#).
2. In Dell servers that you want to auto discover, do the following:
 - a. Disable the existing Admin accounts in iDRAC.
 - b. In the iDRAC settings, in remote enablement, enable Auto-Discovery.
 - c. After enabling auto discovery, provide the provisioning server (that is DLCI Appliance) IP address and restart the server.

Discovering servers using manual discovery

You can manually discover servers using an IP address or an IP range. To discover servers, provide the servers' iDRAC IP and the servers' device type credentials. When you are discovering servers using an IP range, specify an IP (IPv4) range (within a subnet).

To manually discover Dell servers:

1. In DLCI Console Add-in for SCVMM, do any of the following:
 - In the dashboard, click **Discover Unassigned Servers**.
 - In the navigation pane, click **Device Inventory** and in **Inventory** click **Discover**.

2. In **Discover**, select the required option:
 - **Discover Using an IP Address**
 - **Discover Using an IP Range**
3. Select the required device type credential profile, or click **Create New** to create a credential profile.
4. In **Discover Using an IP Address or IP Address Range**, do any of the following:
 - If you selected **Discover Using an IP Address**, then provide the IP address of the server you want to discover.
 - If you selected **Discover Using an IP Range**, then provide the IP address range you want to include and if you must exclude an IP address range, select **Enable Exclude Range** and provide the range that you want to exclude.
5. Provide an unique job name, and click **Finish**.
6. (Optional) Select **Go to the Job List** option, to track this job.

The **Jobs and Logs Center** page is displayed. In **Running** tab expand the discovery job to view the progress of this job.

Deleting servers from DLCI Console

You can delete the unassigned servers and host servers based on the following criteria:

- You can delete an unassigned server that is listed in the appliance.
- If a host server is provisioned in SCVMM and present in the appliance, first delete the server in SCVMM and then delete the server from the appliance.

In DLCI Console:

- To delete unassigned servers — in **Unassigned Servers**, select the server and click **Delete** and in the confirmation message click **Yes**.
- To delete host servers — in **Host Servers**, select the server and click **Delete** and in the confirmation message, click **Yes**.

Viewing device inventory

The **Device Inventory** page lists unassigned servers and host servers. Using the host name or IP address of the server, you can view the server details such as compliance status, firmware versions and so on.

From the device inventory page, you can do the following:

- [Discovering servers](#)
- Refresh server information
- [Deleting servers from DLCI Console](#)
- [Synchronizing with SCVMM](#)
- [Resolving synchronization errors](#)
- Correlate host servers to cluster group and the chassis to which the server belongs to
- [Launching iDRAC Console](#)

If the unassigned server is a modular server, then the chassis service tag is added in the inventory details for the chassis containing the modular server.

If the host server is a part of a cluster, to correlate a server to its cluster group and to know the chassis information, see cluster FQDN and chassis service tag.

To work with the servers discovered in the prior versions of the appliance, rediscover the servers.

To view servers:

In DLCI Console, click **Device Inventory**.

Synchronization with SCVMM

You can synchronize all Dell Hyper-V hosts, Hyper-V host clusters, and modular Hyper-V hosts in the SCVMM environment with the appliance. You can also get the latest firmware inventory of the servers after synchronization.

Synchronization notes:

- Synchronization uses the servers' default iDRAC credential profile details.
- If the host server's Baseboard Management Controller (BMC) is not configured in SCVMM with the iDRAC IP address, then you cannot synchronize the host server with the appliance. Hence, configure BMC in SCVMM (for more information, see MSDN article at technet.microsoft.com), and then synchronize the appliance with SCVMM.
- SCVMM R2 supports numerous hosts in the environment, due to which synchronization is a long running task. Synchronization occurs as follows:
 1. Hosts listed in SCVMM environment are added to the **Hosts** tab in appliance.
 2. During resynchronization, host servers deleted from the SCVMM environment are moved to the **Unassigned** tab in the appliance. If a server is decommissioned, then remove that server from the list of unassigned servers.
 3. If a server is listed as an unassigned server and manually added to SCVMM, then after synchronization the server is added in to the **hosts** tab in the appliance.
 4. If a host server belongs to a Hyper-V cluster, then the cluster details are available in the device inventory. The host server is added or moved to the cluster update group.
 5. If a host is a modular server, then the service tag of the chassis containing the modular server is added to the device inventory page. If the modular server does not belong to a Hyper-V cluster, the host server is added or moved into the chassis update group.
 6. Any changes to the host inventory details such as hostname, iDRAC IP address, memory, cluster membership and so on are updated in device inventory.
 7. DLCI for SCVMM can provide the latest firmware inventory information. If a default update source is provided, then the firmware inventory is compared against the update source and the latest information is added to the update group.

Synchronizing appliance with SCVMM

To perform synchronization:

In **DLCI for SCVMM**, click **Device Inventory**, and then click **Synchronize with SCVMM**.

Resolving synchronization errors

The servers that are not synchronized with appliance are listed with their iDRAC IP address and host name.

Consider the following when you are resolving synchronization errors:

- For servers that are not synchronized due to credentials, iDRAC, connectivity, or other issues; Resolve the issues first, and then resynchronize.


To resynchronize the servers:

1. In DLCI Console Add-in for SCVMM, click **Device Inventory** and then click **Resolve Sync Errors**.
2. Select the servers you want to synchronize and select the credential profile or create new credential profile.
3. Provide a job name and then click **Finish**.
4. (Optional) select **Go to the Job List** option to view the job status automatically once the job is submitted.

Launching iDRAC Console

To launch iDRAC Console:

In **Device Inventory**, under **Unassigned Servers** or **Hosts**, click the **iDRAC IP**.

 **NOTE:** If you use Windows 2012 OS and iDRAC 2.40.40.40 or later firmware version, enable support for TLS 1.1 and later based on the web browser to launch the iDRAC console.

License for the appliance

Agent-free configuration, operating system deployment, firmware update, part replacement, export and import server profile features in DLCI for SCVMM are licensed. Five licenses are available for evaluation purposes at no additional charge. To download the five licenses, see marketing.dell.com/software-download-DLCISCVMM. For more information on licensing, go to Dell TechCenter website and then OpenManage Integration Suite for Microsoft System Center wiki page.

To view license details, from **DLCI Admin Portal — SCVMM** launch the **License Center**.

Server management

Using **Maintenance Center**, you can perform all the tasks related to managing Dell updates in the SCVMM environment. You can maintain up-to-date firmware versions of Dell server components as per Dell recommendations.

You can view, create, and maintain protection vaults, update sources, custom groups, and view the predefined update groups. You can create, and schedule jobs for firmware updates, and schedule notifications to receive alerts when new catalogs are available at update source. A comparison report for the existing firmware version and the baseline version is provided, based on this information, you can create an inventory file, import and export server profiles. Also you can filter the information on the type of updates, server components, and server models.

You can perform updates only on compliant servers because iDRAC updates are available only for minimum compliant version and later.

NOTE: After upgrading to the latest version of DLCI for SCVMM version, if the connection to `ftp.dell.com` or `downloads.dell.com` fails, the default Dell online FTP, or Dell HTTP update source cannot download the catalog file, and hence the comparison report is not available. To view a comparison report, edit the default Dell online FTP, or Dell HTTP update source, create proxy credentials, and then select the same from the **Select Update Source** drop-down menu. For more information on editing an update source, see [Modifying update source](#).

DLCI for SCVMM provides the following update actions:

- Downgrade — there is an earlier version available at update source and you can downgrade the firmware to this version.
- No Action Required — the firmware version is at the same level as the one in the repository.
- No Update Available — no firmware updates are available for the component.
- Upgrade - Optional — updates consist of new features or any specific configuration upgrades that are optional.
- Upgrade - Urgent — critical updates used for resolving security, performance, or break-fix situations in components such as BIOS, and so on are available.
- Upgrade - Recommended — updates carry bug fixes or any feature enhancements in the product. Also, compatibility fixes with other firmware updates are included.

DLCI for SCVMM provides the following methods to perform firmware updates:

- **Update using DRM repository** — export the inventory information of the discovered servers from appliance to prepare a repository in DRM. For information on exporting the inventory information, see [Exporting inventory](#).
 - After creating the repository in DRM, select the relevant servers and initiate an update on the servers. Consider other factors such as testing on test environment, security updates, application recommendations, Dell advisories, and so on, to prepare the required updates. For more information on creating a repository, see *Dell Repository Manager* documents available at dell.com/support/home.
- **Update using FTP or HTTP** — update any specific component to the latest update provided on the FTP or HTTP site. Dell IT prepares a repository at quarterly cadence.
 - Integration with Dell Online Catalog — connect to Dell FTP and download the catalog file in the cache directory in case of FTP update source, or connect to `downloads.dell.com` in case of HTTP update source, and then make it as a reference inventory.
 - View the comparison report against the update source, select the relevant servers or server components, and then initiate an update on the servers.
- **Referencing firmware inventory and comparison** — create a reference inventory file that contains the firmware inventory of the selected servers or groups of servers. Later, you can compare the inventory information of servers present in the appliance against the saved reference inventory file. Note that the reference server inventory file can contain inventory information from a single server of same type or model, or can have multiple servers of different types or models.


Topics:

- [Integration with DRM](#)
- [Filters](#)
- [Update source overview](#)
- [Update groups](#)
- [Applying updates on servers](#)
- [Polling and notification](#)

- [Protection vault](#)
- [Part replacement](#)
- [Lifecycle Controller Logs collection](#)
- [Exporting inventory](#)
- [Exporting server profiles](#)
- [Importing server profile](#)
- [Manage jobs](#)

Integration with DRM

DLCI for SCVMM is integrated with DRM version 2.2 onwards providing the server inventory information of the existing servers from the appliance to DRM. Using the inventory information you can create a custom repository in DRM and set it as an update source in the appliance for performing firmware update jobs on the servers, or group of servers. For more information on creating a repository in DRM, see *Dell Repository Manager* documents.

 **NOTE:** After upgrading to DLCI for SCVMM version 1.2, perform a rediscovery of the servers to update the inventory information that is consumed by DRM.

To create a repository for the appliance using DRM:

1. Open the **Dell Repository Manager Data Center** version.
2. Click **My Repositories**, click **New** and then click **Dell Console Integration**.
3. Enter the **URL (Rest API)** in the following format: `https:// IP address of appliance/genericconsolerepository/` and then click **Next**.
4. Provide the **UserName** and **Password** that was used in the appliance, click **Ok**, and then click **Ok**

Filters

Apply filters to view selected information in the comparison report.

The appliance supports three categories of filters:

- **Nature Of Update** — select to filter and view only the selected type of updates on servers.
- **Component Type** — select to filter and view only the selected components on servers.
- **Server Model** — select to filter and view only the selected server models.

 **NOTE:** You cannot export and import server profiles if the filters are applied.

To apply filters:

In DLCI Console Add-in, click **Maintenance Center**, click the filters drop-down menu, and then select the filters.

To remove filters:

In DLCI Console Add-in, click **Maintenance Center**, then click **Clear Filters** or clear the selected check boxes.

Update source overview

Update source enables you to select and apply updates from Dell's update sources. You can create, view, and manage the update sources. The types of update sources supported are DRM repository, FTP, and HTTP. You can create a DRM, HTTP, or FTP update source and set it as a default update source.

Update sources have the catalog files that contain Dell updates (BIOS, firmware, application, drivers, and driver packs) and carry the self-contained executable file called Dell Update Packages (DUPs). A local copy of the catalog file is cached in the appliance at the time of creation. When a catalog file is updated in the update source, the locally cached catalog file is not automatically updated. To update the catalog file saved in cache, edit the update source or delete and recreate the update source.

You can compare the inventory information available at the update source against the inventory information of a selected server or group of servers inventory information and create a baseline version. You can also change the update source and compare the inventory information of the servers or group of servers against the version information available from the selected update source.

Dell recommends that you upgrade to the latest firmware to use security, bug fixes, and new feature requests. Dell publishes the following updates through PDK catalogs posted on Dell FTP at quarterly cadence:

- Server BIOS and firmware
- Dell certified operating system driver packs (for operating system deployment)

Predefined and default update source

DELL ONLINE CATALOG is a predefined update source of type FTP available in the appliance after a fresh installation or upgrade. You cannot delete, or change the name of a predefined update source.

DELL ONLINE HTTP CATALOG is a default update source available in the appliance after a fresh installation or upgrade. You cannot delete or change the name of this default update source. However, you can create another update source and mark it as a default update source.

NOTE:

- After installing DLCI for SCVMM, add the proxy details for **DELL ONLINE CATALOG** and, **DELL ONLINE HTTP CATALOG** update source and save it.
- After upgrading to DLCI for SCVMM version 1.2, set **DELL ONLINE HTTP CATALOG** as default update source.

Test connection

Use **Test Connection** to verify if the location of the update source is reachable by using the credentials mentioned while creating the update source.

You can create an update source, only after confirming that the catalog location is accessible through the provided credentials.

Setting up local FTP

To set up your local FTP:

1. Create a folder structure in your local FTP that is an exact replica of the online FTP, `ftp.dell.com`.
2. Download the `catalog.xml.gz` file from online FTP and extract the files.
3. Open the `catalog.xml` file and change the **baseLocation** to your local FTP URL, and compress the file with `.gz` extension.
For example, change the **baseLocation** from `ftp.dell.com` to `ftp.yourdomain.com`.
4. Place the catalog file and the DUP files in your local FTP folder replicating the same structure as in `ftp.dell.com`.

Setting up local HTTP

To set up HTTP server on a local system, perform the following:

1. Create a folder structure in your local HTTP that is an exact replica of `downloads.dell.com`.
2. Download the `catalog.xml.gz` file from the online HTTP from the following location: `http://downloads.dell.com/catalog/catalog.xml.gz` and extract the files.
3. Extract the `catalog.xml` file, and change the **baseLocation** to your local HTTP URL, and compress the file with `.gz` extension.
For example, change the **baseLocation** from `downloads.dell.com` to `hostname.com`.
4. Place the catalog file with the modified catalog file, and the DUP files in your local HTTP folder replicating the same structure in `downloads.dell.com`.

Viewing update source

To view update source:



1. In **DLCI for SCVMM**, click **Maintenance Center**.
2. In **Maintenance Center**, click **Maintenance Settings**, and then click **Update Source**.

Creating update source

Prerequisites:

- Based on the update source type, a Windows or an FTP credential profile is required.
- If you are creating a DRM update source, then ensure that DRM is installed and the Administrator roles are configured.

To create an update source:

1. In **DLCI Console Add-in for SCVMM**, click **Maintenance Center** and then click **Maintenance Settings**.
2. In **Update Source** click **Create New** and provide the required information.
 - If you are creating an FTP source, provide your FTP credentials along with proxy credentials if the FTP site is reachable by using proxy credentials.
 - If you are creating a DRM source, provide your Windows credentials and ensure that the Windows shared location is accessible. In the location field provide the complete path of the catalog file with the file name.
 **NOTE:** Use only 32-bit DUPs to create the update source in DRM.
 - If you are creating an update source of type HTTP, provide the complete path of catalog with the catalog name and your proxy credentials to access the update source.
3. (Optional) To make it as a default update source select **Make this as default source**.
4. Click **Test Connection** to verify the location of the update source, and then click **Save**.
 **NOTE:** Once the location is verified, you can create the update source.

Modifying update source

Consider the following when you are modifying an update source:

- You cannot change the type of an update source and the location after the update source is created.
- You can modify an update source even if the update source is in use by an in-progress or a scheduled job, or if it is used in a deployment template. A warning message is displayed while modifying the in-use update source. Click **Confirm** to continue with the changes.

To modify an update source:

Select the update source you want to modify, click **Edit** and update the source as required.

Deleting update source

You cannot delete an update source in the following circumstances:


- The update source is a predefined update source — **Dell Online Catalog** and **DELL ONLINE HTTP CATALOG**.
- The update source is used in a deployment template.
- The update source is being used by an in-progress, or a scheduled job.
- The update source is a default update source.

To delete an update source:

Select the update source you want to delete and click **Delete**.

Update groups

Update groups are a group of servers that require similar update management. There are two types of update groups available, predefined and custom update groups. You can view the predefined groups. However, you can create, and maintain the custom update groups.

-  **NOTE:** After upgrading from DLCI for SCVMM version 1.1 to version 1.2, all the servers discovered earlier are added to **Generic update groups** or **Host update groups**. To add the servers into the respective predefined update groups, rediscover the servers.

Predefined update groups

The description and behavior of the predefined update groups are as follows:

- **Generic update groups**
 - **All update groups**
 - **Default unassigned server update groups**
- **Cluster update groups**
- **Host update groups**
 - **Default host update groups**
- **Chassis update groups**

Generic update groups — this group consists of hosts and unassigned servers that are updated in a single session.

All update groups — this group consists of all the server groups. Any group present in the appliance is a member of the all update groups. This group is of the type generic update group.

Default unassigned server update group — this group consists of all the unassigned servers that are not part of any other group. This group is of the type generic update group. The servers are added to the default unassigned server update group after:

- A fresh discovery or rediscovery of bare metal servers.
- A synchronization or resynchronization, after it is deleted from SCVMM but present in the appliance.

Cluster update group — this group consists of Windows Server Failover clusters. If a modular server belongs to a cluster, then it is added to the cluster update group. If a 12th generation or 13th generation of Dell PowerEdge modular server is part of cluster, then the CMC information is also added in the inventory in the **Maintenance Center** page.

To know the cluster update group to which a server belongs to, see the device inventory page where the host name and cluster FQDN is displayed for all the servers listed in the appliance.

Host update group — this group consists of host servers, and updates are applied in a single session, wherein, the single session is updating all servers within the group at once.

Default host update group — this group consists of all the discovered hosts that are not part of any other update group. This group is of the type host update group.

Chassis update group — modular servers belonging to a chassis and not part of any cluster group are classified as chassis update group. 12th generation or 13th generation of Dell PowerEdge servers are discovered along with their CMC information. By default, a group is created with the naming format — `Chassis-Service-tag-of-Chassis-Group` for example, `Chassis-GJDC4BS-Group`. If a modular server is deleted from a cluster update group, then the server is added to the chassis update group along with its CMC information. Even if there are no modular servers in the corresponding chassis update group, since all modular servers in the chassis are in a cluster update group, the chassis update group continues to exist, but displays only the CMC information.

Custom update groups

You can create, modify and delete the custom update groups. However, you can add a server into a custom update group only from **Default unassigned update groups** and **Default host update groups**. After you add a server into a custom update group, the server is removed from the predefined update group and this server is available only in the custom update group. To add the servers in custom update group, search for the servers using their service tag.

Updating methods

You can apply selected updates to selected server groups that are compliant.

- You can perform the following updates on server groups:
 - **Agent-free staged updates** — is staging of firmware updates. The firmware updates that are immediately applicable and that do not require a restart are applied immediately. The remaining updates that require a system restart are applied at the time of restarting the server. Updates are performed in batches at the scheduled time by using iDRAC. The batch size is determined when the update is happening. Refresh the inventory to check if all the updates are applied. The entire update job fails if the operation fails on even one server.
 - **Agent-free updates** — is out of band update with immediate server restart.
 - **Cluster-Aware Updating (CAU)** — automates the update process by leveraging Windows CAU feature on cluster update groups to maintain server's availability. Updates on servers happen through cluster update coordinator which is present on the same system where Integration Gateway (IG) is installed and not through iDRAC. The updates are not

staged and are applied immediately. Using CAU you can minimize any disruption or server downtime allowing continuous availability of the workload. Hence, there is no impact to the service provided by the cluster group. For more information on CAU, see Cluster-Aware Updating Overview section at technet.microsoft.com.

Update group notes

- You cannot create, modify or delete the predefined update groups manually.
- You cannot update the CMC firmware directly from the appliance; however, you can update the firmware of the modular server present in CMC. For updating CMC firmware, see — Updating CMC firmware in *Dell PowerEdge M1000e Chassis Management Controller Firmware User's Guide*. For updating CMC firmware in VRTX, see — Updating firmware in *Dell Chassis Management Controller for Dell PowerEdge VRTX User's Guide*, and for updating CMC firmware in FX2, see — Updating firmware in *Dell Chassis Management Controller for Dell PowerEdge FX2 User's Guide*.

Viewing update groups

To view update groups:

1. In **DLCI for SCVMM**, click **Maintenance Center** and then click **Maintenance Settings**.
2. In **Maintenance Settings**, click **Update Groups**.

Creating custom update groups

To create custom update groups:

1. In **DLCI for SCVMM**, click **Maintenance Center**, and then click **Maintenance Settings**.
2. In **Maintenance Settings**, click **Update Groups**, and then click **Create**.
The **Firmware Update Group** page is displayed.
3. Provide the details, and select the type of update group that you want to create.

Custom update groups can have servers only from the following update group types:

- Generic host update group — consists servers from default unassigned update groups and host update groups.
 - Host update group — consists servers from default host update groups.
4. To add servers in the update group, search for the servers using their service tag, and click **Save**.

Modifying custom update groups

Consider the following when you are modifying a custom update group:

- You cannot change the type of an update group after it is created.
- To move servers from one custom update group to another custom update group:
 - Remove the server from the existing custom update group. It is then automatically added into the predefined update group.
 - Now edit the custom group to add the server into, and then search for the server using the service tag.

To modify a custom update group:

1. In **DLCI for SCVMM**, click **Maintenance Center**, and then click **Maintenance Settings**.
2. In **Maintenance Settings**, click **Update Groups**, select the update group, and then click **Edit** to modify the update group.

Deleting custom update groups

Consider the following when you are deleting a custom update group in the following circumstances:

- You cannot delete an update group if it has a job scheduled, in-progress, or waiting.
- You can delete an update group even if servers are present in that update group. However, after deleting such an update group, the servers are moved to their respective predefined update groups.

To delete a custom update group:

1. In **DLCI for SCVMM**, click **Maintenance Center**, and then click **Maintenance Settings**.

- In **Maintenance Settings**, click **Update Groups**, select the update group, and then click **Delete** to delete the update group.

Applying updates on servers


You can apply immediate updates or schedule the updates on servers or on a group of servers by creating firmware update jobs. The jobs created for updates are listed under **Jobs and Logs Center** page. Also, you can downgrade the firmware version to the suggested version by selecting **Allow Downgrade**. If this option is not selected, then there is no action on the component that requires a firmware downgrade.

NOTE:

- You can apply firmware updates on a single component of a server, or to the entire environment.
- If there are no applicable upgrades or downgrades for a server or a group of servers, performing a firmware update on that server or a group of servers cause no action on the server or group of servers.
- When you are updating component level information, if the existing firmware version is same as the firmware version at the update source, then there is no action on that component.

Prerequisites:

- To perform updates on servers, you require an update source available on a Dell online FTP or HTTP site, local FTP or HTTP site, or Dell Repository Manager (DRM).
- Before applying the updates, clear the iDRAC job queue on the servers where the updates are applied.
- Make sure that the IG user has local administrator privileges on all the cluster nodes.
- Before applying the updates on cluster update groups, check the Cluster Readiness report for the following:
 - Connectivity to update source.
 - Availability of failover clusters.
 - Ensure that Windows Server 2012 or Windows Server 2012 R2 or Windows 2016 OS is installed on all failover cluster nodes to support the CAU feature.
 - Configuration of automatic updates is not enabled to automatically install updates on any failover cluster node.
 - Enablement of a firewall rule that allows remote shutdown on each node in the failover cluster.
 - Validate the configured Updating Run options. For more information, see Requirements and Best Practices for Cluster — Aware Updating section at technet.microsoft.com.
 - Cluster group should have minimum of two nodes.
 - Check for cluster update readiness. For more information on CAU, see Requirements and Best Practices for Cluster — Aware Updating section at technet.microsoft.com.

 NOTE: Make sure there are no major errors and warnings in the report for applying the CAU method.


To apply updates on servers:

- In DLCI Console Add-in for SCVMM, click **Maintenance Center**, select the server or server group and an update source, and then click **Run Update**.

NOTE:

- For a component level update, expand the server groups to its component level, and click **Run Update**.
- When performing a firmware update for 11th generation of Dell PowerEdge servers, you cannot upgrade the Power Supply Unit (PSU) firmware versions.

- In **Update Details**, provide the firmware update job name and description.
- In **Schedule Update**, select one of the following:
 - Run Now** — to apply the updates now.
 - Select the date and time to schedule a firmware update in future.
- Select the method for updating by using **Agent-free Update**, or **Agent-free Staged Update**, and then click **Finish**.

 NOTE: After submitting a firmware update job to iDRAC, the appliance interacts with iDRAC for status of the job and provides status updates in **Jobs and Logs** page in the Admin Console. Sometimes iDRAC does not provide any status updates on the jobs tracked by the appliance. Appliance waits for maximum 6 hours, and if there is no response from iDRAC then the firmware update job status is considered as failed.

Polling and notification

You can receive notifications when new catalogs are available during system generation and default update sources.

The color of the notification bell is changed to orange color when there is a new catalog file available at the update source. Click the bell icon to replace the locally cached catalog available at the update source. After the old catalogs are replaced by the latest catalogs, the bell color changes to green.

Setting notifications

To set the polling frequency:

1. In **DLCI for SCVMM**, click **Maintenance Center**, click **Maintenance Settings** and then click **Polling and Notification**.
2. Select how frequently the polling has to happen:
 - **Never** — by default this option is selected. Select to receive updates about new catalogs available at update source only once for the scheduled time.
 - **Once a week** — select to receive updates about new catalogs available at update source on a weekly basis.
 - **Once every 2 weeks** — select to receive updates about new catalogs available at update source once every two weeks.
 - **Once a month** — select to receive updates about new catalogs available at update source on a monthly basis.

Protection vault

Protection vault is a secure location where you can export and import server profiles for a server or a group of servers. You can save this server profile on a shared location in the network by creating an external vault or on a vFlash SD card by creating an internal vault. You can associate a server or a group of servers with only one protection vault. However, you can associate one protection vault with many servers or group of servers.

Creating protection vault

Prerequisite: Ensure that the vault location is accessible.

To create a protection vault:

1. In **DLCI for SCVMM**, click **Maintenance Center**, and then click **Maintenance Settings**.
2. In **Maintenance Center**, click **Protection Vault**, and then click **Create**.
3. Select the type of protection vault you want to use and provide the required details.
 - If you are creating a protection vault of type **Network Share**, provide the location to save the profiles, credentials to access this location and a passphrase to secure the profile. And this type of protection vault provides support file sharing of type Common Internet File System (CIFS).
 - If you are creating a protection vault of type **vFlash**, provide the passphrase to secure the profile.

Modifying protection vault

Consider the following when you are modifying a protection vault:

- You cannot modify the name, description, type of protection vault, and passphrase.

To modify a protection vault:

1. In **DLCI for SCVMM**, click **Maintenance Center**, and then click **Maintenance Settings**.
2. In **Maintenance Center**, click **Protection Vault**, and then click **Edit** to modify the vault.

Deleting protection vault

You cannot delete a protection vault in the following circumstances:

- The protection vault is associated with a server or a group of servers.

- There is a scheduled job associated with the protection vault. However to delete such a protection vault, delete the scheduled job, and then delete the protection vault.
1. In **DLCI for SCVMM**, click **Maintenance Center**, and then click **Maintenance Settings**.
 2. In **Maintenance Center**, click **Protection Vault**, and then click **Delete** to delete the vault.

Part replacement

Part replacement feature automatically updates a replaced server component to the required firmware version or the configuration of the old component, or both. The update occurs automatically when you reboot your system after replacing the component.

The following options are supported:

- Collect System Inventory On Restart (CSIOR)—collects all the component information on every system restart.
 - **Enabled**—the software and hardware inventory information of the server components are automatically updated during every system restart.
 - **Disabled**—the software and hardware inventory information of the server components are not updated.
 - **Do not change the value on the server**—the existing server configuration is retained.
- Part firmware update—restores or upgrades or downgrades the component firmware version based on the selection made.
 - **Disabled**—the feature is disabled and the same is applied on the replaced component.
 - **Allow version upgrade only**—upgraded firmware versions are applied on the replaced component, if the firmware version of the new component is earlier than the existing version.
 - **Match firmware of replaced part**—firmware version on the new component is matched to the firmware version of the original component.
 - **Do not change the value on the server**—the existing configuration of the component is retained.
- Part configuration update—Restores or upgrades the component configuration based on the selection made.
 - Disabled—the feature is disabled and the saved configuration of the old component is not applied on the replaced component.
 - **Apply always**—the feature is enabled and the saved configuration of the old component is applied on the replaced component.
 - **Apply only if firmware matches**—the saved configuration of the old component is applied on the replaced component only if their firmware versions match.
 - **Do not change the value on the server**—the existing configuration is retained.

Applying firmware and configuration settings

To set the parameters for part replacement:

1. In **DLCI Console Add-in for SCVMM**, under **Maintenance Center** select the servers or group of servers, and then click **Configure Part Replacement**.
The **Configure Part Replacement** window is displayed.
2. Set the values for **CSIOR**, **Part Firmware Update**, and **Part Configuration Update** , and then click **Finish**.

Lifecycle Controller Logs collection

LC logs provide records of past activities on a managed system. These log files are useful for the server administrators since they provide detailed information about recommended actions and some other technical information that is useful for troubleshooting purposes.

The various types of information available in LC logs are alerts related, configuration changes on the system hardware components, firmware changes due to an upgrade or downgrade, replaced parts, temperature warnings, detailed timestamps of when the activity has started, severity of the activity, and son on.

There are two options to collect LC logs:

- Active LC logs — these are the recent LC log files. You can view, search, and export these log files to the appliance. You can schedule a job to collect the LC logs to the appliance or a network share. Also, you can save a backup of the log file in the network share.
- Complete LC logs — these logs contain active and archived LC log files. They are large and hence compressed to .gz format and exported to the specified location on CIFS network share.

Collecting LC logs

1. In **DLCI Console Add-in for SCVMM**, under **Maintenance Center**, select a server or a group of servers, and then click **Collect LC Logs**.
2. In **LC Log Collection** select one of the following and click **Finish**.

- **Export Complete LC Logs (.gz)** — exports the active and archived LC logs to a CIFS network share by providing the Windows credentials.

NOTE:

- Make sure the shared folder has enough space to save the complete LC logs since these are large files.
- Exporting complete LC logs is not supported for 11th generation of Dell PowerEdge servers.
- LC logs are saved in the following format: <YYYYMMDDHHMMSSSS>.<file format>.

For example, 201607201030010597.xml.gz is the LC file name, which includes the date and time of the file when it was created.

- **Export Active Logs (Run now)** — select to export the active logs immediately to the appliance.
 - (Optional) Enable the **Back up LC logs on the network share** option to save a back up of the LC logs on CIFS network share by providing the Windows credentials.

NOTE: Ensure to update to the latest versions of iDRAC and LC before exporting active LC logs for 11th generation of Dell PowerEdge servers.

- **Schedule LC Log Collection** — select a date, time and frequency to export the active LC logs.
 - (Optional) Enable the **Back up LC logs on the network share** option to save a back up of the LC logs on CIFS network share by providing the Windows credentials.

The available options for scheduling frequency to determine how often you want to collect the LC logs are:

- **Never** — select to export the LC logs only once at the scheduled time.
- **Daily** — select to export the LC logs daily at the scheduled time.
- **Once a week** — select to export the LC logs once a week at the scheduled time.
- **Once every 4 weeks** — select to export the LC logs after every four weeks at the scheduled time.

NOTE: The exported LC log file is saved within a folder name of that particular server's service tag.

Viewing LC logs

You can view all the active LC logs, search for detailed description, and download the logs in CSV format using View LC logs feature.

1. In **DLCI Console Add-in for SCVMM**, under **Maintenance Center** select a server or a group of servers, and then click **View LC Logs**.

All the servers in the selected group and the servers for which LC logs are collected are listed with their LC log files.

2. Click on the file name to view all the log entries in the LC log file specific to that server.
3. (Optional) Use the search box to search description in all the log files, and export the file in CSV format.

There are two ways to search message description in LC file:

- Click on the file name to open the LC log file and search for a description in the search box.
- Provide a description in the search box, and then view all the LC files with the instances of the following description.

NOTE:

- If the LC log message description is long, the message is truncated to 80 characters.
- The time displayed against the LC log messages follow iDRAC time zone.
- Before downloading the LC logs, add the appliance in Local intranet site.

To add the appliance in **Local intranet** site:

- a. Open **Internet Explorer**, click **Tools**, and then click **Internet Options**.
- b. Click **Security**, select **Local intranet**, and then click **Sites**. The **Local intranet** page is displayed.
- c. Click **Advanced**, type the appliance URL, and click **Add**.

Exporting inventory

In DLCI for SCVMM, you can export the inventory of selected servers or a group of server in an XML or CSV format file. You can save this information in a Windows shared directory or on a management system. Also, you can import the XML file into DRM and create a repository based on the inventory file and create a reference configuration.

To export firmware inventory of the servers, or server groups while using Internet Explorer version 10 and later, add the console add-in IP address to **Local Intranet** site. Before exporting the inventory file perform the following steps:

1. Click **IE Settings** and click **Internet Options**.
2. Click **Advanced**, and under **Settings** search for **Security** section.
3. Clear the **Do not save encrypted pages to disk** option and click **OK**.

When you select only the component information of a server and export it, the complete inventory information of the server is exported.

To export the inventory of discovered servers:

1. In **DLCI Console Add-in for SCVMM**, click **Maintenance Center**.
2. Select the servers for which you want to export the inventory, and select the format from **Export Inventory** drop-down menu.

NOTE: After exporting the XML file, to create a repository in DRM, perform the following:

1. Click **My Repositories, New** and then click **Dell Modular Chassis inventory**.
2. Provide a name and description in **Base Repository** section and click **Next**.
3. Click **Browse** to select the inventory file exported from the appliance in **Modular Chassis Inventory** section, and then click **Next**. For more information on creating a repository, see *Dell Repository Manager* documents available at dell.com/support/home.

Viewing and refreshing firmware inventory

You can view and refresh the firmware inventory of Dell-compliant servers after selecting a server or a specific group of servers.

You can view comparison report of server or chassis inventory against a selected update source. You can change the update source, and view the comparison report of inventory information of the selected servers, server groups or chassis against the changed update source.

You can refresh the firmware inventory for a server, a group of servers, or chassis to view the latest information. When you refresh the component information of a server, the complete inventory information of the server is refreshed.

NOTE:

- DLCI for SCVMM version 1.2 is packaged with a catalog that displays an earlier version of the comparison report for the predefined FTP and HTTP update source. Hence, download the latest catalog to display the latest comparison report.
- When you upgrade to this version of DLCI for SCVMM, the latest information is not shown for servers discovered in prior versions. For the latest server information and correct comparison report, rediscover the servers.

To view or refresh firmware inventory for a server or a group of servers:

1. In **DLCI Console Add-in for SCVMM**, under **Maintenance Center** select an update group from **Select Update Group**.
2. (Optional) To change the update source, select an update source from **Select Update Source**.
3. To view firmware information of the current version, baseline version, and update action recommended by appliance, expand the server group from **Device Group/Servers** to the server level, and then to the component level.

NOTE:

When viewing component level information, the NIC-related information for the 11th generation of PowerEdge server is displayed as follows:

- After applying filters based on **Nature of Update** as **Urgent**, a report with the components only with urgent updates are displayed. If this report is exported then components with downgrade action which in turn have critical update is also exported.

- When there are multiple network interfaces available in a single NIC card, there is only one entry for all the interfaces in the **Component Information** list. Once the firmware update is applied, all the NIC cards are upgraded.
- When a NIC card is added along with the existing cards, the newly added NIC card is listed as another instance in the **Component Information** list. Once the firmware update is applied, all the NIC cards are upgraded.

4. Select the server or group of servers that you want to refresh, and then click **Refresh Inventory**.

Exporting server profiles

You can export a server profile, including the installed firmware images on various components such as BIOS, RAID, NIC, iDRAC, Lifecycle Controller and the configuration of those components. The appliance creates a file containing all the configurations, which you can save on a vFlash SD card or network share. Select a protection vault of your choice to save this file. You can export the configuration profiles for a server or a group of servers immediately or schedule it for a later date. Also, you can select the relevant recurrence option as to how frequently the server profiles are exported. At an instance, you can schedule only one export configuration job for a group of servers. You cannot perform any other activity on that server or group of servers whose configuration profiles are being exported.

i NOTE:

- Make sure that the **Automatic Backup** job in iDRAC is not scheduled at the same time.
- You cannot export server profiles after applying the filters. To export server profiles, clear all the applied filters.

Creating export jobs

To export the server configurations:

Prerequisites: Disable the **F1/F2 Prompt on Error** option in **BIOS Settings**.

1. In **DLCI Console Add-in for SCVMM**, click **Maintenance Center**, and then click **Export Server Profile**.
2. In **Export Profile**, provide the job details, and then select a protection vault.

In **Export Server Profile** select:

 - **Run Now** — to export the server configuration immediately of the selected servers, or group of servers.
 - **Schedule** — provide a schedule for exporting the server configuration of the selected group of servers.
 - **Never** — select to export the server profile only once during the scheduled time.
 - **Once a week** — select to export the server profile on a weekly basis.
 - **Once every 2 weeks** — select to export the server profile once every two weeks.
 - **Once every 4 weeks** — select to export the server profile once every four weeks.

Canceling export server configuration jobs

To cancel an export job:

1. In **DLCI Console Add-in for SCVMM**, click **Maintenance Center**, and then click **Manage Jobs**.
2. Select **Export and Import Jobs** from the filter, select the jobs you want to cancel and make sure that the job is in **Scheduled** state.
3. Click **Cancel**, and then click **Yes**.

Importing server profile

You can import a server profile which was previously exported for that same server, or group of servers. Importing server profile is useful in restoring the configuration and firmware of the server to the state stored in the profile. In such cases, you can replace the server profile on that server, or group of servers by importing a previously exported server profile of that server or group of servers.

You can import server profiles in two ways:

- **Quick import server profile** — allows you to automatically import the latest exported server profile for that server. You need not select individual server profiles for each of the servers for this operation.

- Custom import server profile — allows you to import server profiles for each of the individually selected servers. For example, if exporting server profile is scheduled, and the server profile is exported every day, this feature allows you to select a specific server profile that is imported from the list of server profiles available in the protection vault of that server.


Import server profile notes:

- You can import a server profile from the list of exported server profiles for that server only. You cannot import the same server profiles for different servers or server groups. If you try to import server profile of another server or server group, the import server profile job fails.
- If a server profile image is not available for a particular server or group of servers, and an import server profile job is attempted for that particular server or group of servers, the import server profile job fails for those particular servers that do that have server profile and a log message is added in the Activity logs with the details of the failure.
- After exporting a server profile, if any component is removed from the server, and then an import profile job is started, all the components information are restored except the missing component information is skipped. This information is not available in the activity log of DLCI for SCVMM. To know more about the missing components, see iDRAC's **LifeCycle Log**.
- You cannot import a server profile after applying the filters. To import server profiles, clear all the applied filters.

Importing server profile

To import inventory of discovered servers:

1. In **DLCI for SCVMM**, under **Maintenance Center**, select the servers' whose profiles you want to import, and click **Import Server Profile**.
2. Provide the required details, select the **Import Server Profile Type** you want, and then click **Finish**.

 **NOTE:** Clear the **Preserve Data** option if you do not want to preserve the present RAID configurations of the server.

Manage jobs

All the firmware update, export and import server configuration jobs are listed with their status information. Also, you can cancel only the scheduled jobs.

Canceling firmware update jobs

Prerequisites: Make sure that the job is in **Scheduled** state.

To cancel a scheduled firmware update job:

1. In **DLCI for SCVMM**, click **Maintenance Center**, and then click **Manage Jobs**.
2. Select the jobs that you want to cancel, click **Cancel**, and then click **Yes**.

Profiles and templates

Topics:

- [About credential profile](#)
- [Creating hardware profile](#)
- [Modifying hardware configuration profile](#)
- [Deleting hardware profile](#)
- [Creating hypervisor profile](#)
- [Modifying hypervisor profile](#)
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- [WinPE Update](#)
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About credential profile

Credential profiles simplify the use and management of user credentials by authenticating the role-based capabilities of the user. Each credential profile contains a user name and password for a single user account. A credential profile authenticates a user's role-based capabilities. The appliance uses credential profiles to connect to the managed systems' iDRAC.

Also, you can use credential profiles to access the FTP site, resources available in Windows Shares, and when working with different features of iDRAC.

You can create four types of credential profiles:

- Device Credential Profile — this profile is used to log in to iDRAC or Chassis Management Controller (CMC).

NOTE:

- When no default profile is created or selected, the default iDRAC factory setting is used. The default user name as `root` and password as `calvin` is used.
 - The default iDRAC profile is used to access the server when you discover a server or perform synchronization.
 - The default CMC profile has user name as `root` and password as `calvin`, and is used to access the modular server to get information about the chassis.
 - Use the device type credential profile to discover a server, log in to CMC, resolve synchronization issues, and deploy operating system.
- Windows Credential Profile — This profile is used for accessing Windows Shares while creating a DRM update source.
 - FTP Credential Profile — This profile is used for accessing an FTP site.
 - Proxy Server Credentials — This profile is used for providing proxy credentials for accessing any FTP sites for updates.

Predefined credential profiles

SYSTEM DEFAULT FTP account is a predefined credential profile of the type FTP credentials having **Username** and **Password** as **anonymous**. It is not editable. This profile is used to access `ftp.dell.com`.

Creating credential profile

Consider the following when you are creating a credential profile:

- When a device type credential profile is created, an associated **RunAsAccount** is created in **SCVMM** to manage the server and the name of the RunAsAccount is `Dell_CredentialProfileName`.
 - (Recommended) Do not edit or delete the **RunAsAccount**.
- When no credential profiles are created and no default credential profile for iDRAC is available; During auto discovery, the default iDRAC factory setting credential profile is used. The default username as **root** and password as **calvin** is used.

To create a credential profile:

1. In DLCI Console Add-in for SCVMM, do any of the following:
 - In the dashboard, click **Create Credential Profile**.
 - In the navigation pane, click **Profiles and Templates > Credential Profile**, and then click **Create**.
2. In **Credential Profile**, select the credential profile type that you want to use and provide user credential details and then click **Finish**.

NOTE: When creating **Device Credential Profile** select **iDRAC** to make it as default profile for iDRAC, or **CMC** to make it default for Chassis Management Controller (CMC). Select **None** if you chose to not set this profile as a default profile.

Modifying credential profile

Consider the following when you are modifying a credential profile:

- Once created, you cannot modify a credential profile's type. However, you can modify other fields. Refresh screen to view the modifications.
- You cannot modify a device type credential profile that is used for hypervisor deployment.

To modify a credential profile:

Select the credential profile you want to modify, click **Edit** and update the profile as required.

Deleting credential profile

Consider the following when you are deleting a credential profile:

- When a device type credential profile is deleted, the associated **RunAsAccount** from SCVMM is also deleted.
- When the **RunAsAccount** in SCVMM is deleted, the corresponding credential profile is not available in the appliance.
- To delete a credential profile that is used in server discovery, delete the discovered server information and then delete the credential profile.
- To delete a device type credential profile that is used for deployment, first delete the servers deployed in SCVMM environment and then delete the credential profile.
- You cannot delete a credential profile if it is used in an update source.

To delete a credential profile:

Select the profile that you want to delete, and then click **Delete**.

Creating hardware profile

You can create a hardware profile by using a server with golden configuration and then using that profile to apply hardware configurations to managed systems.

Before you apply hardware configurations to managed systems, confirm that the managed systems are identical to the server with the golden configuration on the following parameters:

- Components available
- Server model
- RAID controller
- Disks:
 - Number of disks

- Size of disks
- Type of disks

NOTE: Once you upgrade from DLCI for SCVMM version 1.0.1 to version 1.2, edit and save the hardware profiles created in DLCI for SCVMM version 1.2 before you apply them on servers.

To create a hardware profile:

1. In the DLCI Console Add-in for SCVMM page, do any of the following:
 - In the dashboard, click **Create Hardware Profile**.
 - In the navigation pane, click **Profiles and Templates > Hardware Profile**, and then click **Create**.
2. In the **Hardware Profile** welcome screen, click **Next**.
3. In **Profile**, provide the profile name and description, and the iDRAC IP of the reference server, and then click **Next**.
The the hardware details of the reference server are collected and saved as the required profile. During deployment, this profile is applied to the servers.
4. In **Profile Details**, select the BIOS, boot, and RAID settings, and customize DHS based on the requirement and then click **Next**.

NOTE:

Irrespective of your selection preferences, all information is gathered during hardware profile creation; However, during deployment, only your preferences are applied.

For example, if you have selected a RAID setting, then all the information on BIOS, boot and RAID settings are gathered; However, during deployment only the RAID settings are applied.

The chipset SATA controller configuration listed in **Raid Configuration** is not supported.

5. In **Summary**, click **Finish**.
You can use this hardware profile and apply it to required managed systems.

Modifying hardware configuration profile

Consider the following when you are modifying a hardware configuration profile:

- You can modify the BIOS settings and boot order.
- For 11th and 12th generation of PowerEdge servers, you can modify DHS for RAID as **One** or **None** and for 13th generation of PowerEdge servers you can retain only the existing RAID settings of the server.

To modify a hardware configuration profile:

1. In DLCI Console Add-in for SCVMM, click **Hardware Profile**.
2. Select the profile that you want to modify and click **Edit**.

NOTE: The chipset SATA controller configuration listed in Raid Configuration is not supported.

3. Make the required changes and click **Finish**.

Deleting hardware profile

Consider the following when you are deleting a hardware profile:

- If you delete a hardware profile, the deployment template associated with this hardware profile is updated.

To delete a hardware configuration profile:

1. In DLCI Console Add-in for SCVMM, click **Hardware Profile**.
2. Select the hardware profile that you want to delete and click **Delete**.

Creating hypervisor profile

You can create a hypervisor profile and use the profile to deploy the operating system on the servers. A hypervisor profile contains a customized WinPE ISO (WinPE ISO is used for hypervisor deployment), host group and host profile taken from SCVMM, and LC drivers for injection.

Prerequisites:

- The required WinPE ISO is created and the ISO is available in the share folder of DLCI Integration gateway for SCVMM. To update WinPE image, see [WinPE image update](#).
- In SCVMM, a Host group, a Host profile, or physical computer profile is created.

To create a hypervisor profile:

1. In DLCI Console Add-in for SCVMM, do any of the following:
 - In dashboard, click **Create Hypervisor Profiles**.
 - In the left navigation pane, click **Profiles and Templates**, click **Hypervisor Profiles**, and then click **Create**.
2. In the **Hypervisor Profile Wizard, Welcome** page, click **Next**.
3. In **Hypervisor Profile**, provide a name and description for the profile, and then click **Next**.
4. In **SCVMM** information page, provide the **SCVMM Host Group Destination** and **SCVMM Host Profile/Physical Computer Profile** information.
5. In **WinPE Boot Image Source**, provide the <Network WinPE ISO file name>.iso information, and then click **Next**.
6. (Optional) To enable LC driver injection; if enabled, select the operating system that you want to deploy so that the relevant drivers are picked up. Select **Enable LC Drivers Injection** and in **Hypervisor Version**, select the required hypervisor version.
7. In **Summary**, click **Finish**.

Modifying hypervisor profile

Consider the following when you are modifying a hypervisor profile:

- You can modify host profile, host group, and drivers from Lifecycle Controller.
- You can modify the WinPE ISO name; however, you cannot modify the ISO.

To modify a hypervisor profile:

1. In DLCI Console Add-in for SCVMM, in **Hypervisor Profile**, select the profile that you want to modify and click **Edit**.
2. Provide the details and click **Finish**.

Deleting hypervisor profile

Consider the following when you are deleting a hypervisor profile:

- If a hypervisor profile is deleted, then the deployment template associated with the hypervisor profile is also deleted.

To delete a hypervisor profile:

In DLCI Console Add-in for SCVMM, in **Hypervisor Profile**, select the profile that you want to delete and click **Delete**.


WinPE Update

A PreExecution Environment (PXE) server of SCVMM is required for creating a WinPE image. A WinPE ISO is created from the WinPE image and Dell OpenManage Deployment Toolkit (DTK).

NOTE: While using the latest version of DTK for creating a WinPE ISO image, use the **Dell OpenManage Deployment Toolkit for Windows** file. The **Dell OpenManage Deployment Toolkit for Windows** file contains the necessary firmware versions required for systems on which you are deploying the operating systems. Use the latest version of the file, and do not use the **Dell OpenManage Deployment Toolkit Windows Driver Cabinet** file for WinPE update.

To create a WinPE ISO image:


1. Add the PXE server to the appliance.
2. After adding the PXE server, copy the `boot.wim` file from the PXE server to DLCI Integration Gateway for SCVMM share WIM folder. The `boot.wim` is present in the following path: `C:\RemoteInstall\DCMgr\Boot\Windows\Images`.

 **NOTE:** Do not change the filename of the `boot.wim` file.

DTK is a self-extracting executable file.

To work with DTK:

1. Double click the DTK executable file.
2. Select the folder to extract the DTK drivers, for example `C:\DTK501`.
3. Copy the extracted DTK folder to the Integration Gateway's DTK share folder. For example `\\DLCI IG Share\DTK\DTK501`.

 **NOTE:** If you are upgrading from SCVMM SP1 to SCVMM R2, then upgrade to Windows PowerShell 4.0. and create a WinPE ISO image.

To update a WinPE image:

1. In DLCI Console, select **WinPE Update**, under **Image Source**, for **Custom WinPE Image Path**, provide the WinPE image path.
For example, `\\DLCI IG Share\WIM\boot.wim`.
2. Under **DTK Path**, for **DTK Drivers Path**, provide the location for the Dell Deployment Toolkit drivers.
For example, `\\DLCI IG Share\DTK\DTK501`.
3. Provide ISO name.
4. To view the job list, select **Go to the Job List**.
A unique job name is assigned to each Windows Preinstallation Environment (WinPE) update.
5. Click **Update**.
WinPE ISO with the name provided in the preceding step is created under `\\DLCI IG Share\ISO`.

About hypervisor deployment

Hypervisor deployment is a profile-based workflow. This workflow enables you to specify hardware configurations, hypervisor configurations, SCVMM configurations, and update source for firmware updates. Also, you can continue with hypervisor deployment even if the firmware update fails. However, all the components of the selected servers or groups of servers get updated during hypervisor deployment. This workflow uses logical network and host profile available in SCVMM required at the time of creation of hypervisor profile along with hardware configuration for hypervisor deployment in the appliance. Hypervisor deployment supports one-to-one and one-to-many deployment.

Creating deployment template

You can create deployment templates with the required hardware and hypervisor profile and an update source and apply the deployment template to unassigned servers. It enables you to create the template once and use it multiple times.

To create a deployment template:

1. In the appliance, do any of the following:
 - In the appliance dashboard, click **Create Deployment Template**.
 - In the appliance navigation pane, click **Profiles and Templates**, and then click **Deployment Template**.
2. In **Deployment Template**, enter the template name and template description, and then select a hypervisor profile, hardware profile, and update source.
3. (Optional) Select an update source, a hardware profile, and to continue with deployment even if firmware update fails select **Continue OSD even if firmware update fails**.

 **NOTE:** By default downgrade is not supported.

4. (Optional) If the hardware or hypervisor profile is not created, you can create the profiles by clicking **Create New**.


Modifying deployment template

 **NOTE:** You can modify the name, description, and selection of hypervisor profile, hardware profile, and update source.

To modify a deployment template:

1. In DLCI Console Add-in for SCVMM, click **Deployment Templates**.
2. Select the deployment template that you want to modify and click **Edit**.
3. Make the required changes and click **Finish**.

Deleting deployment template

 **NOTE:** Deleting a deployment template does not impact the associated hardware, hypervisor profiles and update source.

To delete a deployment template:

1. In DLCI Console Add-in for SCVMM, click **Deployment Templates**.
2. Select the deployment template that you want to delete, and click **Delete**.

Deploying hypervisors

Operating systems are deployed only on servers that are compliant.

Before hypervisor deployment, consider the following: upgrade the firmware versions to the latest versions available at ftp.dell.com or downloads.dell.com, and then continue with hypervisor deployment.

To deploy to servers:

1. In the appliance do the following:
 - In the appliance dashboard, click **Deploy Unassigned Servers**.
 - In the appliance navigation pane, click **Deployment Wizard**.
2. In **Welcome**, click **Next**.
3. In **Select Servers**, select the servers to which you want to deploy, and check for available licenses and then click **Next**.
4. In **Select Template and Profile**, select the appropriate deployment template and the associated device type credential profile.

NOTE:

- Ensure to select the hypervisor profile created by you for OSD and firmware update jobs.
- You can assign multiple credential profiles to multiple servers.

You can also create a deployment template and a credential profile.

5. In **Server Identification**, select servers and provide host name, MAC address and network information either static or DHCP that you want to apply to the servers, and then click **Next**.
6. In **Job Details**, provide a job name to track the job and the deployment status and click **Next**.
7. In **Summary**, view the deployment options you have provided and click **Finish**.
8. In the **Confirmation** message, click **Yes**.

NOTE: Download and install appropriate drivers from dell.com/support if a yellow bang appears under **Device Manager** after you deploy Windows 2016 operating system on 12th generation of Dell PowerEdge servers.

Viewing information in appliance

Topics:

- [Jobs and logs center](#)
- [Viewing managed jobs](#)
- [Canceling scheduled jobs](#)

Jobs and logs center

The **Jobs and Logs Center** page has information about all the activities that are initiated in DLCI for SCVMM. You can view a job's progress status and its subtask. Also, you can filter and view jobs for a particular category. You can view the jobs from the DLCI Admin Portal—SCVMM and DLCI Console Add-in for SCVMM. Job names are provided by users or are system generated, and the subtasks are named after the IP address or host name of the managed server. Expand the subtask to view the activity logs for that job. There are four categories of jobs:

- **Running**—displays all the jobs that are currently running, or in-progress state.
- **History**—displays all the jobs run in the past with its job status.
- **Scheduled**—displays all the jobs scheduled for a future date and time. Also, you can cancel the scheduled jobs.
- **Generic Logs**—displays the appliance-specific, common log messages that are not specific to a subtask and other activities.
 - **Appliance Log Messages**—displays all the appliance-specific log messages such as restarting the appliance. You can view this category of messages only from the Admin portal.
 - **Generic Log Messages**—displays all log messages that are common across jobs that are listed in the **Running**, **History**, and the **Scheduled** tabs.

For example, if a firmware update job is in progress for a group of servers, the tab displays the log messages pertaining to creating the SUU repository for that job.

The various states of jobs defined in the appliance are:

- **Canceled**—job has been manually canceled by the user, or when the appliance restarted.
- **Successful**—job has successfully completed.
- **Failed**—job was not successful.
- **In Progress**—job is running.
- **Scheduled**—job has been scheduled for a future time.
- **Waiting**—job is in a queue to start running.
- **Recurring Schedule**—job recurring after a fixed interval of time.

NOTE: When same jobs are scheduled at the same time, by different or same users the job may fail. Hence make sure that same jobs are not scheduled at the same time.

To view the jobs and log center:

1. In **DLCI for SCVMM**, click **Jobs and Logs Center**.

By default, the **Running** tab is displayed.

2. To view a specific category of jobs, click the required tab.

Expand the job category to view all the servers included in the job. Expand further to view the log messages for that job.

NOTE:

- All the job-related generic log messages are listed under the **Generic** tab and not under the **Running** or **History** tab.
- After upgrading to DLCI for SCVMM version 1.3, there will be no subtask information available for the jobs run using earlier versions of DLCI for SCVMM in the **History** tab.

3. (Optional) Filter the jobs based on the type of job.

Viewing managed jobs

You can view all the jobs submitted to 1610 from **Maintenance Center** page.

In 1610, do any one of the following:

- In the navigation pane, click **Maintenance Center**, and then click **Manage Jobs**.
- In the navigation pane, click **Jobs and Log Center**, and then click **Scheduled** tab.

All the scheduled jobs are displayed with name, type, description, start and end date time of the job, and status.

Canceling scheduled jobs

1. In DLCI Console Add-in for SCVMM, do any of the following:
 - In the navigation pane, click **Maintenance Center**, and then click **Manage Jobs**.
 - In the navigation pane, click **Jobs and Log Center** and then select **Scheduled** tab.
2. Select the jobs that you want to cancel, and then click **Cancel**.

Troubleshooting

Topics:

- Empty cluster update group does not get deleted during autodiscovery or synchronization
- Discovery jobs not submitted
- Duplicate VRTX chassis group gets created
- Exporting configuration profile of another server after IP address is changed
- Failure applying RAID configuration
- Failure of creation of update source
- Failure of firmware update because of job queue being full
- Failure of firmware update while using DRM update source
- Failure of a scheduled job on an update group
- Failure of firmware update on cluster update group
- Failure of firmware update on 11th generation of servers
- Failure to connect to FTP using system default update source
- Failure to create a repository during a firmware update
- Failure to delete a custom update group
- Failure to export LC logs in CSV format
- Failure to view LC logs
- Failure to export server profiles
- Firmware update on a few components irrespective of the selection
- IG installation issue while running multiple instances of the installer on the same server
- Importing server profile job gets timed out after two hours
- Hypervisor deployment failure
- Hypervisor deployment failure due to driver files retained in library share
- Latest inventory information is not displayed even after firmware update
- SCVMM error 21119 while adding servers to active directory
- Hypervisor deployment fails for 11th generation PowerEdge blade servers when using Active Directory
- RAID configuration failure for virtual disks with RAID10
- Configuration of RAID failure due to configuration of hot spares on software RAID S130

Empty cluster update group does not get deleted during autodiscovery or synchronization

When a cluster group is discovered in the appliance, a cluster update group gets created in the **Maintenance Center** with all the servers listed in the cluster update group. Later, if all the servers are removed from this cluster through SCVMM, and an autodiscovery or synchronization with SCVMM operation is performed, the empty cluster update group is not deleted in **Maintenance Center**.

As a workaround, to delete the empty server group, rediscover the servers.

Discovery jobs not submitted

When you press the backspace key to dismiss an error message on the discovery screen, subsequent discovery jobs are not submitted for backend processing.

As a workaround, close the current discovery screen and relaunch the discovery screen from the **Inventory** page. Submit the new discovery job after entering the required inputs.

Duplicate VRTX chassis group gets created

When modular servers that were previously in another chassis are added to a VRTX chassis and discovered, the modular servers carry previous chassis service tag information and create a duplicate VRTX chassis group in the appliance.

To resolve, do the following:

1. Remove a modular server from one chassis, and add it in another chassis. For more information, see Server modules section in *Dell PowerEdge VRTX Enclosure Owner's Manual*.
2. Configure CMC. For more information, see *Installing and Setting Up CMC in Chassis Management Controller Version 2.1 for Dell PowerEdge VRTX User's Guide*, available at dell.com/support/home.

After you do the preceding tasks, if there are duplicate chassis group entries, then as a workaround, do the following:

1. Enable CSIOR and reset iDRAC on the newly added modular server.
2. Manually delete all the servers in the VRTX chassis group, and then rediscover the servers.

Exporting configuration profile of another server after IP address is changed

After an **Export Server Profile** job on a server is scheduled, if the IP address of this server is assigned to another server, then the appliance exports the server profile of this new server.

As a workaround, cancel the **Export Server Profile** job, rediscover the server whose IP address has changed, and then schedule the **Export Server Profile** job on this server.

Failure applying RAID configuration

Applying a hardware profile with RAID configuration may fail with the following error messages: `Error An unknown exception has occurred and has been logged in the extended logs.`

`Error RAID configuration failed with error: An unknown exception has occurred and has been logged in the extended logs. <iDRAC IP address>`

`Error 0_EX_MSG`

As a workaround, do a **Power Cycle System** for the server and reapply the hardware configuration.

Failure of creation of update source

When the Domain Name System (DNS) network configuration of the appliance is changed, creation of HTTP or FTP type of update source fails.

As a workaround, restart the appliance, and then create the update source of type HTTP or FTP.

Failure of firmware update because of job queue being full

Firmware update jobs submitted from the appliance to iDRAC fail, and the appliance main log displays the following error: `JobQueue Exceeds the size limit. Delete unwanted JobID(s).`

As a workaround, manually delete the completed jobs in iDRAC, and retry the firmware update job. For more information on deleting jobs in iDRAC, see iDRAC documentation at dell.com/support/home.

Failure of firmware update while using DRM update source

The firmware update job may fail if you are using DRM update source with insufficient access to the share folders. If the Windows credential profile provided while creating DRM update source is not a part of domain administrator group or the local administrator group, the following error message is displayed: `Local cache creation failure`.

As a workaround, do the following:

1. After creating the repository from DRM, right-click on the folder, click **Security** tab, and then click **Advanced**.
2. Click **Enable inheritance** and select the **Replace all child object permission entries with inheritable permission entries from this object** option, and then share the folder with **Everyone** with read-write permission.

Failure of a scheduled job on an update group

After scheduling a job on an update group, if all the servers are moved out of the update group and there are no servers present in the update group then, the scheduled job fails.

As a workaround, cancel the scheduled job, add the servers to another update group, and then schedule a job on the update group.

Failure of firmware update on cluster update group

After scheduling a firmware update job on a cluster update group, if the firmware update job fails for various reasons such as IG is unreachable, the cluster group becomes unresponsive, or the firmware update job was canceled in CAU for an in-progress job, the DUPs are downloaded and placed in each server cluster node belonging to the cluster group. All the DUP files are placed under the folder called Dell consuming memory.

As a workaround, delete all the files in Dell folder, and then schedule a firmware update job.

Failure of firmware update on 11th generation of servers

A firmware update job started on 11th generation of Dell PowerEdge servers may fail due to incompatible versions of iDRAC and LC with the following error: `WSMAN command failed to execute on server with iDRAC IP <IP address>`.

As a workaround, upgrade the iDRAC and LC to the latest versions and then start the firmware update job.

Failure to connect to FTP using system default update source

After setting up and configuring, or upgrading the appliance, trying to access the FTP site using system created update source **Dell Online Catalog** might fail if proxy credentials are required.

To access the FTP site using **Dell Online Catalog** as an update source edit, and add the proxy credentials.

Failure to create a repository during a firmware update

Creation of a repository may fail during a firmware update because of network issues, improper credentials, or server not reachable, and so on.

As a workaround, ensure that the FTP server is reachable from where the appliance is hosted, there are no network issues, and provide the right credentials during a firmware update.

Failure to delete a custom update group

After scheduling a job on a server belonging to a custom update group, if the server is deleted from SCVMM and synchronization is done, the server is removed from the custom update group and is moved to the appropriate predefined group. You cannot delete such custom update groups, because it is associated with a scheduled job.

As a workaround, to delete this custom update group, delete the scheduled job from jobs page, and then delete the custom update group.

Failure to export LC logs in CSV format

When viewing LC logs, if you try to download the log files to CSV format the download operation fails.

As a workaround, add the appliance FQDN in the browser under local intranet site. For information about adding the appliance in local intranet, see [Viewing LC logs](#) section.

Failure to view LC logs

After collecting the LC Logs, when you view the LC Log file for a server the following error message is displayed: "Failed to perform the requested action. For more information see the activity log".

As a workaround, reset iDRAC, and then collect and view the LC Logs. For more information, see iDRAC documentation available at dell.com/support.

Failure to export server profiles

After scheduling an export server profile job, the server profile is not exported, and the following error message is displayed: "The selectors for the resource are not valid".

As a workaround, reset iDRAC, and then schedule the export server profile job. For more information, see iDRAC documentation available at dell.com/support.

Firmware update on a few components irrespective of the selection

Some components on identical servers get updated during a firmware update irrespective of the selection of components made on individual servers. This behavior is seen for 12th and 13th generation of Dell PowerEdge servers with Enterprise license of iDRAC.

As a workaround, do one of the following:

- To prevent irrelevant updates on identical servers, apply common components on identical servers and then apply specific components separately on individual servers.
- Perform staged updates with planned outage times to accommodate the required firmware update.

IG installation issue while running multiple instances of the installer on the same server

After you start installing the IG, if you try running another instance of the IG, then an error message is displayed. After you click OK, you are prompted to save another IG MSI file.

As a workaround, do not save this file and continue with the first installation.

Importing server profile job gets timed out after two hours

After submitting the import server profile job in the appliance, it may get timed out after two hours.

As a workaround, perform the following steps:

1. Press F2 and enter **BIOS Settings**.
2. Click **System Setup** and select **Miscellaneous Settings**.
3. Disable **F1/F2 Prompt on Error**.

After performing the following steps, schedule the export server profile job and use the same to complete the import server profile job successfully.

Hypervisor deployment failure

Hypervisor deployment is failing and the activity log displays the following error: Error New-SCVMHost failed with following error : An out of band operation (SMASH) for the BMC <IP ADDRESS> failed on IDRAC IP : <IP ADDRESS>.

This error may occur due to either of these reasons:

- Dell Lifecycle Controller's state is bad.
As resolution, log in to iDRAC user interface and reset Lifecycle Controller.
After resetting Lifecycle Controller, if you still face the problem try the following alternative.
- The anti-virus or firewall may restrict the successful run of the WINRM command.
See the following KB article for workaround: support.microsoft.com/kb/961804.

Hypervisor deployment failure due to driver files retained in library share

Hypervisor deployment is failing and the activity log displays the following error:

- **Error:** Error while applying Hypervisor Profile to host <IP Address>. Failed with error : For input string: ""
- **Information:** Successfully deleted drivers from library share sttig.tejasqa.com for <server uuid>
- **Error:** Deleting staging share (drivers) for <server uuid> failed.

These errors may occur due to exception output by the VMM command-let GET-SCJOB status and driver files are retained in the library share. Before you retry or do another hypervisor deployment you must remove these files from the library share.

To remove files from library share:

1. From SCVMM Console, select **Library > Library Servers** and then select the Integration Gateway server that was added as the library server.
2. In the library server, select and delete the library share.
3. After the library share is deleted, connect to the Integration Gateway share using `\\<Integration Gateway server>\LCDriver\`.
4. Delete the folder that contains the driver files.

Now, you can deploy operating systems.

Latest inventory information is not displayed even after firmware update

Even though the firmware update job is complete on an 11th generation of Dell PowerEdge server, in the appliance, the inventory does not display the latest firmware versions.

In the appliance, refreshing the inventory is an activity performed immediately after a firmware update job is complete. Firmware update is completed even before the PowerEdge server's CSIOR activity is complete, due to which the earlier firmware inventory information is displayed.

As a workaround, check if the CSIOR activity is complete in the PowerEdge server, and then in the appliance, refresh the firmware inventory. Also, make sure to restart the server after applying agent-free staged update. For more information on refreshing the inventory, see [Viewing and refreshing firmware inventory](#).

For more information on CSIOR, refer to the Troubleshooting section in the latest version of the *Dell Lifecycle Controller GUI User's Guide* available at dell.com/support/home.

SCVMM error 21119 while adding servers to active directory

While adding servers to Active Directory, SCVMM error 21119 is displayed. Error 21119: The physical computer with <SMBIOS GUID> did not join Active Directory in time. The computer was expected to join Active Directory using the computer name <host.domain>.

As a workaround, do the following:

1. Wait for some time to see if the server is added to the Active Directory.
2. If the server is not added to the Active Directory, then manually add the servers to the Active Directory.
3. Add the server in to SCVMM.
4. Once the server is added in to SCVMM, rediscover the server in the DLCI Console.
The server is listed under the **Host** tab.

Hypervisor deployment fails for 11th generation PowerEdge blade servers when using Active Directory

Hypervisor deployment fails on the 11th generation PowerEdge blade servers when using the Active Directory user credentials. The 11th generation PowerEdge blade servers use the Intelligent Platform Management Interface (IPMI) protocol for communication. However, the IPMI standard is not supported for using credentials from the Active Directory setup.

As a workaround to deploy operating systems on these servers, use supported credential profiles.

RAID configuration failure for virtual disks with RAID10

RAID configuration fails when virtual disks are created with RAID level 10 for controller H200 using more than four physical disks.

RAID 10 with more than four physical disks fail.

As a workaround, use minimum number of physical disks required for that RAID level.

Configuration of RAID failure due to configuration of hot spares on software RAID S130

RAID configuration on software RAID controller S130 fails when we try to configure RAID with more than three hot spares including the Global Hot Spare (GHS) and DHS.

As a workaround:

- Use only three hot spares (GHS and DHS) to apply on a profile.
- Use the PowerEdge RAID controller (PERC) card.

Accessing support content from the Dell EMC support site

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

- Direct links:
 - For Dell EMC Enterprise Systems Management and Dell EMC Remote Enterprise Systems Management—<https://www.dell.com/esmmanuals>
 - For Dell EMC Virtualization Solutions—<https://www.dell.com/SoftwareManuals>
 - For Dell EMC OpenManage—<https://www.dell.com/openmanagemanuals>
 - For iDRAC—<https://www.dell.com/idracmanuals>
 - For Dell EMC OpenManage Connections Enterprise Systems Management—<https://www.dell.com/OMConnectionsEnterpriseSystemsManagement>
 - For Dell EMC Serviceability Tools—<https://www.dell.com/serviceabilitytools>
- Dell EMC support site:
 1. Go to <https://www.dell.com/support>.
 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.

Using search engines, type the name and version of the document in the search box.