

Dell Lifecycle Controller Integration for Microsoft System Center 2012 Virtual Machine Manager Installation 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 operating system 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:

- Check for server compliance — ensure that the Dell servers are compliant.

Compliance of Dell Servers - For using the features available in DLCI for SC2012 VMM, Dell servers must have the required firmware versions of iDRAC, Lifecycle Controller (LC), and BIOS.

DLCI for SC2012 VMM 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.

- 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 operating system deployment.

- Manually discover unassigned Dell servers — discover the 13th generation of Dell PowerEdge servers and deploy the servers in a virtual environment.
- View inventory of discovered servers — key inventory details about the Dell servers are provided.
- 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.

- 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 for 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 DLCI appliance, perform hypervisor deployment based on the golden server configuration; replicate Boot Order settings, BIOS, and RAID settings.

- 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 DLCI 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 **support.dell.com**.

DLCI Appliance Setup

The components of the DLCI appliance are:

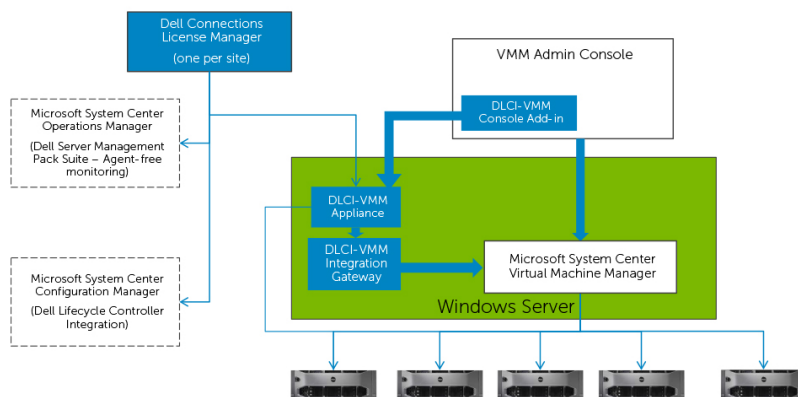
- Dell Lifecycle Controller Integration (DLCI) Appliance virtual machine, also known as Appliance.
- Dell Lifecycle Controller Integration (DLCI) Integration Gateway for Microsoft System Center 2012 Virtual Machine Manager (SC2012 VMM), also known as Integration Gateway.

Integration Gateway is a service that runs on a Windows server, The appliance communicates with SC2012 VMM using this gateway. The Integration Gateway also provides a staging area for the DLCI appliance to store DTK, ISO, WINPE images, and so on.

- 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.

Dell Connections License Manager installation is required as prerequisite.

DLCI appliance setup with components and other software.



Users — Roles and Privileges

These users are required by various DLCI appliance components and other software.

Role	DLCI Appliance Administrator	Integration Gateway Service Account	Integration Gateway Contributor account	Dell Connections License Manager Administrator or Operator
Characteristics	Appliance specific user (admin)	This account is as follows: <ul style="list-style-type: none"> • A valid <domain> user. 	A valid <domain> user with local administrator rights	

Role	DLCI Appliance Administrator	Integration Gateway Service Account	Integration Gateway Contributor account	Dell Connections License Manager Administrator or Operator
		<ul style="list-style-type: none"> • A local administrator rights to access the Integration Gateway server • Added to Dell Connections License Operators • Has VMM Administrator Privileges <p>For Integration Gateway service user account, set Execution policy to Unrestricted.</p>	to access the Integration Gateway server.	
DLCI Appliance Components Access	Admin Console DLCI Appliance	Integration Gateway		
Capabilities (Has access to create, view, edit and delete the listed aspects, unless explicitly stated)	<ul style="list-style-type: none"> • Setup and Configuration • Activity Log • Download Integration Gateway, • Download Console Add-in (all features of DLCI appliance users) License Link/Launch 	(No visible features)		

Modifying Credentials

You can modify SC2012 VMM administrator credentials and Integration Gateway credentials from Admin Portal. This is a sequential activity, modify Integration Gateway credentials first and then modify SC2012 VMM administrator credentials.

Prerequisites for modifying credentials for the Integration Gateway administrator user are that the user has already modified the password by running the Integration Gateway installer and selecting the modify option.

Prerequisites for modifying credentials for the SC2012 VMM administrator user are that the user has already modified the password in the active directory.

To modify administrator credentials for Integration Gateway or SC2012 VMM:

1. In Admin Portal, click **Registration**.
2. In **Registration**, click **Modify Credentials**.
3. Update password and click **Save**.

Ports Used in Appliance

These ports are used by various components of the Appliance.

Include these ports in the firewall exception list.

Component	Protocol	Default Port	Where to change Port Setting
Appliance (appliance port)	HTTPS	443	Not configurable
Dell Connections License Manager Web Console URL	HTTP	8544	Not configurable
Dell Connections License Manager Web Service URL	HTTP	8543	Not configurable
Integration Gateway	HTTPS	8455	Configurable during the Integration Gateway installation.
Autodiscovery	HTTP	4433	Not configurable
iDRAC — These ports are enabled for iDRAC to access the CIFS share created by Integration gateway.	HTTPS	135 through to 139, and 445	Not configurable

Installing Appliance

To install appliance:

1. Check and review system requirements, for more information see [System Requirements for Management Systems](#).
2. Download appliance, for more information, see [Downloading Appliance](#).
3. Set up appliance, for more information, see [Setting up Appliance](#).

System Requirements for Management Systems

Management systems are the systems on which the appliance and its components are installed.

- For appliance:
 - Windows server 2012 R2 or Windows Server 2012 is installed and Hyper-V Role is enabled.
- For Integration Gateway:
 - Windows server 2012 R2 or Windows Server 2012 is installed.
 - SC2012 VMM R2 UR3 Console or SC2012 VMM SP1 UR6 Console or later is installed.
- * System requirements that are common for SC2012 VMM R2 and SC2012 VMM SP1 Consoles:
 - Microsoft .NET version 4.5 is installed.
 - HTTP Activation is activated.
 - IIS 7.5 or later is installed.
 - Windows Authentication in IIS is enabled.
 - URL Authorization in IIS is installed.
 - IIS 6 Metabase compatibility is enabled and under that IIS 6 WMI compatibility and IIS 6 Scripting Tools are enabled.
- * System requirements specific for SC2012 VMM R2 Console:
 - If you are upgrading from SC2012 VMM SP1 to SC2012 VMM R2, then upgrade to Windows PowerShell 4.0.
 - Windows Assessment and Development Kit (ADK) 8.1 is installed.
- * System requirements specific for SC2012 VMM SP1 Console:
 - If you are updating to SC2012 VMM SP1 Update Rollup 5 or later, then consider the following: When an add-in is imported into the SC2012 VMM console, the console may crash. For information about the issue and resolving the issue, see issue 5 in this knowledge

base <http://support.microsoft.com/kb/2785682>. Do this update irrespective of the version of the update rollup that is installed.

- Windows Assessment and Development Kit (ADK) 8.0 is installed.
 - For Admin Portal:
 - For Setup and Configuration
 - * Dell Connections License Manager version 1.1 or later is installed and available in the domain. The License Manager server is started and is running.
 - The Integration Gateway service account user is also member of either of these Dell Connections License Manager user groups, **Administrator** user or **Operator** user.
 - The port numbers 8543 and 8544 are included in the firewall exception list.
 - Licenses pertaining to the appliance are imported in to Dell Connections License Manager. For information support for buying licenses, see the Dell Connections License Manager Installation Guide.
- To view Dell Connections License Manager documentation, see www.dell.com/OMConnectionsEnterpriseSystemsManagement and then select **Dell Connections License Manager**.
- Internet Explorer 9 or later is available.
 - Mozilla Firefox 30 or later is available.
 - Google Chrome 23 or later is available.

Downloading Appliance

For installing and setting up DLCI for SC2012 VMM, you must download and install these components: Appliance, Integration Gateway, and Console Add-in.

To download appliance:

1. To download appliance, do any of the following:
 - If you have the license for using DLCI for SC2012 VMM , then download DLCI for SC2012 VMM from the Digital Entitlement Portal.
 - If you want to evaluate DLCI for SC2012 VMM and you require a license, then go to en.community.dell.com/techcenter/systems-management/dlci-vmm/.

Once you download, install, and set up appliance, from the Admin Portal, you can download and install Integration Gateway, and Console Add-in.

2. Extract the downloaded file to view the .VHD file and documentation.

Setting up Appliance

Before you begin, ensure the following:

- The **Virtual Switch** is configured and available.
- Ensure that you have the following information before you proceed with the installation of the appliance:
 - The FQDN and the user credentials for the system on which SC2012 VMM is set up.

- The FQDN, user credentials, and port numbers for the system on which the Dell Connections License Manager is set up.
- The staging server location.

To set up appliance:

1. In **Windows Server**, in **Hyper-V Manager**, from the **Hyper-V Manager** menu, select **Action** → **New** → **Virtual Machine**.
2. In **Before You Begin**, click **Next**.
3. In **Specify Name and Location**, provide a name for the virtual machine. If you want to store the virtual machine in a different location, then select **Store the virtual machine in a different location**, click **Browse** and traverse to the new location.
4. In **Assign Memory**, assign the required memory. A minimum of 4096 MB is required.
5. In **Configure Networking, from Connection**, select the network that you want to use, and then click **Next**.
6. In **Connect Virtual Hard Disk**, select **Use an existing virtual hard disk**, traverse to the location where the appliance .VHD file is present, and select the .VHD file.
7. In **Summary**, confirm the details you have provided and click **Finish**.

After you have created the virtual machine you must configure the appliance.

8. Set processor count value to 2. By default, the processor count is set to 1. To set the processor count: Right-click the Appliance and select **Settings**. In **Settings**, select **Processor**, and set **Number of logical processors** to 2.
9. From the **Hyper-V Manager** menu, select the DLCI Appliance virtual machine and do the following:
 - a. Select **Action** → **Start**.
 - b. Select **Action** → **Connect**.
10. Once the appliance has started, do the following:
 - a. In **localhost login**: Type `admin`.
 - b. In **Enter new Admin password**: Type a password.
 - c. In **Please confirm new Admin password**: retype the password, and press **Enter** to continue.
 - d. In **DLCI Appliance**, select **Configure Network** and press **Enter**.
 - e. In **Select Action**, select **DNS configuration** and press **Enter**.
 - f. In **DNS configuration**, in **Hostname**, type the hostname and then press **OK**.
For example, `hostname.domain.com`.
 - g. In **Select Action**, press **Save&Quit**.
11. In the system where the DHCP and the DNS are configured. check to see if the DNS entry and IP Address is present.
12. Check for the DNS entry.
From the appliance, note the Admin Portal URL.
13. Using the Integration Gateway contributor account, log in to the system where you plan to install the Integration Gateway.
In a web browser, access the Admin portal URL: **<IP Address or hostname>For example: `https://dlciforvmm`**
By logging in to Admin Portal, you can download the components Integration Gateway and Console Add-in.

If you are accessing the Admin Portal for the first time, then when you log in to Admin Portal, the **Setup and Configuration** wizard is displayed.

14. In **Setup and Configuration**, In **Welcome**, click **Next**.

15. In **Download and Install**, do the following and click **Next**:

- a. In **DLCI Integration Gateway for SC2012 VMM Installation**, click **Download Installer** and save the installer to a location.
- b. Run the **DLCI Integration Gateway for SC2012 VMM** installer.
- c. In the DLCI Integration Gateway for SC2012 VMM Welcome page, click **Next**.
- d. In **License Agreement**, select **I accept the terms in the license agreement**, and then click **Next**.
- e. In **License: Open-Source Software**, refer the open-source related information and click **Next**.
- f. In **Web Service Configuration**, provide details of Integration Gateway service account user and port number. To change the staging server location, click **Select Share Folder** and traverse to the new location and then click **Next**.

Assign a port for communication between appliance and Integration Gateway. The default port that is enabled is 8455. However, you can configure a different port number based on the requirement.

Execution policy for Integration Gateway service user account is set to **Unrestricted**.

- g. In **Destination Folder**, default installation folder is selected, to change location click **Change** and traverse to the new location. Once you complete the changes, click **Next**.
- h. In **Ready to Install the Program**, click **Install**.

The following shared directories are created during installation of Integration Gateway:

- DTK
- LC Driver
- ISO
- OMSA
- WIM

- i. Once the installation is complete, click **Finish**.

16. In **Setup and Configuration**, in **Server Details**, provide the following information and then click **Next**:

- a. Fully Qualified Domain Name (FQDN) of the SC2012 VMM Server and SC2012 VMM Server Administrator User Credentials.
SC2012 VMM Server Administrator user should not be a SC2012 VMM service account.
- b. Fully Qualified Domain Name (FQDN) of the server where the Integration Gateway is installed and Integration Gateway Service Account User Details and appropriate port number of the Integration Gateway (where 8455 is default port number)
- c. Dell Connections License manager information. Provide the Web console URL in this format: <IP Address or hostname>:8543/

The Dell Connections License manager uses 8543 and 8544 as default port numbers.

For example: **http://hostname.domain.com:8544/** for web console URL and **http://hostname.domain.com:8543/** for web service URL.

17. Click **Apply**, to complete the registration process.

18. In **Optional Setting and Installation**, In Console Add-in Installation, click **Download Installer** and save the installer file to the required location.

19. To install Console Add-in, see **Working With DLCI Console Add-in for SC2012 VMM** in the *Dell Lifecycle Controller Integration for Microsoft System Center 2012 Virtual Machine Manager User's Guide*.

Modifying Integration Gateway

Using this option you can only change the password. You cannot edit the user name or port information.

To modify the Integration Gateway:

1. Run the **DLCI Integration Gateway for SC2012 VMM** installer.
2. In **Program Maintenance**, select **Modify** and then click **Next**.
3. Change password and then click **Next**.
4. In **Modify the program**, click **Install**.
5. When the modify task is complete click **Finish**.

Repairing Integration Gateway

To repair the Integration Gateway:

1. Run the **DLCI Integration Gateway for SC2012 VMM** installer.
2. In **Program Maintenance**, select **Repair** and then click **Next**.
3. In **Ready to Repair**, click **Install**.
4. When the repair task is complete click **Finish**.

Uninstalling Appliance

To uninstall appliance:

1. Remove Integration Gateway. For more information, see [Removing Integration Gateway](#).
2. Remove appliance. For more information, see [Removing Appliance](#).
3. Remove appliance specific accounts. For more information, see [Other Uninstallation Tasks](#)
4. Remove the domain user that you have created during the DLCI Appliance installation.

Removing Integration Gateway

You must remove Integration Gateway from the system where it is installed.

To uninstall Integration Gateway:

1. In **Control Panel**, click **Programs** → **Uninstall a Program**.
2. Select **DLCI Integration Gateway for SC2012 VMM** and click **Uninstall**.

Removing Appliance

To remove appliance :

1. In **Windows Server**, in **Hyper-V Manager**, right-click the appliance file and click **Turn Off**.
2. Right-click the appliance file and then click **Delete**.

Other Uninstallation Steps

Includes: **Deleting Appliance specific RunAsAccounts** and **Deleting DLCI Application Profile**

Deleting Appliance specific RunAsAccounts

To delete the appliance specific RunAsAccounts from the SC2012 VMM console.

1. In the SC2012 VMM console, click **Settings**.
2. Click **Run As Accounts**.
3. From the list of accounts, delete appliance specific accounts.
The appliance specific accounts are prefixed as **Dell_**.

Deleting DLCI Application Profile

In the SC2012 VMM console, select **Library Server** → **Profiles** → **Applications profiles**, and delete **DLCI-VMM add-in registration profile**.

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/connectionscclientsystemsmanagement
- 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.