

**Dell Lifecycle Controller Integration Version
1.0.1 for Microsoft System Center 2012 Virtual
Machine Manager
User's Guide**



Notes, Cautions, and Warnings

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

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

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

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About Dell Lifecycle Controller Integration for Microsoft System Center 2012 Virtual Machine Manager

Dell Lifecycle Controller Integration (DLCI) for Microsoft System Center 2012 Virtual Machine Manager (SC2012 VMM) enables hardware configuration and provides a solution to simplify and improve the process of hypervisor deployment on Dell servers. This plugin uses the remote deployment feature of the Integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller.

With Dell Lifecycle Controller Integration for Microsoft System Center Virtual Machine Manager, you can do the following:

- Auto discover unassigned Dell servers — connect the factory delivered Dell servers to the network, power on the servers, and enter the provisioning server details for 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 — ensure that the Dell servers are compliant.

Compliance of Dell Servers - For using the features available in the appliance, Dell servers must have the required firmware versions of iDRAC, Lifecycle Controller (LC), and BIOS.

The appliance checks for the required versions of the preceding software and if the required versions of the preceding software are present, then the server is considered as compliant.

- Prepare an ideal server configuration, also known as golden configuration — replicate this configuration on the servers that are deployed in to the virtual environment.
 - 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.
- Leverage LC Driver Injection feature on the latest factory delivered servers that are shipped with the latest driver packs.

Deploy hypervisors with or without Lifecycle Controller (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.

- View information on jobs – view information logged for various jobs that are performed in the appliance.

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

This document contains information on the prerequisites and supported software necessary for installing the DLCI appliance. If you are installing this version of DLCI appliance after a long time after its release date, check to see if there is an updated version of this document at **dell.com/support/home**.

Working With DLCI Console Add-in for SC2012 VMM

Working With DLCI Console Add-in for SC2012 VMM includes the following:

- Review and complete system requirements and then install **DLCI Console Add-in for SC2012 VMM**, see [Installing DLCI Console Add-in for SC2012 VMM](#).
- Import DLCI Console in to VMM Console, see [Importing DLCI Console in to VMM Console](#).
- View DLCI Console in VMM Console, see [Viewing DLCI Console](#).
- Uninstall DLCI Console, see [Uninstalling DLCI Console](#).

Installing DLCI Console Add-in

Before you begin working with the appliance, you must install the DLCI Console in the system where the SC2012 VMM Console is installed. Once you install the DLCI Console, you can import the DLCI Console into SC2012 VMM Console.

Prerequisites: SC2012 VMM SP1 or SC2012 VMM R2 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:

1. In **DLCI Admin Portal – SC2012 VMM**, click **Downloads**.
2. Under **DLCI Console Add-in for SC2012 VMM Installer**, click **Download Installer** and save the file to a location.
3. Run the installer file.
4. In the **DLCI Console Add-in for SC2012 VMM** Welcome page, click **Next**.
5. In **License Agreement**, select **I accept the terms in the license agreement**, and then click **Next**.
6. In **Destination Folder**, by default an installation folder is selected. To change location, click **Change**, complete the changes, and then click **Next**.
7. In **Ready to Install the Program**, click **Install**.
8. In **InstallShield Wizard Completed**, click **Finish**.

To repair or remove the installation:

1. Run the **DLCI Console Add-in for SC2012 VMM** 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 Into VMM

To work with the DLCI appliance, you must import DLCI Console in to the VMM Console.

Prerequisites: For the connection with DLCI 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 DLCI appliance.


To import the DLCI Console in to the VMM Console:

1. In SC2012 VMM, click **Settings**.
2. In the **Home** ribbon, click **Import Console Add-in**.
3. In **Import Console Add-in Wizard**, in **Select an add-in to import**, browse to select the DLCI Console Add-in for SC2012 VMM (**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

To view the DLCI Console in SC2012 VMM:

1. In SC2012 VMM console, select **Fabric**, and then select **All Hosts Group**.
 **NOTE:** You can select any host group you have access to, to launch DLCI console.
2. In the **Home** ribbon, select **DLCI Console**.

Uninstalling DLCI Console

To uninstall DLCI Console:

1. In SC2012 VMM, click **Settings**.
2. In **Settings**, in **Console Add-ins**, select **DLCI Console Add-in for SC2012 VMM**.
3. In **Home**, click **Remove**.

Getting Started

Management systems are the systems on which **Dell Lifecycle Controller Integration (DLCI) for Microsoft System Center 2012 Virtual Machine Manager (SC2012 VMM)**, also known as appliance and its components are installed. The components of appliance are:

- Dell Lifecycle Controller Integration (DLCI) Integration Gateway for Microsoft System Center 2012 Virtual Machine Manager (SC2012 VMM), also known as DLCI Integration Gateway for SC2012 VMM
- Dell Lifecycle Controller Integration (DLCI) Console Add-in for Microsoft System Center 2012 Virtual Machine Manager (SC2012 VMM), also known as DLCI Console Add-in for SC2012 VMM

Logging On to DLCI Admin Portal – SC2012 VMM

From the appliance, note the DLCI Admin Portal – SC2012 VMM URL.
To log on to DLCI Admin Portal – SC2012 VMM:

In a web browser, go to URL: **https://<IP Address>** or **<FQDN>**. For example: **192.168.20.30** or **DLCIforSC2012vmm.myorgdomain.com**. Log in to DLCI Admin Portal – SC2012 VMM using the user credentials provided while configuring the appliance.

Using DLCI Admin Portal – SC2012 VMM

DLCI Admin Portal – SC2012 VMM user interface contains the following options:

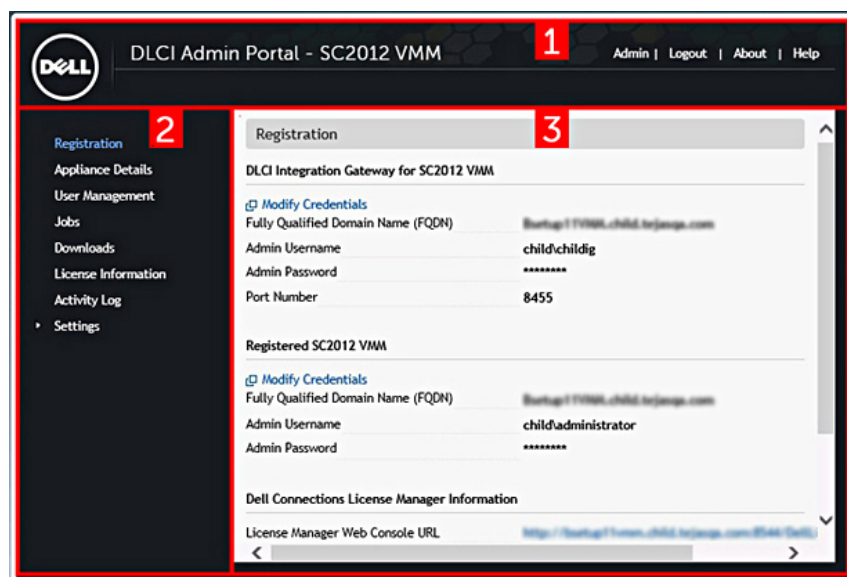


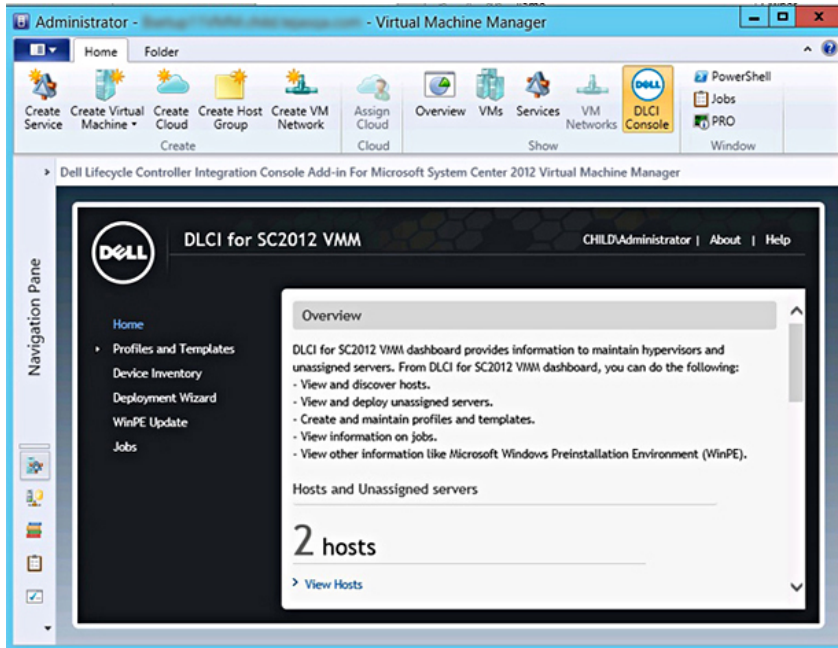
Figure 1. DLCI Admin Portal – SC2012 VMM

1. Heading banner — includes the product name and these options:
 - **Admin** — displays information of the user who has logged into DLCI for SC2012 VMM – Admin Portal.
 - **Logout** — logs out the DLCI for SC2012 VMM Admin Portal.
 - **About** — provides information on the DLCI for SC2012 VMM version.
 - **Help** — launches the context sensitive online help.
2. Navigation pane: Contains the following options and for more information about each option refer the online help or the document below:
 - **SCVMM Registration**
 - **Appliance Details**
 - **User Management**
 - **Jobs**
 - **Downloads**
 - **License Information**
 - **Activity Log**
 - **Settings**
 - **Service Pack Updates**
 - **Logs**
3. Console area — Displays information on the option selected by you in the navigation pane.

Logging On to DLCI Console Add-in for SC2012 VMM

To log on to DLCI Console Add-in for SC2012 VMM:

1. In SC2012 VMM, select **Fabric**, and then select **All Hosts**.
2. In the **Home** ribbon, select **DLCI Console**.



Using DLCI Console Add-in for SC2012 VMM

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

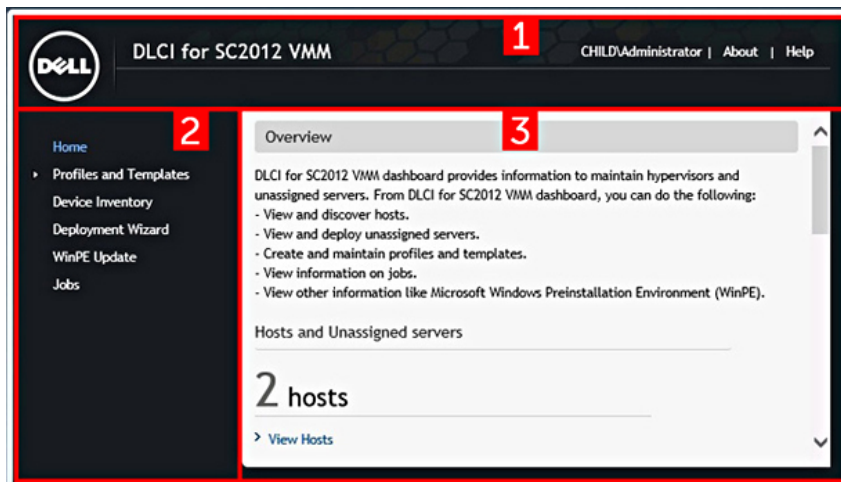



Figure 2. DLCI Console Add-in for SC2012 VMM

1. Heading banner — Includes the product name and the following options:
 - **<Domain>\adminstrator** — Displays information on the user who is logged into DLCI for SC2012 VMM.
 - **About** — Provides information on the DLCI for SC2012 VMM version.
 - **Help** — Launches the context sensitive online help.
2. Navigation pane — Contains the following options:

- **Home** – Displays the DLCI for SC2012 VMM dashboard.
 - **Profiles and Templates**
 - **Deployment Template**
 - **Hardware Profile**
 - **Hypervisor Profile**
 - **Credential Profile**
 - **Device Inventory**
 - **Deployment Wizard**
 - **WinPE Update**
 - **Jobs**
3. Console area – Displays information on the option selected by you in the navigation pane.

 **NOTE:** In DLCI Console for SC2012 VMM, if you are working in a wizard, say a Hardware Profile wizard and you navigate to any other tab or link in SC2012 VMM console and then view the DLCI Console Add-in for SC2012 VMM again, the information you had provided is not saved and the DLCI console will display the home page.

Work flows

This section contains the following work flows:

- [Capturing Golden Configuration](#)
- [Hypervisor Deployment](#)
- [Understanding Server Deletion](#)

About Golden Configurations

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

Capturing 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. To record the ideal configuration you must create a hardware profile. To create a hardware profile, see [Creating Hardware Profile](#).
3. If you want to modify configurations, then see [Modifying Hardware Configuration Profile](#).

Hypervisor Deployment

You can use the appliance to perform hypervisor deployment based on the golden configuration, and leverage 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.

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 Hardware Profiles](#)
4. [Creating Hypervisor Profiles](#)
5. [Creating Deployment Templates](#)
6. [Deploying Hypervisors](#)

Understanding Server Deletion

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

Setting Up Environment for Deploying Hypervisors

To set up an environment for hypervisor deployment:

1. Prepare [Golden Configurations](#).
2. Create a physical computer profile in SC2012 VMM. For more information see SC2012 VMM documentation.
3. Create a target host group in SC2012 VMM, for more information see SC2012 VMM 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. Create a hardware profile, for more information see [Creating Hardware Profiles](#).
7. Create a hypervisor profile, for more information see [Creating Hypervisor Profiles](#).
8. Create a deployment template, for more information see [Creating Deployment Templates](#).
9. After the systems are discovered and available in the appliance, do the hypervisor deployment. For more information see [Deploying Hypervisors](#).
10. View job status on deployment, for more information see [Viewing Job Status](#).

Server Discovery

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

- When you discover a PowerEdge server, it is listed as an unassigned server and marked as compliant if the server contains minimum versions of Lifecycle Controller firmware, iDRAC, and BIOS that are required to work with the appliance.
- If the PowerEdge server has operating system deployed on it and it is present in the appliance, then the PowerEdge server is listed as a host server.
- If the PowerEdge server has operating system deployed on it and it is not provisioned in the appliance, then the PowerEdge server is listed as an unassigned server and marked as compliant.

You can discover unassigned Dell servers using the following options:

- Auto discovery of unassigned servers
- Manual discovery based on IP addresses (within a subnet)

System Requirements for Discovering Managed Systems

For appliance to discover managed systems (including Microsoft Hyper-Vs), note the following system requirements:

- For the 11th, 12th, and 13th generation of PowerEdge servers the appliance supports only rack and blade server models.
- For source configuration and destination configuration, use same type of disks — only SAS or only 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 LAN on motherboard (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 Start (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 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 value to **Enabled**.

To enable CISOR for 11th generation PowerEdge servers:

1. Restart the system.
2. During Power-on Self Test (POST), when the system prompts you to enter the Integrated Dell Remote Access Controller Utility, press **CTRL + E**.
3. Select **System Services** from the options available 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 appliance, create a credential profile by specifying the iDRAC credentials for Dell servers. For more information, see [Creating a Credential Profile](#).

When no credential profiles are created and no default credential profile is available; During Auto Discovery, the default iDRAC factory setting credential profile of user ID as `root` and password as `calvin` is used.

2. In Dell servers that you want to auto discover, do the following:
 - a. Disable the existing Admin accounts in iDRAC
 - b. In 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, you must provide the servers' iDRAC IP and the servers' WS-Man 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 SC2012 VMM, 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 credential profile.
4. (Optional) click **Create New** to create a credential profile.
5. For **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.
6. In **Job Options**, to track this job, assign a job name and to view the job list, select **Go to the Job List after completing**.
 7. Click **Finish**.

Viewing Device Inventory

The **Device Inventory** page lists the unassigned servers and host servers. Servers discovered by appliance are known as unassigned servers and these servers are available for hypervisor deployment. Host servers are servers inventoried in the SC2012 VMM.

To view servers:

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

 **NOTE:**

If 11th and 12th generation of PowerEdge servers are discovered and inventoried in appliance version 1.0 and you are upgrading to appliance version 1.0.1, then in the **Device Inventory** page, the already discovered servers appear as non-compliant.

To make the servers compliant: Rediscover the servers.

Launching iDRAC Console

To launch iDRAC Console:

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

Licensing for the Appliance using Connections License Manager

The 11th to 13th generation of PowerEdge servers are licensed.

The appliance is licensed and the licensing is based on entitlement. Without a license, you can discover the servers, but only a valid license allows you to use the features available in this release. With a valid license, you can configure the number of servers equal to the number specified in the license.

For every hardware configuration or hypervisor deployment in the appliance, one license is consumed in Dell Connections License Manager.

To view license details, you can launch the Dell Connections License Manager from DLCI Admin Portal – SC2012 VMM.

Also, you can view license status in the appliance.

Deleting Servers From DLCI Console

You can delete the unassigned servers and host servers as follows:

- You can delete an unassigned server that is not provisioned in SC2012 VMM.
- If a server is provisioned in SC2012 VMM and present in the appliance, then you must first delete the server in SC2012 VMM 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**.

If the unassigned server is associated with a license, then after the server is deleted the associated license is relinquished.

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

If the host server is associated with a license, then after the server is deleted the associated license is relinquished.

Profiles and Templates

About Credential Profile


The appliance uses a credential profile to connect to the managed systems' iDRAC.

In data centers, different collection of servers can have different iDRAC credentials associated with the collection. To manage such a scenario, create a credential profile that specifies the credential for a collection of servers.


Creating Credential Profiles

To create a credential profile:

1. In DLCI Console Add-in for SC2012 VMM, 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**, provide a unique profile name and description, and iDRAC credentials information, if required make this profile as default and then click **Finish**.

 **NOTE:** When a credential profile is created, an associated **Run As Account** is created in **SC2012 VMM** to manage the server and the name of the Run As Account is `Dell_CredentialProfileName`.


Modifying Credential Profiles


 **NOTE:** You cannot modify a 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 Profiles

 **NOTE:** You cannot delete a credential profile that is used to discover a server. Delete the discovered server before you delete the credential profile.

 **NOTE:** When a credential profile is deleted, the associated **Run As Account** from SC2012 VMM is also deleted.

To delete a credential profile:

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

Creating Hardware Profiles

You can create a hardware profile by using the server with the golden configuration and then use 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 for the following criteria:

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

To create a hardware profile:

1. In the DLCI Console Add-in for SC2012 VMM 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 reference server's iDRAC IP, and then click **Next**.

The reference server's hardware details 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, 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.

5. In **Summary**, click **Finish**.

You can use this hardware profile and apply it to required managed systems.

Modifying Hardware Configuration Profiles


 **NOTE:** 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 only retain the server's existing RAID settings

To modify a hardware configuration profile:

1. In DLCI Console Add-in for SC2012 VMM, click **Hardware Profile**.
2. Select the profile that you want to modify and click **Edit**.

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

Deleting a Hardware Profile

 **NOTE:** 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 SC2012 VMM, click **Hardware Profile**.
2. Select the hardware profile that you want to delete and click **Delete**.

Creating Hypervisor Profiles

You can create a hypervisor profile and use the profile to deploy operating system in to servers. A hypervisor profile contains a customized WinPE ISO (WinPE ISO is used for hypervisor deployment), host group and host profile taken from SC2012 VMM, 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 SC2012 VMM. To update WinPE image and DTK drivers, see [WinPE Image Update](#).
- In SC2012 VMM, a Host group, a Host profile, or physical computer profile is created.

To create a hypervisor profile:

1. In DLCI Console Add-in for SC2012 VMM, 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 name and description, and then click **Next**.
4. In **SC2012 VMM** information page, provide the **SC2012 VMM Host Group Destination** and **SC2012 VMM 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 a Hypervisor Profile


 **NOTE:** 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 SC2012 VMM, in **Hypervisor Profile**, select the profile that you want to modify and click **Edit**.
2. Provide the details and click **Finish**.

Deleting a Hypervisor Profile

 **NOTE:** 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 SC2012 VMM, in **Hypervisor Profile**, select the profile that you want to delete and click **Delete**.

WinPE Update

A PreExecution Environment (PXE) server of SC2012 VMM is required for creating a WinPE image. A WinPE ISO is created from the WinPE image and Dell OpenMange Deployment Toolkit (DTK).

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 SC2012 VMM share WIM folder. The **boot.wim** is present in the following path: **C:\Remotelnstall\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 SC2012 VMM SP1 to SC2012 VMM 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 Deployment

Hypervisor deployment supports one-to-one and one-to-many deployment.

The hypervisor deployment is a profile-based workflow. Essentially, this workflow enables you to specify hardware configurations, hypervisor configurations, and SC2012 VMM-specific configurations. This workflow uses logical network and Host Profile of the appliance along with hardware configuration in the appliance for hypervisor deployment.


Creating Deployment Templates

You can create deployment templates with required hardware and hypervisor profile and apply the deployment template to unassigned servers.

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 template name, template description, select a hypervisor profile and hardware profile. However, selecting a hardware profile is optional.
3. (Optional) If the hardware or hypervisor profile is not created, you can create the profiles by click **Create New**.


Modifying a Deployment Template

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

To modify a deployment template:

1. In DLCI Console Add-in for SC2012 VMM, 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 a Deployment Template

 **NOTE:** Deleting a deployment template will not impact the associated hardware and hypervisor profiles.


To delete a deployment template:

1. In DLCI Console Add-in for SC2012 VMM, click **Deployment Templates**.
2. Select the deployment template that you want to delete, and click **Delete**.

Deploying Hypervisors

To deploy to servers:

1. In DLCI Console Add-in for SC2012 VMM dashboard, click **Deploy Unassigned Servers**.
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 credential profile.

 **NOTE:** 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 deployment options you have provided and click **Finish**.
8. In the **Confirmation** message, click **Yes**.

Viewing Information in Appliance

Viewing Job Status

You can view the jobs from the DLCI Admin Portal – SC2012 VMM and DLCI Console Add-in for SC2012 VMM.

1. In left navigation pane, click **Jobs**.
2. From Filter, based the jobs you want to view, select **Deployments**, **Discovery Jobs**, or **WinPE Creation Jobs**.

Viewing Activity Logs

The appliance logs information on the activities and you can view this information. To view activity log information:

1. In DLCI Admin Portal – SC2012 VMM, click **Activity Log**.
2. To refresh page for information on the latest activities, click **Refresh**.

Troubleshooting

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 GUI and reset Lifecycle Controller.

After resetting Lifecycle Controller, if you still face the problem try the following alternative.

- The antivirus 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 SC2012 VMM 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.

SC2012 VMM Error 21119 While Adding Servers to Active Directory

While adding servers to Active Directory, SC2012 VMM 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 work-around, 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 SC2012 VMM.
4. Once the server is added in to SC2012 VMM, rediscover the server in the DLCI Console. The server is listed under the **Host** tab.

Connection Lost Between Appliance and Integration Gateway

When you restart the server in which Integration Gateway is installed, connectivity is lost between appliance and Integration Gateway. This is because the execution policy of the Integration Gateway for the user is not active. Login to the Integration Gateway server using Integration Gateway user account to make the execution policy active. However, after login the connection is not restored until the following steps are completed.

To set PowerShell execution policy:

1. Set PowerShell execution policy for local system as `RemoteSigned` and for the **Integration Gateway Service Account** as `Unrestricted`.
For information on policy settings, refer the following MSDN articles:
 - **PowerShell Execution policy:** technet.microsoft.com/en-us/library/hh847748.aspx
 - **PowerShell Group Policy:** technet.microsoft.com/library/jj149004
2. Once the execution policy is set, restart the Integration Gateway server.

Hypervisor Deployment Fails for 11th Generation PowerEdge Modular Servers When Using Active Directory

Hypervisor deployment fails on the 11th generation PowerEdge modular servers when using the Active Directory user credentials. The 11th generation PowerEdge modular 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 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 will 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 PowerEdge RAID controller (PERC) card.

Accessing documents from Dell support site

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

- Using the following links:
 - For all Enterprise Systems Management documents — dell.com/softwaresecuritymanuals
 - For Enterprise Systems Management documents — dell.com/openmanagemanuals
 - For Remote Enterprise Systems Management documents — dell.com/esmmanuals
 - For OpenManage Connections Enterprise Systems Management documents — dell.com/OMConnectionsEnterpriseSystemsManagement
 - For Serviceability Tools documents — dell.com/serviceabilitytools
 - For Client Systems Management documents — dell.com/clientsystemsmanagement
 - For OpenManage Connections Client Systems Management documents — dell.com/connectionsclientsystemsmanagement
- From the Dell Support site:
 - a. Go to dell.com/support/home.
 - b. Under **General support** section, click **Software & Security**.
 - c. In the **Software & Security** group box, click the required link from the following:
 - **Enterprise Systems Management**
 - **Remote Enterprise Systems Management**
 - **Serviceability Tools**
 - **Client Systems Management**
 - **Connections Client Systems Management**
 - d. To view a document, click the required product version.
- Using search engines:
 - Type the name and version of the document in the search box.