Dell Lifecycle Controller Integration Version 1.2 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, provides a solution to simplify and improve the process of firmware updates, and Hyper-V deployment on Dell servers. Also, you can export a server profile and import the same server profile for similar groups of servers if the server image is corrupt. This plugin uses the remote deployment feature of the Integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller providing a seamless user experience and you can apply Dell value additions through Microsoft System Center consoles to manage virtualized environments.

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**.

Components of DLCI for SC2012 VMM

The components of DLCI for SC2012 VMM are as follows:

- Dell Lifecycle Controller Integration (DLCI) for System Center Virtual Machine Manager (SC2012 VMM), also known as Appliance:

  - Is hosted on a Hyper-V as a virtual machine based on CentOS.
  - Interacts with Dell servers through iDRAC by using Web Services-Management (WSMan) commands.
  - Enables you to administer the appliance through the admin portal.
  - Enables you to view all jobs, activity logs from all users and license information

- DLCI Integration Gateway for SC2012 VMM, also known as Integration Gateway (IG) is a set of web services installed on a Windows server, which runs SC2012 VMM Powershell commands and WinPE Customization for Appliance.

- DLCI Console Add-in for SC2012 VMM, also known as DLCI Console Add-in enables you to perform appliance-based tasks such as discovery, profile creation, operating system deployment with or without LC driver injection, and firmware updates.

The following figure shows DLCI appliance setup with components and other software.
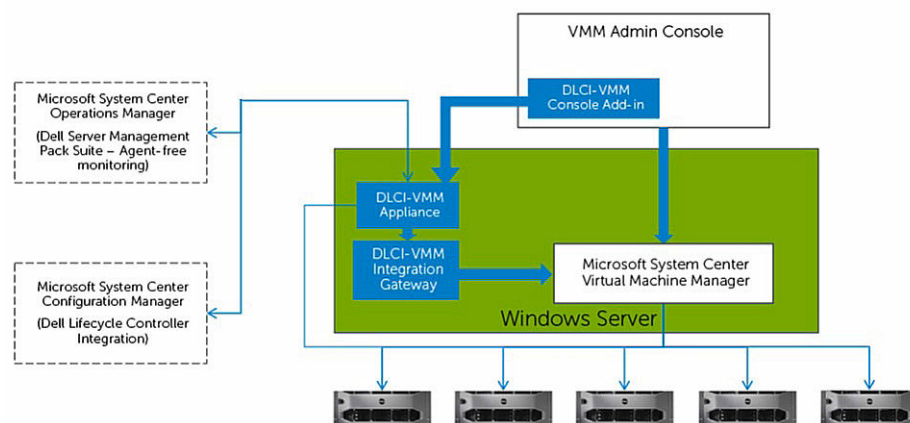
Users — roles and privileges

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

Table 1. : Roles and privileges

Role	DLCI Appliance Administrator	Integration Gateway Service Account	Integration Gateway Contributor account
Characteristics	Appliance-specific user (admin)	This account is as follows: • Valid <domain> user. • Local administrator rights to access the Integration Gateway server • Has VMM Administrator Privileges	Valid <domain> user with local administrator rights to access the Integration Gateway server.
DLCI Appliance Components Access	Admin portal DLCI Appliance	Integration Gateway	
Capabilities (has access to create, view, edit and delete the listed aspects, unless explicitly stated)	• Setup and Configuration • Activity Log • Download Integration Gateway • Download Console Add-in • License Details • All features of DLCI appliance users	(No visible features)	

Ports used in appliance

These ports are used by various components of the Appliance.

Include these ports in the firewall exception list.

Table 2. : Ports used in appliance

Details	Protocol	Default Port	Where to change Port Setting
iDRAC or OMSA communication	WSMAN	443	Not configurable
FTP command client	FTP	21	Not configurable
DNS client	DNS	53	Not configurable

Details	Protocol	Default Port	Where to change Port Setting
Dell Online Data Access	HTTP	80	Not configurable
Administration Console	HTTP	80	Not configurable
HTTPS server	HTTPS	443	Not configurable
PostgreSQL	Postgres	5432	Not configurable
Integration Gateway	HTTPS	8455	Configurable during the Integration Gateway installation.
Autodiscovery	HTTPS	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

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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.
  – Microsoft .NET version 3.5 is installed.
  – SC2012 VMM R2 UR8 Console or SC2012 VMM SP1 UR10 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 enabled.

      - IIS 7.5 or later is installed.

        – Windows Authentication in IIS is installed.

        – URL Authorization in IIS is enabled.

      - IIS 6 Metabase compatibility is enabled and under that IIS 6 WMI compatibility and IIS 6 Scripting Tools are enabled.

      - Failover Clustering feature is 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 URL: **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.

- Consider your organization's PowerShell execution policy guidelines and ensure that the effective execution policy is set for the local machine 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

- For Admin Portal:

  - Internet Explorer 10 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, download and install these components: Appliance, Integration Gateway, and Console Add-in.
To download appliance:

1. If you have the license for using DLCI for SC2012 VMM, then download DLCI for SC2012 VMM from the Digital Entitlement Portal, else contact Dell support team for a valid license.

   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 on the Hyper-V where you are setting up the appliance:

- The **Virtual Switch** is configured and available.

- The user credentials for the system on which SC2012 VMM is set up.

- The FQDN of SC2012 VMM.

- The FQDN and user credentials for IG.

- Shared network location to store the configuration files.

To set up appliance:

1. In **Windows Server**, in **Hyper-V Manager**, from the **Hyper-V Manager** menu, select **Actions → 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 **Specify Generation**, select **Generation 1**, and then click **Next**.

5. In **Assign Memory**, assign the required memory. A minimum of 4096 MB is required.

6. In **Configure Networking**, in **Connection** select the network that you want to use, and then click **Next**.

7. 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.

8. In **Summary**, confirm the details that you have provided and click **Finish**.

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

9. 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.

10. From the **Hyper-V Manager** menu, select the DLCI Appliance virtual machine and do the following:
    a. Select **Action → Start**.
    b. Select **Action → Connect**.

    > 📝 **NOTE:** If the newly created virtual machine with the selected virtual hard disk for the appliance fails to boot with any kernel panic exception, edit the virtual machine settings, and enable the dynamic memory option for this virtual machine by editing the newly created virtual machine settings.
    >
    > To enable the dynamic memory option for this virtual machine, right-click on appliance virtual machine, **Settings → Memory → Dynamic Memory and check** and then select **Enable Dynamic memory**.

11. Once the appliance has started, do the following:

    > 📝 **NOTE:** Dell recommends that you wait for five minutes before you log in as an Admin so that all the services are initiated.

    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**, types the host name and then press **OK**.

       For example, **hostname.domain.com**.
    g. In **Select Action**, press **Save&Quit**.

12. Make sure all the management systems have an entry in the DNS.

13. From the appliance, note the Admin Portal URL.

14. Using the Integration Gateway contributor account, log in to the system where you plan to install the Integration Gateway.

15. 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.

    > 📝 **NOTE:** 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.

16. In **Setup and Configuration**, in **Welcome**, click **Next**.
17. 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 **Prerequisites Status**, do the following and click **Next**.

        1. To view the latest prerequisites status, click **Scan for Prerequisite** and confirm the status.

        2. To install prerequisites, click **Install Prerequisite**.

        > NOTE: The following prerequisites are automatically installed by the IG when you click **Install Prerequisite**:
        > - HTTP Activation under Microsoft .NET 4.5
        > - Windows Authentication in IIS under IIS 7.5
        > - URL Authorization in IIS under IIS 7.5
        > - IIS 6 Metabase compatibility under IIS 6 WMI compatibility, and IIS 6 Scripting Tools
        > - Failover Clustering

    g. In **Integration Gateway Configuration**, provide details of Integration Gateway service account user who is a: domain user, part of System Center Virtual Machine Manager administrator group, and local administrator group. 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. To change the staging server location, click **Select Share Folder** and traverse to the new location and then click **Next**.

        > NOTE:
        > - Make sure the shared folder created has a minimum disk space of 10 GB.
        > - **Execution policy** for Integration Gateway service user account is set to **Unrestricted**.

    h. The default installation folder **Integration Gateway for VMM** is selected. To change location, click **Change** and traverse to the new location. Once you complete the changes, click **Next**.
    i. In **Ready to Install the Program**, click **Next**.

        The following shared directories are created during installation of Integration Gateway:
        - DLCI Protection Vault
        - DTK
        - DOWNLOADS
        - INVENTORY
        - ISO
        - LCDRIVER
        - Log
        - OMSA
        - WIM

    j. Once the installation is complete, click **Finish**.
18. Return to the DLCI Admin portal, and in **Setup and Configuration**, under **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.

Provide the credentials of a user account who is a domain user, part of System Center Virtual Machine Manager administrator group, and local administrator group. SC2012 VMM Server Administrator user should not be an 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)

Provide the credentials of a user account who is a member of System Center Virtual Machine Manager, member of domain user group, System Center Virtual Machine Manager administrator group, and local administrator group.

19. In **Apply Settings** click **Apply**, to complete the registration process.
20. In **Installation**, for Console Add-in Installation, click **Download Installer** and save the installer to a location.
21. Run the **DLCI_VMM_Console_Addin** installer.
22. On the **DLCI Console Add-in for SC2012 VMM** Welcome page, click **Next**.
23. On the **License Agreement** page, select **I accept the terms in the license agreement**, and then click **Next**.
24. In the **Destination Folder** page, by default an installation folder is selected. To change the location, click **Change** and traverse to the new location, and then click **Next**.
25. On the **Ready to Install the Program** page, click **Install**.
26. On the **InstallShield Wizard Completed** page, click **Finish** to complete the installation.

Modifying Integration Gateway

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

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 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**, provide the Integration Gateway user account password, and then click **Install**.
4. When the repair task is complete click **Finish**.

Modifying SC2012 VMM and Integration Gateway 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**, under **DLCI Integration Gateway for SC2012 VMM**, click **Modify Credentials**.
3. Update password and click **Save**.

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Upgrading DLCI for SC2012 VMM

After you install and setup DLCI for SC2012 VMM, if a service pack update is available for DLCI for SC2012 VMM, then by using this feature you can install the service pack update.

> NOTE: If you are using an online FTP account, edit and add the proxy details for the default update source and save it.

About service pack updates

Once DLCI for SC2012 VMM is released, it is required to share any critical defect fixes or feature additions that are available as an upgrade or extension to the existing appliance.

- You can place the service pack files directly in any HTTP server and use the service pack files for updates.
- You can incrementally apply these service packs; however, once applied you cannot roll them back.
- The service packs are cumulative, that is, the latest service pack has fixes from all the previous releases.

The two types of service packs by DLCI for SC2012 VMM are:

- Appliance service packs
- Infrastructure service packs

Downloading appliance service packs and infrastructure service packs

A prerequisite to download service packs from the digital entitlement site is that you require a valid subscription.
The Infrastructure service packs are available for free.

To download the service packs:

1. Log in to the digital entitlement portal with this URL: **dell.com/support/licensing/us/en/19/Lkm/Index**.
2. Select **Available Software Downloads**, and then select **Dell Lifecycle Controller Integration for Microsoft System Center Virtual Machine Manager** and click **View**.
3. Download the service pack.

Prerequisites for service pack updates

Complete these prerequisites before you begin upgrade.

1. Verify that there are no jobs running. If there are any jobs running wait until the jobs are completed.
2. Back up DLCI for SC2012 VMM virtual machine, for more information see Microsoft documentation.

Copying service pack updates to repository

You require a repository to place the downloaded service pack.
To prepare a repository:

1. Place the service packs files directly in the HTTP server.
2. Double-click the downloaded service pack and extract the files to a location.
3. Copy the extracted files to the HTTP site.

Providing repository URL information

To provide URL information:

1. In **DLCI Admin Portal — SC2012 VMM**, select **Settings → Service Pack Updates**.
2. In **Repository URL**, provide the URL information in the format **http://<servername>:<portname>/ <repository path>** and if necessary provide proxy server details, and then click **Save**.

Installing service pack updates

Check to see if the repository's URL information is available and included in the **Service Pack Updates** page, for more information see, [Providing repository URL information](#).

To install service pack updates:

1. Once the service pack is placed in the HTTP site, in **DLCI Admin Portal — SC2012 VMM → Settings → Service Pack Updates**, click **Check for Updates**.

   For DLCI for SC2012 VMM, the existing version and the service pack version available in the repository are displayed.

   If necessary, you can view the Release Notes.
2. Click **Apply**, and then click **OK**.

   Once the upgrade activity is complete, log in to the DLCI Admin portal and then clear the browser's cache history.

Postinstall:

To verify the Service Pack update:

1. In Admin Portal, in **About**, view the Service Pack update version details.
2. For more information, in Admin Portal, select **Settings → Logs**.
3. In the **upgradelogs** directory, to view or download the log files for the service pack upgrade, select the **<service pack version number>** directory, for example 1.2.0.207 directory to view or download the log files for the service pack upgrade.
4. If the service pack update has failed, then contact **dell.com/support**.

Once the service pack update is complete upgrade the Integration Gateway to version 1.2:

To upgrade Integration Gateway:

Prerequisites: Make sure the shared folder created has a minimum disk space of 10 GB.

> **NOTE:** The installation continues with a warning message even if there is no disk space of 10 GB space. However operating system deployment, and firmware update may fail.

1. From the Admin portal, download the Integration Gateway installer.
2. Run the **DLCI Integration Gateway for SC2012 VMM** installer.
3. In the message prompting you to upgrade, click **Yes**.
4. In the **DLCI Integration Gateway 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 **License: Open-Source Software**, refer the open-source related information and click **Next**.
7. In **Integration Gateway 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**.
8. 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**.
9. In **Ready to Install the Program**, click **Install**.
10. Once the installation is complete, click **Finish**.

Postrequisites: After upgrading to this version of DLCI for SC2012 VMM, rediscover the servers used in earlier versions to use the new features.

Uninstalling appliance

To uninstall appliance:

1. Remove Integration Gateway. For more information, see <u>Removing Integration Gateway</u>.
2. Remove console add-in. For more information, see <u>Removing console add-in</u>.
3. Remove appliance. For more information, see <u>Removing appliance</u>.
4. Remove appliance-specific accounts. For more information, see <u>Other uninstallation tasks</u>

> **NOTE:** Dependency on Dell Connections License Manager (DCLM) has been removed. Hence to uninstall DCLM, see *Dell Connections License Manager Installation Guide*.

Removing Integration Gateway

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 console add-in from SCVMM

To remove the console add-in from the SCVMM:

1. In the VMM console, click **Settings**.
2. Right-click on the console add-in and select **Remove**.

Uninstalling console add-in

To uninstall the console add-in:

1. In **Control Panel**, click **Programs → Uninstall a Program**.
2. Select **DLCI Console Add-in for SC2012 VMM**, and then 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** → **Profiles** → **Applications profiles**, and delete **DLCI-VMM add-in registration profile**.

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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 OpenManage 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 OpenManage Connections Client Systems Management documents — **Dell.com/DellClientCommandSuiteManuals**
- From the Dell Support site:

  a. Go to **Dell.com/Support/Home**.

  b. Under **Select a product** 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**
     - **Dell Client Command Suite**
     - **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.