Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager

Version 2.0

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Note
Before using this information and the product it supports, read the information in “Notices” on page 35.

Edition notice

This edition applies to version 2.0 of Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager and to all subsequent releases and modifications until otherwise indicated in new editions.

This User's Guide provides the latest information for Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager. The Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager is a plug-in application for Microsoft System Center Virtual Machine Manager that is designed to manage Lenovo x and Flex Servers and offer value-add features that connect the hardware infrastructure and the virtual infrastructure.

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About this publication

This book provides instructions for installing and using Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager.

Conventions and terminology

Paragraphs that start with a bold **Note**, **Important**, or **Attention** are notices with specific meanings that highlight key information.

Note: These notices provide important tips, guidance, or advice.

Important: These notices provide information or advice that might help you avoid inconvenient or difficult situations.

Attention: These notices indicate possible damage to programs, devices, or data. An attention notice appears before the instruction or situation in which damage can occur.

The following table describes some of the terms, acronyms, and abbreviations used in this document.

Table 1. Definitions for terms used in this guide

Term, Acronym, or Abbreviation	Definition
Lenovo XClarity Administrator	Provides a single element manager for x86 nodes in both Flex Systems and stand-alone racks, as well as the chassis resource manager for PureFlex.
Lenovo XClarity Integrator	A tool suite that provides IT administrators with the ability to integrate the management features of the System x with Microsoft System Center. Lenovo expands Microsoft System Center server management capabilities by integrating Lenovo hardware management functionality, providing affordable, basic management of physical and virtual environments to reduce the time and effort required for routine system administration. It provides the discovery, configuration, monitoring, event management, and power monitoring needed to reduce cost and complexity through server consolidation and simplified management.
Management Node	A physical or virtual machine on which the SCVMM service, the Lenovo Unified Service and the Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager are installed and running
Managed Node	A physical machine managed with SCVMM, on which the SCVMM Agent is installed and running
PFA	Predictive Failure Alert

Table 1. Definitions for terms used in this guide (continued)

Term, Acronym, or Abbreviation	Definition
SCVMM	Microsoft System Center Virtual Machine Manager
UXSP	UpdateXpress System Pack
UXSPI	Lenovo UpdateXpress System Pack Installer

Information resources

You can find additional information about Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager on the World Wide Web.

You can find additional information about Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager in the product documentation and on the World Wide Web.

PDF files

View or print documentation that is available in Portable Document Format (PDF).

Downloading Adobe Acrobat Reader

You must have Adobe Acrobat Reader to view or print these PDF files. You can download a copy from the Adobe Reader website.

Viewing and printing PDF files

You can view or print any of the PDF files located on the web. The most current version of each document is available on the product download page. Click the following link to locate the individual product pages for each publication: Lenovo System x Integration Offerings for Microsoft Systems Management Solutions portal.

- Lenovo PureFlex and System x Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager

Saving PDF files

To save a PDF file, complete the following steps:

1. Right-click the link to the PDF in your browser.
2. Perform one of the following tasks.

Web browser	Command
For Internet Explorer	Click **Save Target As**.
For Mozilla	Click **Save Link As**.

3. Navigate to the directory in which you want to save the PDF file.
4. Click **Save**.

World Wide Web resources

The following web pages provide resources for understanding, using, and troubleshooting Lenovo PureFlex™, System x,BladeCenter® blade servers, and systems-management tools.

Lenovo website for Microsoft Systems Management Solutions for Lenovo servers

The Lenovo website for Microsoft Systems Management Solutions for Lenovo Servers can be found at http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-MANAGE.

Locate the latest downloads for Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager.

Lenovo Systems Technical support site

Locate support for Lenovo hardware and systems-management software. http://support.lenovo.com/

Lenovo ServerProven® page

- System x Flex System Manager pages at: http://www-03.ibm.com/servers/eserver/serverproven/compat/us/indexsp.html
- BladeCenter ServerProven pages at: http://www-03.ibm.com/servers/eserver/serverproven/compat/us/eserver.html

Obtain information about hardware compatibility with Lenovo System x, Lenovo BladeCenter, and IBM IntelliStation® hardware.

Lenovo PureFlex system and Flex System Manager

Lenovo PureFlex system and Flex System Manager http://pic.dhe.ibm.com/infocenter/flexsys/information/index.jsp

Chapter 1. About Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager

The Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager is a plug-in application for Microsoft System Center Virtual Machine Manager (SCVMM), which is provided as a Lenovo XClarity Integrator extension. It facilitates the management of Lenovo System x and Flex Servers and offers value-add features to connect the hardware infrastructure and the virtual infrastructure.

About Lenovo XClarity Integrator

The Lenovo XClarity Integrator are extensions to Microsoft System Center and VMware vCenter. These extensions provide IT administrators with enhanced management capabilities for Lenovo System x servers, BladeCenter servers, and Flex systems. The Lenovo XClarity Integrator extensions include a set of plug-ins for Microsoft System Center and VMware vCenter, stand-alone applications and service applications.

With Lenovo XClarity Integrator, Lenovo expands the management capabilities of Microsoft System Center and VMware vCenter by integrating Lenovo hardware management functionality and providing affordable, basic management of physical and virtual environments to reduce the time and effort required for routine system administration. This functionality provides for the discovery, configuration, monitoring, event management, and power monitoring needed to reduce cost and complexity through server consolidation and simplified management.

Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager

Through features such as Rolling System Update, which enables firmware to be updated without interrupting serviceability, Lenovo XClarity Integrator Add-in makes it easier to manage Lenovo servers. Through an integrated user interface on the SCVMM Admin panel, you can manage Lenovo hardware assets such as servers, storage devices, and network switches. Lenovo Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager requires the Lenovo XClarity Integrator Unified Service as its back end.

Chapter 2. System requirements

Information about required hardware and software is provided.

Hardware

Table 2. Minimum and recommended hardware requirements

Minimum	Recommended
Single x86-64 processor/core	4 x86-64 processors/cores
2 GB RAM	8 GB RAM
20 GB of free hard drive space	40 GB of free hard drive space
100 MBPS network card	10,000 MBPS network card

Software requirements

Management nodes

- Windows Server 2012 SP1 (x64), 2012 R2 (x64)
- .NET Framework 4
- Microsoft System Center Virtual Machine Manager 2012 SP1 , 2012 R2

Managed nodes

- Windows Server 2008R2(x64), 2012 SP1 (x64), 2012 R2 (x64)
- .NET Framework 3.5 and 4.0 on Windows Server 2008R2
- Microsoft System Center Virtual Machine Manager 2012 SP1 , 2012 R2 Agent
- Hyper-V Role

Supported hardware

Although Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager does not have hardware limitations, the hardware that it manages is limited to the IBM and Lenovo System x and Blade servers in the following tables.

Table 3. IBM supported hardware

System	Server number
System x server	• dx360 M2 (7321, 7323) • dx360 M3 (6391) • dx360 M4 (7912, 7913, 7918, 7919) • nx360 M4 (5455) • Smart Analytics System (7949) • x3100 M4 (2582) • x3200 M2 (4367, 4368) • x3200 M3 (7327, 7328) • x3250 M2 (7657, 4190, 4191, 4194) • x3250 M3 (4251,4252,4261) • x3250 M4 (2583) • x3250 M5 (5458) • x3300 M4 (7382) • x3400 M2 (7836, 7837) • x3400 M3 (7378, 7379) • x3500 M2 (7839) • x3500 M3 (7380) • x3500 M4 (7383) • x3530 M4 (7160) • x3550 M2 (7946, 4198) • x3550 M3 (7944, 4254) • x3550 M4 (7914) • x3620 M3 (7376) • x3630 M3 (7377) • x3630 M4 (7158, 7518, 7519) • x3650 M2 (7947, 4199) • x3650 M3 (7944, 7945, 4254, 4255, 5454) • x3650 M4 (7915) • x3650 M4 HD (5460) • x3650 M4 BD (5466) • x3750 M4 (8722, 8733) • x3755 M4 (7164) • x3690 X5 (7148, 7149, 7147, 7192) • x3850 X5/X3950 • X5 (7145, 7146, 7143, 7191) • x3850 X6 (3837)
Flex Compute Node	• Flex System x220 Compute Node (7906, 2585) • Flex System x222 Compute Node (7916) • Flex System x240 Compute Node (8737, 8738, 7863) • Flex System x440 Compute Node (7917)

Table 3. IBM supported hardware (continued)

System	Server number
Blade System	• HS22 (7870, 7809, 1911, 1936) • HS22V (7871, 1949) • HS23 (7875, 1882, 1929) • HS23E (8038, 8039) • HX5 (7872, 7873, 1909, 1910)

Table 4. Lenovo supported hardware

Lenovo supported hardware	Server number
System x server	• NeXtScale nx360 M5 (5465) • NeXtScale nx360 M5 DWC (5467, 5468, 5469) • x3500 M5 (5464) x3550 M4 (7914) • x3550 M5 (5463) • x3630 M4 (7158) • x3650 M4 (7915) • x3650 M5 (5462) • x3750 M4 (8753) • x3850 X6 / x3950 X6 (6241)
Flex Compute Node	• Flex System x240 Compute Node (7162, 2588) • Flex System x240 M5 Compute Node (2591, 9532) • Flex System x440 Compute Node (7167, 2590) • Flex System x280,x480,x880 X6 Compute Node (7196, 4258)

Chapter 3. Installing Lenovo XClarity Integrator Add-in

Information about installing Lenovo XClarity Integrator Add-in is provided.

Before you begin

Download the Lenovo XClarity Integrator Add-in Installer from the LXCI download page at http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-MANAGE

Procedure

1. Double-click the Lenovo XClarity Integrator Add-in installer file. The Welcome screen displays.
2. Install the package according to prompts on InstallShield wizard.
3. After the installation completes, follow the steps in "Importing Lenovo XClarity Integrator Add-in" on page 9.

Upgrading Lenovo XClarity Integrator Add-in

If an earlier version is detected, the InstallShield Wizard automatically starts the upgrade process.

Procedure

1. Upgrade the existing version by following the prompts on InstallShield Wizard.
2. The upgrade process also updates Lenovo XClarity Integrator Unified Service. For update details, refer to the Lenovo UIM Unified Service User's Guide.
3. After InstallShield Wizard completes, import the Lenovo XClarity Integrator Add-in SCVMM Add-in zip file into SCVMM. The file name is `lnvgy_sw_scvmmaddin_2.0.0-2.0_windows_32-64.zip`. For information on how to import the file, refer to chapter 4.

Uninstalling Lenovo XClarity Integrator Add-in

Use this procedure to uninstall Lenovo XClarity Integrator Add-in.

About this task

Go into the Control Panel and open the Programs and Features window. Uninstall GSKit8 Crypt 32-bit, Lenovo XCI SCVMMADDIN, and Lenovo XClarity Integrator Unified Service.

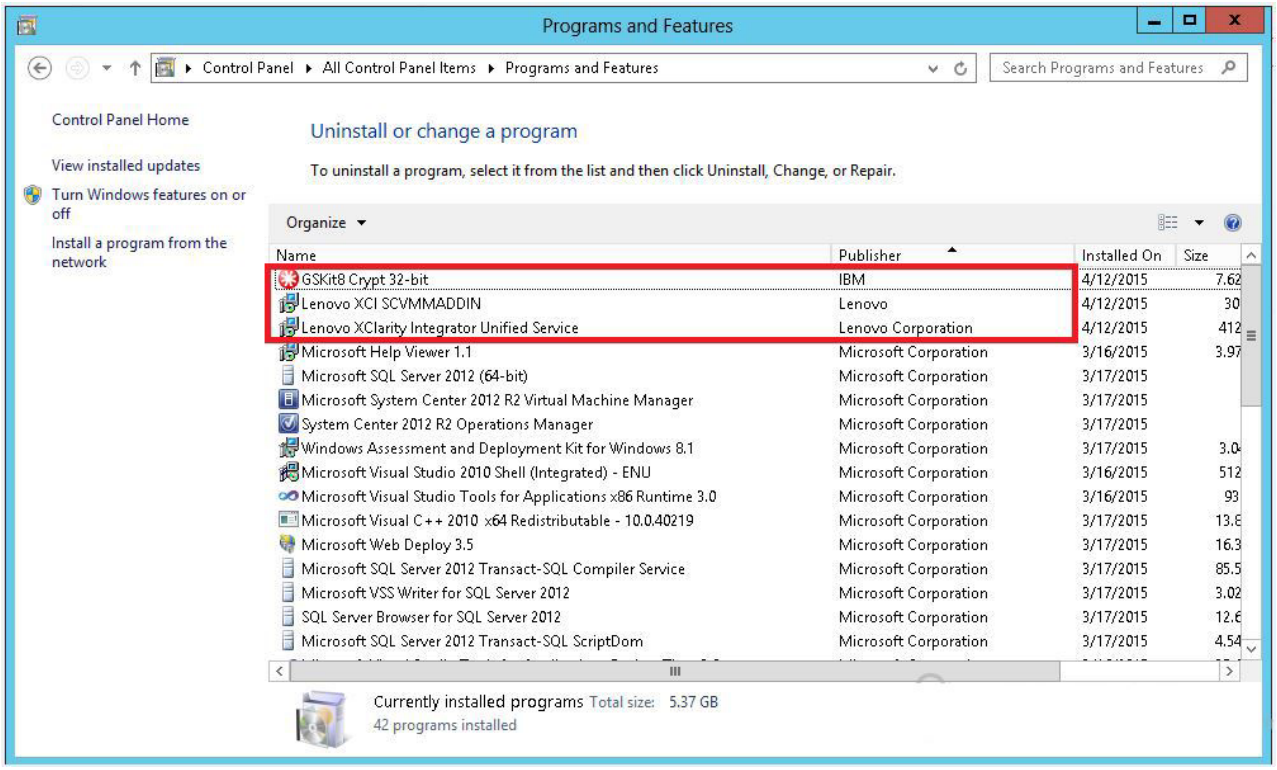

Figure 1. Programs and Features window

Chapter 4. Using Lenovo XClarity Integrator Add-in

This section provides information about importing and starting theLenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager. It also provides procedures for setting host authentication, setting Rolling System preferences, and adding an Integrated Management Module (IMM).

Importing Lenovo XClarity Integrator Add-in

You must import the SCVMM Add-in zip file into SCVMM manually. After the InstallShiled Wizard completes, the Lenovo XClarity Integrator Add-in SCVMM Add-in zip file is copied into a specified folder. Use following the procedure to import it.

Procedure

1. From the SCVMM Admin UI, on the Settings category page, click **Import Console Add-in**.

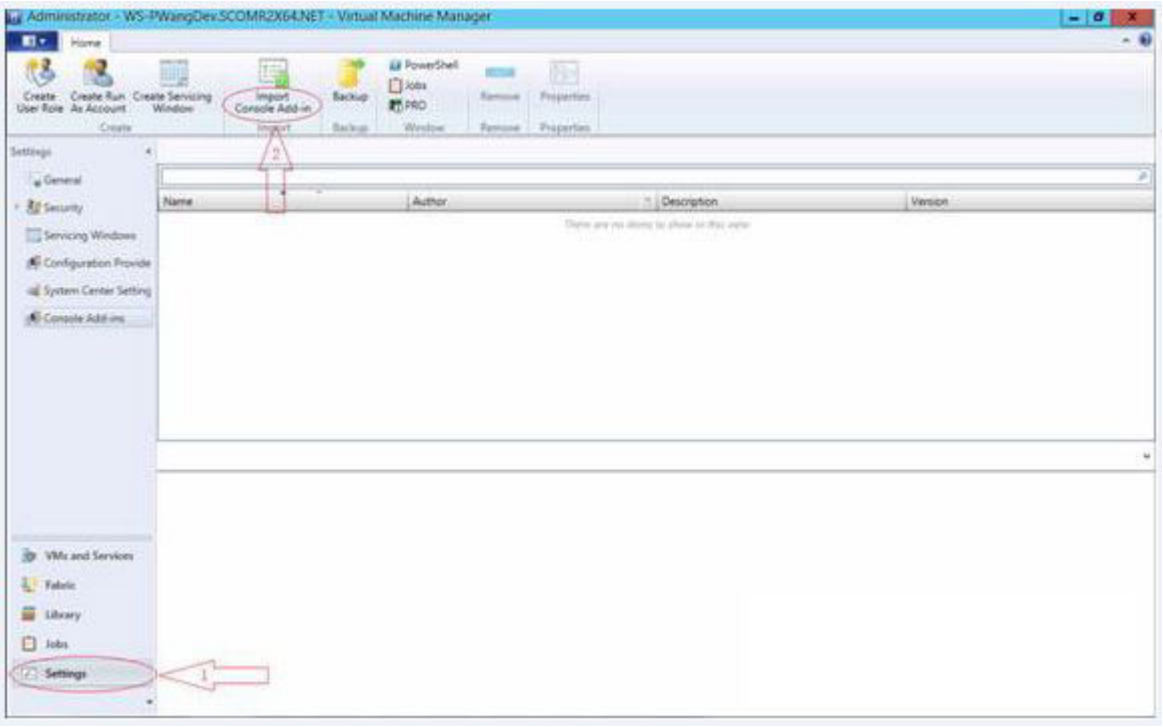

Figure 2. Import Console Add-in selection

2. In the Import Console Add-in Wizard window, click **Browse** and then navigate to the LXCI SCVMM Add-in ZIP file, which is typically placed in the following path: `C:\Program Files (x86)\Lenovo\XCI ScvmmAddIn`. Select the **Continue installing this add-in anyway** check box, and click **Next** to continue.

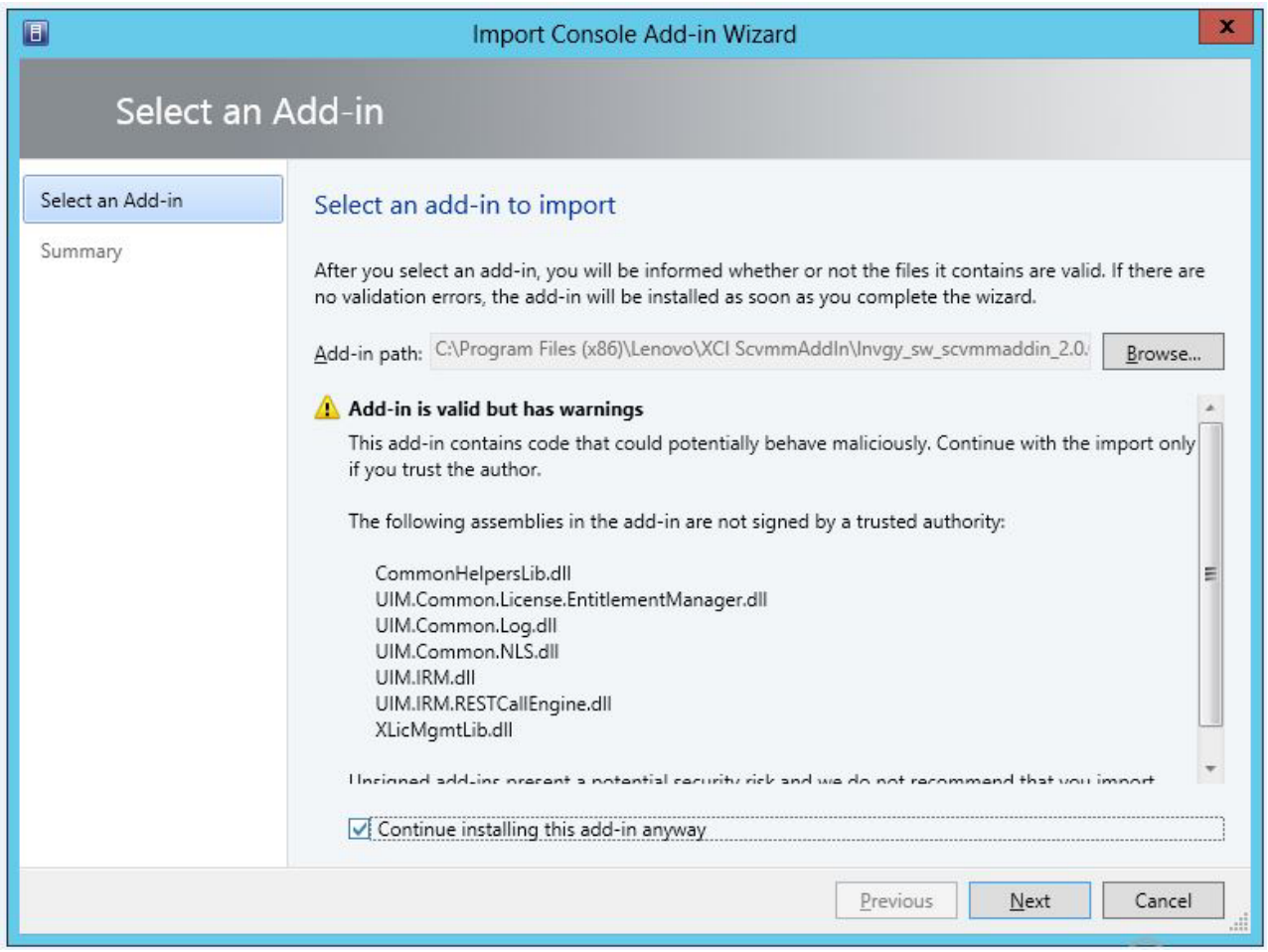

Figure 3. Import Console Add-in Wizard window

3. Click **Finish** to continue with the import procedure. The status of the import procedure is presented in the Jobs report console.

Starting Lenovo XClarity Integrator Add-in

After importing the Lenovo XClarity Integrator Add-in SCVMM Add-in zip file, use the procedure in this section to start the Lenovo XClarity Integrator Add-in.

Before you begin

Important: Lenovo XClarity Integrator Add-in provides some functions that enable you to operate hosts, clusters, chassis, racks, and Lenovo XClarity Administrator. To avoid unauthorized operation, only Domain Administrators and accounts with a “delegated administrator” user role can access Lenovo XClarity Integrator Add-in.

Procedure

1. Open the SCVMM Admin UI.
2. Select **VMs and Services** or **Fabric** from the lower left corner of SCVMM Admin UI. A navigation pane displays.
3. Select **All Hosts**.
4. Click the **Lenovo XCI** icon at the top of the SCVMM Admin UI.

5. From either the Fabric category page or the VMs and Services page, click the **Lenovo XCI** icon at the top of the window.

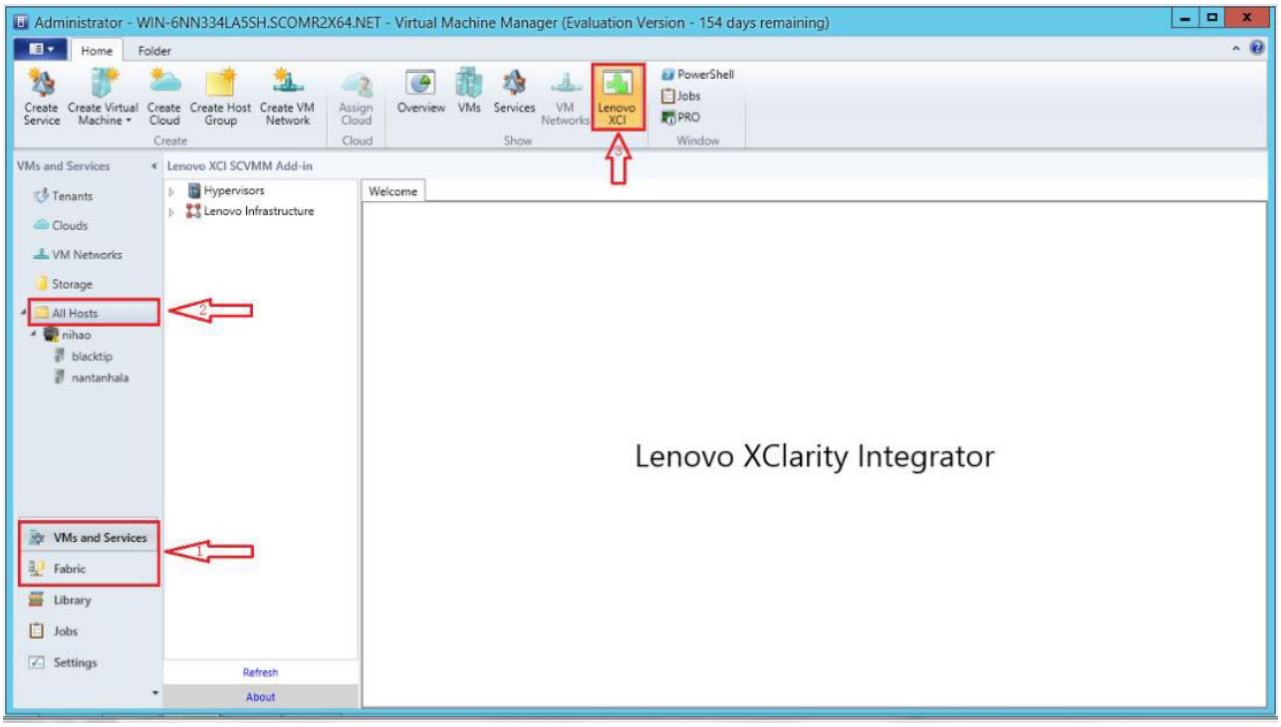

Figure 4. Starting Lenovo XClarity Integrator Add-in

The interface for Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager console comprises two sections. On the left side is a navigation pane containing managed assets, including host clusters and their managed hosts that are synchronized with SCVMM configuration; and Lenovo XClarity Administrators and their managed chassis. On the right side is the main frame, which displays the current operation relevant to the asset selected in the left tree view. To refresh or reload assets in left navigation pane, press Ctrl+F5 or click the **Refresh** button at the bottom of navigation pane.

Setting host authentication

Use the Hypervisor node to view information about the host.

The authentication information is required to collect detailed system information, such as Machine Type, and enabling some Lenovo LXCI functions, such as Rolling System Update and Rolling System Reboot. To set host authentication information, you can expand Hypervisor from the navigation pane of the Lenovo XClarity Integrator Add-in, and then expand the cluster and click on one host. On the Host General page, you can see **Authentication OS**. Click it to enter the Host Authentication Information dialog. You must set following information to finish host authentication.

Run As Account

SCVMM Run As account is used for the SCVMM service to execute scripts on the target host. You must specify an account with domain administrator permission for all Lenovo XClarity Integrator Add-in functions to work correctly.

Username and Password

A user account with domain administrator permission is required to connect to a specific host via WMI to collect system information, to execute scripts and applications, or to access the SMB share folder (typically C$) of a specific host.

Note: Ensure that the SMB and WMI services of the managed hosts are enabled. After being encrypted, the authentication information is stored in the Lenovo XClarity Integrator Unified Service database.

Click the **Set Auth Info** button on the bottom of the host **General** tab. Then complete the fields on the Set Authentication Information window. The information can be applied to either the selected host, the hosts in the same cluster, or to all hosts listed in the navigation pane. Wait after applying the information. The information is verified and the result is shown in the UI.

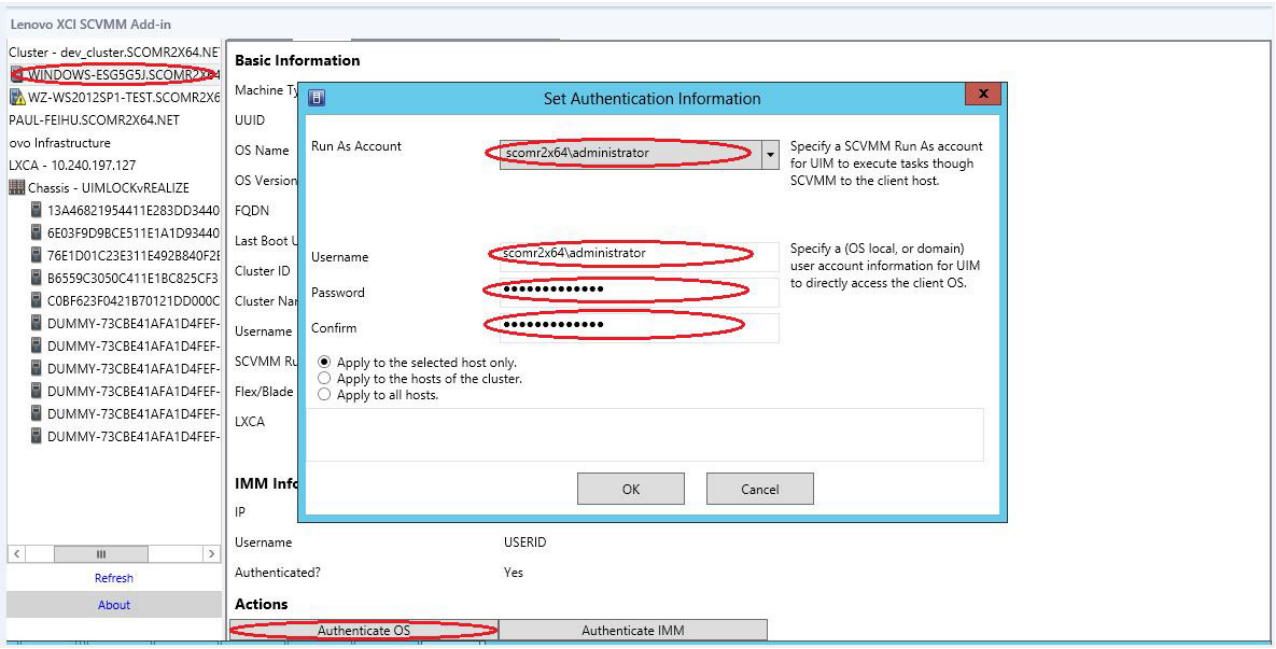

Figure 5. Setting host authentication

Setting Rolling System preferences

Setting Rolling System Preference is precondition of Rolling System Update functions. Use following the procedure.

Procedure

1. Expand Hypervisor from the navigation pane of the Lenovo XClarity Integrator Add-in, and then select the target cluster.
2. From the top of main frame, select Rolling System Update.
3. Click the Preferences tab in Rolling System Update page.
4. Set Remote Access Credentials in Local Repository Folder section: Please set User Name, Password of your SCVMM Server into Remote Access Credential. Hosts need the Remote Access Credentials to access the SCVMM Server, in

order to download update packages from local repository folder of SCVMM Server. Local repository folder path is shown on top of Local Repository Folder section, and it can't be changed.

5. If you have available update packages, you can copy them into Local Repository Folder path. If not, you can set Check Updates from Lenovo Website Section to download these update packages from Lenovo website automatically. Following are how to set Check Updates from Lenovo Website Section: Firstly, check the checkbox of Check Updates from Lenovo Website. Then configure your Internet settings, and choose how often you want to update these update packages automatically. If you want to begin download update packages at once, you can check the checkbox Check Now. Then after you submit the package, download process will begin.

Adding an Integrated Management Module (IMM)

Adding an Integrated Management Module (IMM) into the Lenovo XClarity Integrator Add-in is a precondition for some functions, such as the PFA function.

There are two steps to add IMM:

1. IMM discovery
2. IMM authentication

IMM discovery

This function is to discover IMM entries.

Procedure

1. Select the **Hypervisors** or the **Lenovo Infrastructure** root entry in the navigation pane of the Lenovo XClarity Integrator Add-in.
2. Choose the IMM Management page on the top of main frame.
3. Click the **Discover** button. The IMM Discovery dialog displays.
4. Enter one IP address or a range of IP addresses. IPv4 and IPv6 are supported.
5. Click the **OK** button in the IMM Discovery dialog.

   The dialog closes immediately if the **Run in the background** option is selected. Otherwise, the dialog closes when the discovery process has successfully completed. Successful completion means that the request has been handled and returned regardless of the number of IMM entries actually discovered.

   If the request has successfully completed, the newly discovery IMM entries are updated on the IMM table on the IMM Management page.

   The dialog remains open when there is a failure in handling the request. This can occur when the request has not reached to the server due to a communication failure.

IMM authentication

This function is to input username and password information for IMM entries. The information is saved in the LXCI database for future use in other functions.

Procedure

1. Select the **Hypervisors** or the **Lenovo Infrastructure** root entry in the navigation pane of the Lenovo XClarity Integrator Add-in.
2. Choose the IMM Management page on the top of main frame.
3. Select the check boxes next to the IMMs to be authenticated.

4. Click the **Authenticate** button. The IMM Authentication dialog displays.
5. Enter username and password information.
6. Click **OK**. If the request has successfully completed, the IMM table on the IMM Management page is updated.

Adding Lenovo xClarity Administrator

Adding Lenovo XClarity Administrator (LXCA) into the Lenovo XClarity Integrator Add-in is precondition of some functions, such as viewing general information about Lenovo XClarity Administrator (LXCA) and viewing a chassis map of its managed chassis. Use the steps in this section to add one Lenovo XClarity Administrator into Lenovo XClarity Administrator (LXCA).

Procedure

1. Click on Lenovo Infrastructure from the navigation pane.
2. Click the **LXCA Registration** tab at the top of the main frame. The Registered LXCA page displays on the main frame. All registered LXCAs are displayed on the page.
3. Click the **Register** button to begin LXCA registration. An LXCA registration dialog displays.
4. Enter the IP address, User Name, Password, and Port for the Lenovo xClarity Administrator (LXCA) in the LXCA registration dialog. After you submit, the Lenovo XClarity Integrator Add-in connects to the Lenovo XClarity Administrator (LXCA) to authenticate.
5. After you register, click the **Refresh** button to update navigation pane.

Chapter 5. Working with functions

This section introduces Lenovo XClarity Integrator Add-in functions.

Collecting information

Lenovo XClarity Integrator Add-in collects information about hosts, chassis, and Lenovo XClarity Administrator in order to aid in managing systems.

Viewing host information

You can get general information about hosts inside of a host cluster that is configured in SCVMM.

For information on how to configure a host cluster in SCVMM, refer to https://technet.microsoft.com/en-us/library/cc956009.aspx.

To view host information, expand Hypervisor from the navigation pane of the Lenovo XClarity Integrator Add-in, and then expand the cluster and click on one host.

To see general information for a host inside a cluster, expand the **Hypervisor** node from the navigation pane of the Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager UI, select the cluster where the host resides, and select the host.

To see the general information for a host outside a cluster, expand the **Hypervisor** node from the navigation pane of the Lenovo XClarity Integrator Add-in for Microsoft System Center Virtual Machine Manager UI, then select the host.

Viewing general information about Lenovo XClarity Administrator

You can view general information about the Lenovo XClarity Administrator the chassis that are managed by the Lenovo xClarity Administrator.

To view general information of Lenovo xClarity Administrator, you must first register Lenovo XClarity Administrator. See chapter 4 for more information.

Then expand Lenovo Infrastructure from the navigation pane, and select one of Lenovo XClarity Administrators you targeted. General Information about the Lenovo XClarity Administrator displays on main frame like this:

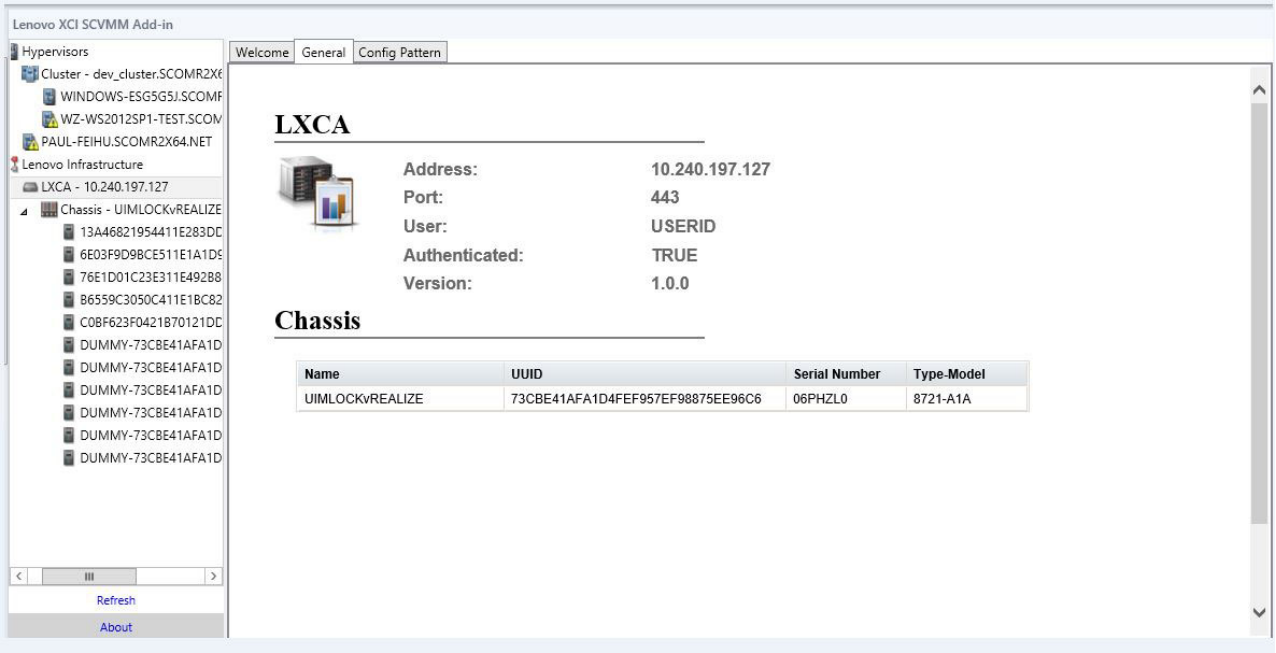

Figure 6. Lenovo XClarity Administrator general information

Viewing a chassis map

After Lenovo XClarity Administrator is registered in Lenovo XClarity Integrator Add-in, you can review chassis map for a chassis that is managed by the Lenovo XClarity Administrator.

Expand one of the targeted Lenovo xClarity Administrators listed, such as **LXCA – 10.240.190.4**, and then choose one chassis you want to review.

Working with the chassis map function

From the Chassis page, click the link for the chassis in the Chassis column. The Chassis View page for that chassis is displayed.

The chassis map is a graphical view of the chassis. You can also display the component status in a tabular list by clicking **Table view**.

Figure 7. Chassis map

Table 5. Hardware map overlays

Overlay	Icon	Description
Hardware status		Use the hardware status overlay to show the status of each of the components. You can choose one or more of the following status criteria to show: • **Critical**. Components have one or more critical alerts and immediate user action is required. • **Warning**. Components have one or more warning alerts. User investigation is needed to determine the cause of the warnings, but there is no immediate risk of an outage. • **Synchronizing**. The LXCA is waiting for the components to provide updated status. • **Offline**. Components are not online. • **Unknown**. The LXCA is not able to retrieve the status from one or more components in a chassis. User investigation might be needed. • **Normal**. Components are operating normally. Hover over a specific component to get more information about the current status.

Table 5. Hardware map overlays (continued)

Overlay	Icon	Description
Highlight front panel LEDs		Use the highlight front panel LEDs overlay to see the LEDs that are available for each of the components. You can choose one or more of the following LEDs to show: • **Power LED**. Display the current power LED for each component. • **Event Log LED**. Display the event log LED, which is lit when there are events specific to a component in the LXCA event log. • **Location LED**. Display the location LED, which can be turned on from the CMM to help you identify where a component is physically located. • **Fault LED**. Displays the status of the Fault LED for each component. • **Other LED**. Display all other LEDs that are available for each component. • **Only Active LEDs**. Display only the LEDs that are currently lit. Hover over a specific component to get more information about all LEDs for a component. For detailed information about each of the LEDs that can be displayed for a component, see the product documentation that is available for that component.
Component names and properties		Use the component names and properties overlay to display the name for each component in the chassis. When you hover over a component, additional properties about that component, such as IP address and UUID are displayed.

Table 5. Hardware map overlays (continued)

Overlay	Icon	Description
Compliance		Use the compliance overlay to determine whether the firmware that is currently installed on a component complies with the compliance policy that has been defined for that component.
Configuration Patterns		Use the Configuration Pattern overlay to determine which server patterns are assigned to each compute node.

Viewing details for a managed chassis

You can view the detailed information about the managed chassis from the LXCA when you click the Open LXCA for Details link.

These details include firmware levels, IP addresses, and universally unique identifiers (UUIDs).

All Action button
There is an **All Action** button on the chassis map page. By clicking this button, you can access the IMM interface and control one selected host remotely.

Launch Management Module Interface
If you select a chassis or host in the chassis map page, you can open an IMM web page in new window.

Launch Remote Control
You can open a Remote Control if you select a host in the Chassis Map view.

Monitoring

This section covers managing RAS, setting policy, disabling VM auto-migration function from server nodes, and viewing Event History.

PFA management

This feature provides the virtual machine (VM) automatic migration capability on specified hardware events.

Before you begin

This feature is cluster-based. Before you continue with the operations, you must create clusters in SCVMM and add hosts in clusters. The Cluster Shared Volume (CSV) is also required. For additional details, refer to the Microsoft System Center topic Creating a Hyper-V Host Cluster in VMM Overview.

You must also perform the steps in “Adding an Integrated Management Module (IMM)” on page 13.

Setting policy

The set policy function allows you to enable VM auto-migration to selected server nodes with specific conditions and event categories.

Before you begin

Complete the prerequisites in "PFA management" on page 20.

Procedure

1. Select the **Hypervisors** root entry, or a cluster, or a hypervisor node in a cluster in the left host navigation pane.
2. Choose the **PFA Management** page on the top of the right pane. The RAS Management page opens.
3. Click the **Set Policy** button. The Set Policy dialog displays.
4. Choose the Enable VM migration on hardware events option from the drop-down list at the top.
5. Select or clear Conditions, Event Categories, and Hosts if it is necessary. A host is not selectable if its IMM has not been discovered or has not authenticated.
6. Click **OK**. A page that prompts you to confirm the settings displays.
7. Click **OK**.
8. Click the Back link on the bottom to go back to the RAS Management page.

Disabling VM auto-migration function from server nodes

This function allows you to disable VM auto-migration from selected server nodes.

Before you begin

Complete the prerequisites in "PFA management" on page 20.

Procedure

1. Select the **Hypervisors** root entry, or a cluster, or a hypervisor node in a cluster in the left host navigation pane.
2. Choose the **PFA Management** page on the top of the right pane. The RAS Management page opens.
3. Click the **Set Policy** button. The Set Policy dialog displays.
4. Choose the Disable VM migration on hardware events option from the drop-down list at the top.
5. Change the selection of hosts if it is necessary.
6. Click **OK**. A page that prompts you to confirm the settings displays.
7. Click **OK**.
8. Click the Back link on the bottom to go back to the RAS Management page.

View Event History

The View Event History function enables you to view hardware events and what has been done to the events.

Before you begin

Complete the prerequisites in "PFA management" on page 20.

Procedure

1. Select the **Hypervisors** root entry, or a cluster, or a hypervisor node in a cluster in the left host navigation pane.
2. Choose the **PFA Management** page on the top of the right pane. The RAS Management page opens.
3. Click the **View Event History** button. The **RAS Events** page displays, showing the RAS events and the operation history of the events present for the hosts shown in the table on the PFA Management page.
4. Click the Back link on the bottom to go back to the RAS Management page.

Updating

This chapter provides information Rolling System Reboot and Rolling System Update.

Rolling System Reboot

The Rolling System Reboot (RSR) function reboots the servers while the system continues running without interruption to application services on server hosts.

Before you begin

- You must set the information described in "Setting host authentication" on page 11.
- You must complete the steps in "Setting Rolling System preferences" on page 12.

About this task

Rolling System Reboot (RSR) provides a Task Manager that helps you manage rolling reboot tasks. A task contains all of the information and options for a rolling reboot.

The Task Manager provides the following task options:

- Create a Rolling System Reboot task. Each cluster can have only one active task whatever the task type is:
  - Update Only
  - Update and Reboot
  - Reboot Only
- Edit a Rolling System Reboot task that has not been started
- Remove a Rolling System Reboot task from the Task List
- Cancel a Rolling System Reboot task that is running
- View Rolling System Reboot task status

Procedure

1. Expand Hypervisor from the navigation pane of the Lenovo XClarity Integrator Add-in, and then select target cluster.
2. Select Rolling System Reboot on the top of main frame. The Task Management page displays.
3. Perform one of the following:
   - Create a task
   - Edit a task
   - Remove a task

- Cancel a task
- Refresh the task list from the page

If you click on **Create** or **Edit** button, you can use the Create/Edit Task wizard to create or edit a task.

Table 6. Rolling System Reboot task status

Target	Status	Description
Rolling Reboot	Not Started	The task has not started.
Task	Running	The task is running.
	Canceled	The task is canceled.
	Failed	Causes of task failure: • Rebooting host failed • VM migration failed
	Finished	The task has completed.
Host	Not Started	The reboot for the host has not started.
	Migrating	The host is entering maintenance mode.
	Maintenance	The host is in maintenance mode.
	Reboot	The host is rebooting after updating completes.
	Exit Maintenance	The host is exiting maintenance mode.
	Success	The reboot and exit Maintenance succeeded.
	Failed	The causes of host failure: • Cannot enter maintenance mode • Cannot reboot the host • Cannot exit maintenance mode

Rolling System Update

The Rolling System Update function helps you to update the servers while the system continues running without interruption to application services on server hosts.

Before you begin

- You must set the information described in “Setting host authentication” on page 11.
- You must complete the steps in “Setting Rolling System preferences” on page 12.

About this task

Rolling System Update function provides a task manager that helps you manage rolling update tasks. A task contains all of the information and options for a rolling update.

The Task Manager provides the following task options:

- Create a Rolling System Update task. Each cluster can have only one active task whatever the task type is Update Only / Update and Reboot / Reboot Only.
- Edit a Rolling System Update task that has not been started.
- Remove a Rolling System Update task from Task List.
- Cancel a Rolling System Update task that is running.
- View Rolling System Update tasks' status.

Procedure

1. Expand Hypervisor from the navigation pane of the Lenovo XClarity Integrator Add-in, and then select target cluster.
2. Select Rolling System Update on the top of main frame. The Task Management page displays
3. Perform one of the following:
   - Create a task
   - Edit a task
   - Remove a task
   - Cancel a task
   - Refresh the task list from the page

   If you click on **Create** or **Edit** button, you can use the Create/Edit Task wizard to create or edit a task.

Table 7. Rolling System Update task status

Target	Status	Description
Rolling Reboot	Not Started	The task has not started.
Task	Running	The task is running.
	Canceled	The task is canceled.
	Failed	Causes of task failure: • Rebooting host failed • VM migration failed
	Finished	The task has completed.

Table 7. Rolling System Update task status (continued)

Target	Status	Description
Host	Not Started	The reboot for the host has not started.
	Migrating	The host is entering maintenance mode.
	Maintenance	The host is in maintenance mode.
	Reboot	The host is rebooting after updating completes.
	Exit Maintenance	The host is exiting maintenance mode.
	Success	The reboot and exit Maintenance succeeded.
	Failed	The causes of host failure: • Cannot enter maintenance mode • Cannot reboot the host • Cannot exit maintenance mode

Configuring

All the functionality described in this section is based on Lenovo XClarity Administrator and describes how to work with configuration patterns.

Configuration Pattern

The Configuration Pattern function helps you to deploy a Configuration Pattern easily. Configuration Pattern represents a pre-OS server configuration, including local storage configuration, I/O adapter configuration, boot settings, and other IMM and uEFI firmware settings. A Configuration Pattern is used as an overall pattern to quickly configure multiple servers simultaneously.

Before you begin

- You must complete the steps in “Adding Lenovo xClarity Administrator” on page 14.
- You must log on to the Lenovo XClarity Administrator and create a Configuration Pattern on its website.

To open the Configuration Pattern page, follow the steps in the procedure.

Procedure

1. In the navigation pane, expand Lenovo Infrastructure, then click an LXCA, or items under the LXCA.
2. Click the **Config Pattern** tab at the top of the main frame. The Config Pattern page displays.

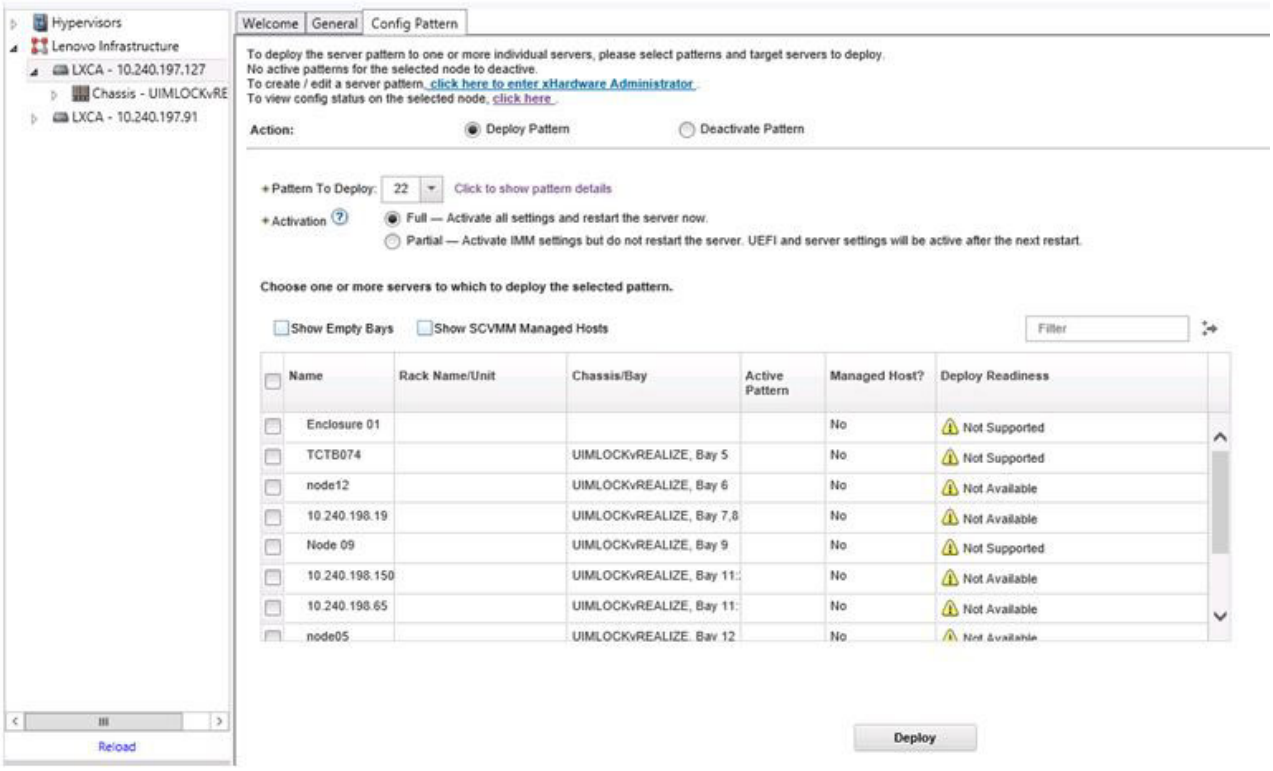

Figure 8. Configuration Pattern page

Deploying a Configuration Pattern

Using the Configuration Pattern page, you can follow the steps in this section to deploy a Configuration Pattern.

Procedure

1. Select **Deploy Pattern** as your action.
2. Select the pattern you want to deploy. If there are no items in the **Pattern to Deploy** list, you must log in to the Lenovo XClarity Administrator to create one.
3. Make your choice about how you want to activate the Configuration Pattern.
   - **Full** means activate all settings and restart the server now.
   - **Partial** means activate IMM settings but do not restart the server. uEFI and server settings will be active after the next restart.
4. Select the systems you want to target to deploy the Configuration Pattern.
5. Click **Deploy**. A summary dialog displays, allowing you to confirm your choice.

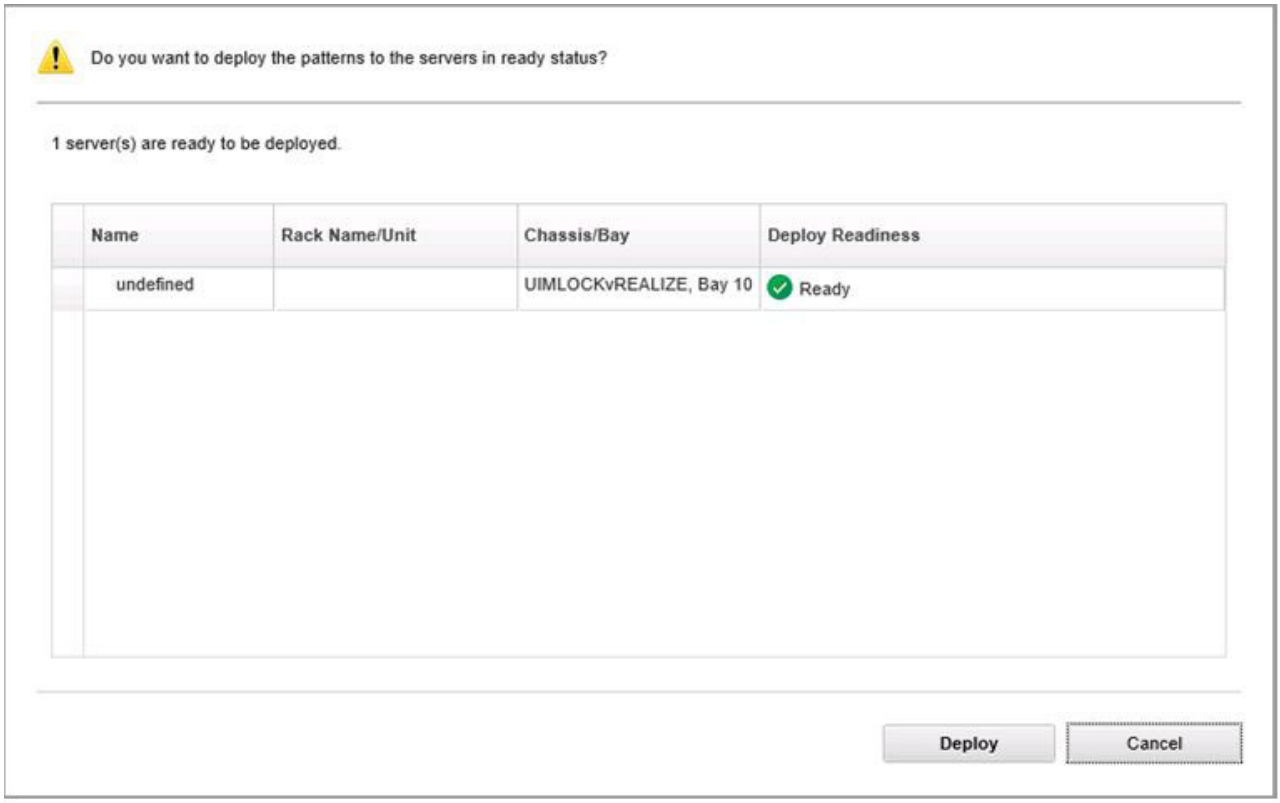

Figure 9. Configuration Pattern deployment summary dialog

6. Click **Deploy**.
   A confirmation window showing that the deployment request is being submitted displays.

Figure 10. Deployment request confirmation window

When the submission is complete, another confirmation window displays.

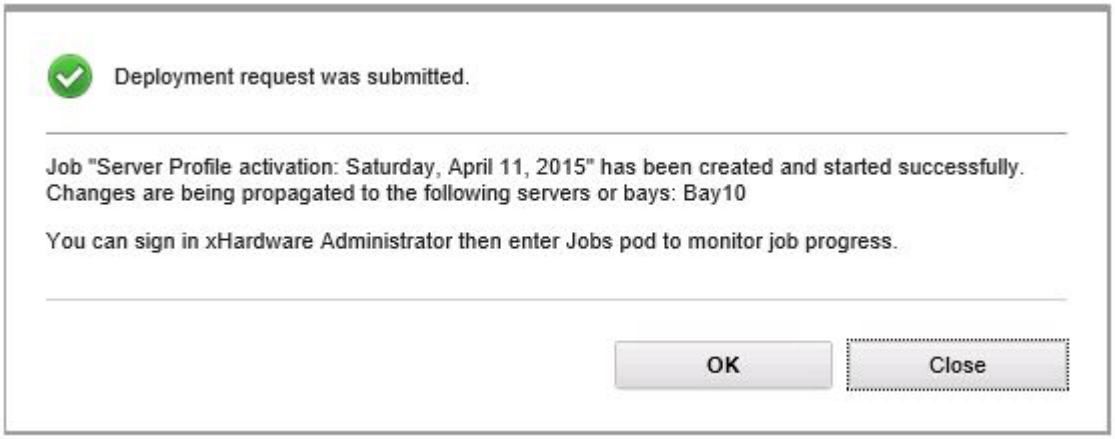

Figure 11. Deployment request submitted confirmation window

Results

To view the details of a server pattern, click the "Click to show pattern details" link in the Deploy Server Pattern windows. The details of a server pattern display similar to the example in the screen below.

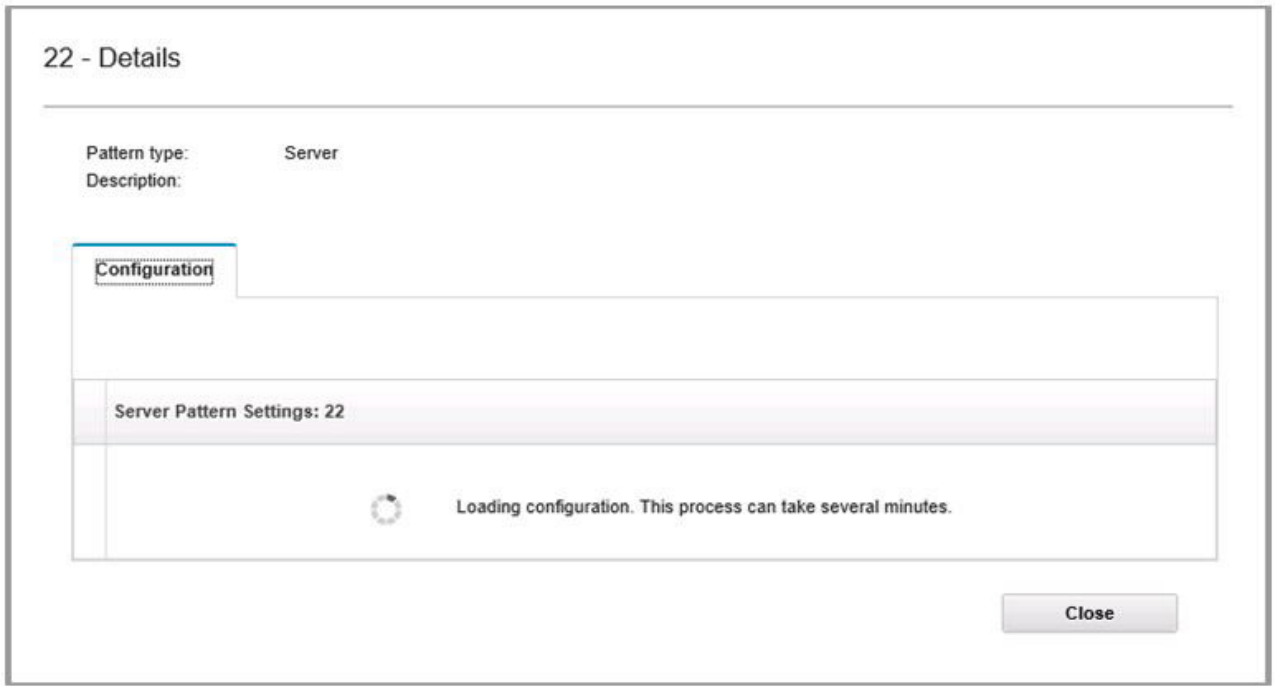

Figure 12. Server pattern details

Deactivating a Configuration Pattern

Using the Configuration Pattern page, you can follow the steps in this section to deactivate a Configuration Pattern.

Procedure

1. Select **Deactivate Pattern** as your action.

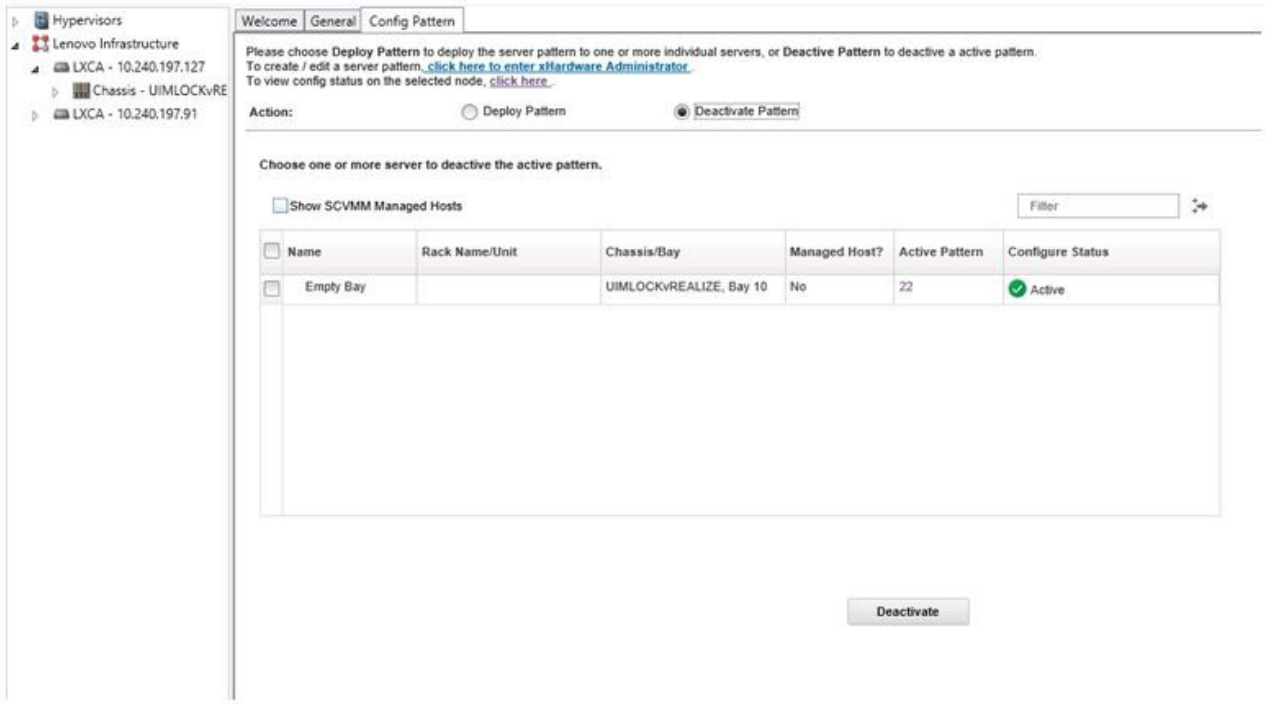

Figure 13. Deactivating a Configuration Pattern

2. Select one or more check boxes next to the Configuration Patterns that you want to deactivate.
3. Click the **Deactivate** button. The Deactivate Server Pattern dialog displays.

Figure 14. Deactivate Server Pattern dialog

4. Click the **Deactivate** button to confirm that you want to deactivate the Configuration Pattern

   A status dialog displays while the Configuration Pattern is being deactivated.

Figure 15. Deactivate status dialog

When the deactivation is complete, the Pattern Deactivation Summary dialog displays.

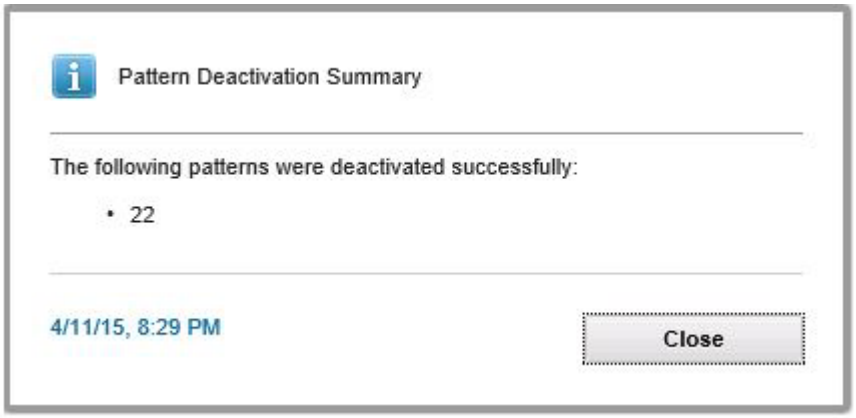

Figure 16. Pattern Deactivation Summary dialog

5. Click the **Close** button to return to the Configuration Pattern page.

Chapter 6. Troubleshooting

This section describes situations that sometimes occur with Add-in and how you can solve them.

Host is visible in SCVMM host list but not in Lenovo XClarity Integrator Add-in

Sometimes a host appears in the SCVMM host list but not in Lenovo XClarity Integrator Add-in. You can work around this issue by manually adding the host into SCVMM.

About this task

Occasionally, a host is absent from Lenovo XClarity Integrator Add-in host list, even though it is visible in the SCVMM host list. This happens when the SCVMM Service/Agent applications fail to collect the hardware system UUID from the BIOS of the host. It is possible that the SCVMM Service/Agent applications will successfully collect the information later, but whether this will happen and how long it will take is unpredictable. To ensure that the host is listed in UIM Add-in, you can manually add it by following these steps.

Procedure

1. From the SCVMM Admin page, manually remove the host from the SCVMM host list.
   a. Select the host from the host list.
   b. Click **Host**, and select **Start Maintenance Mode**.
   c. Depending upon whether the host is in a cluster or not, perform one of the following steps.
   - If the host is not in a cluster, from the **Host** menu, select **Remove**.
   - If the host is in a cluster, from the **Host** menu, select **Remove Cluster Node**.

   Sometimes this step does not work. If that happens, run the following PowerShell commands:

   a. `import-module virtualmachinemanager $RunAsAccount = Get-SCRunAsAccount -Name "RunAsAccount01" Get-SCVMHost -ComputerName "VMHost01"`
   b. `remove-SCVMHost -Credential $RunAsAccount`
2. From the Admin UI, manually add the host into the SCVMM or cluster. Select the Hypervisor node in the Lenovo XClarity Integrator Add-in list, then press Ctrl+F5 to reload the list.
3. If the host does not appear in the Add-in host list, restart the host and then perform the previous steps again.

Installer fails with error message

On rare occasions, the Lenovo XClarity Integrator Add-in installer fails and displays an error message, especially when it runs for the first time on a system.

Procedure

1. Close the message window to stop the installation.
2. Run the installer again.

Results

After running the installer a second time, it will work correctly, and the Lenovo XClarity Integrator Add-in will be installed.

Licensing

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Printed in USA