Lenovo UIM SCVMM Add-in User's Guide

Version 1.1

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Note

Before using this information and the product it supports, read the information in:

- "Notices" on page 35
- "Trademarks" on page 37

Edition notice

This edition applies to version 1.1 of Lenovo SCVMM Add-in and to all subsequent releases and modifications until otherwise indicated in new editions.

This User's Guide provides the latest information for the Lenovo SCVMM Add-in User Guide, Version 1.0. The Lenovo UIM SCVMM Add-in 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 SCVMM Add-in.

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
UIM	Lenovo Upward Integration Modules
SCVMM	Microsoft System Center Virtual Machine Manager
Management Node	A physical or virtual machine on which the SCVMM service, the Lenovo UIM Unified Service and the Lenovo UIM SCVMM Add-in are installed and running
Managed Node	A physical machine managed with SCVMM, on which the SCVMM Agent is installed and running
UXSP	UpdateXpress System Pack
UXSPI	UpdateXpress System Pack Installer

Information resources

You can find additional information about Lenovo UIMSCVMM Add-in on the World Wide Web.

You can find additional information about Lenovo UIM SCVMM Add-in, v1.1 in the product documentation and on the World Wide Web.

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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: IBM System x Integration Offerings for Microsoft Systems Management Solutions portal.

- Lenovo PureFlex and System x UIM SCVMM Add-in user's guide

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**.

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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 UIM SCVMM Add-in, version 1.1.

Lenovo Systems Technical support site

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

Lenovo ServerProven® page

- System x ServerProven® 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 Lenovo 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 SCVMM Add-in

The Lenovo Upward Integration Modules Add-in for Microsoft System Center Virtual Machine Manager (UIM SCVMM Add-in) is a plug-in application for Microsoft System Center Virtual Machine Manager (SCVMM), which is provided as a Lenovo Upward Integration Modules (UIM) 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 UIM

The Lenovo Upward Integration Modules (UIM) 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 UIM extensions include a set of plug-ins for Microsoft System Center and VMware vCenter, stand-alone applications and service applications.

With UIM, 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 SCVMM Add-in

Through features such as Rolling System Update, which enables firmware to be updated without interrupting serviceability, Lenovo SCVMM 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 UIM SCVMM Add-in requires the Lenovo UIM Unified Service as its back end.

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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

Table 3. Software requirements and settings

Management node	Managed nodes
Windows Server 2012 SP1 (x64), 2012 R2 (x64)	Windows Server 2008R2(x64), 2012 SP1 (x64), 2012 R2 (x64)
.NET Framework 4	.NET Framework 3.5 and 4.0 on Windows Server 2008R2
Microsoft System Center Virtual Machine Manager 2012 SP1 , 2012 R2	Microsoft System Center Virtual Machine Manager 2012 SP1 , 2012 R2 Agent
	Hyper-V Role

Supported hardware

Although Lenovo UIM SCVMM Add-in 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.

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Table 4. 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 4. 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 5. Lenovo supported hardware

Lenovo supported hardware	Server number
System x server	• NeXtScale nx360 M5 (5465) • NeXtScale nx360 M5 DWC (5467, 5468, 5469) • x3550 M5 (5463) • x3650 M5 (5462)
Flex Compute Node	• Flex System x240 M5 Compute Node (2591, 9532) • Flex System x440 Compute Node (7167, 2590)

Chapter 3. Installing Lenovo SCVMM Add-in

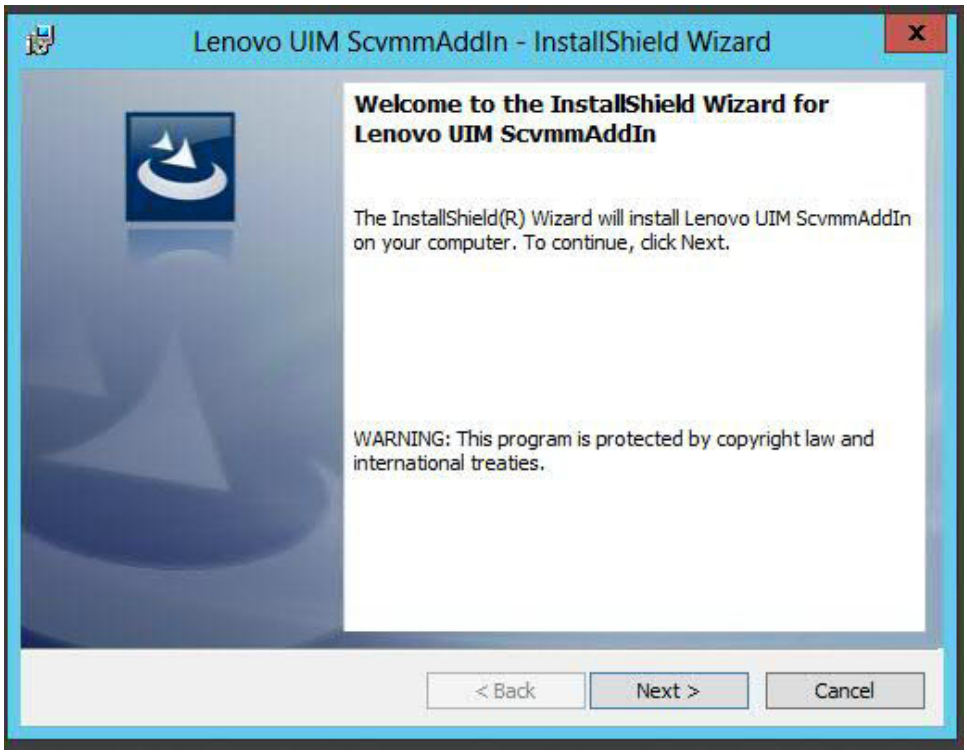
Information about installing Lenovo SCVMM Add-in is provided.

Before you begin

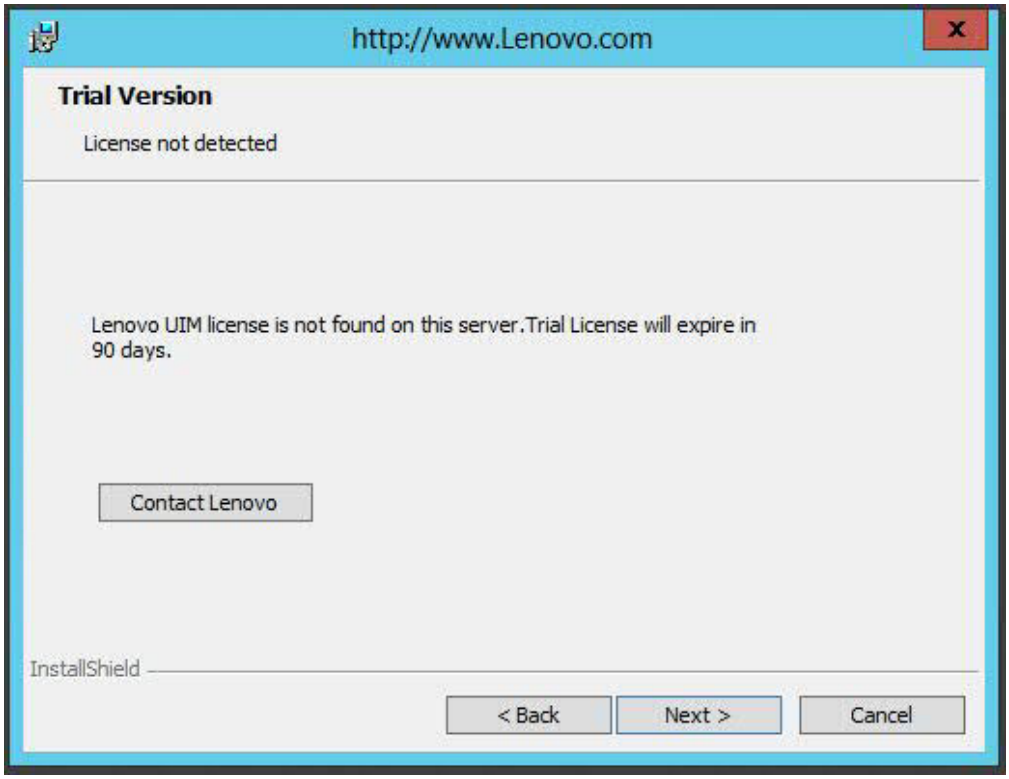
Download the Lenovo UIM SCVMM Add-in Installer from the UIM download page at http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-MANAGE

Procedure

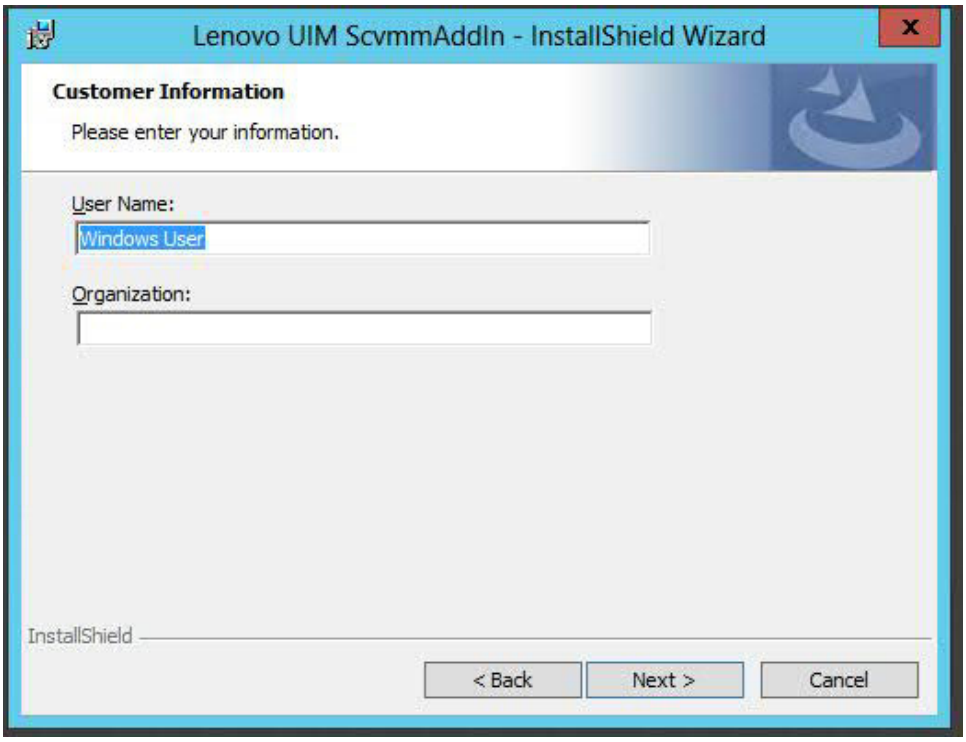
1. Double-click the Lenovo UIM SCVMM Add-in installer file. The Welcome screen displays.



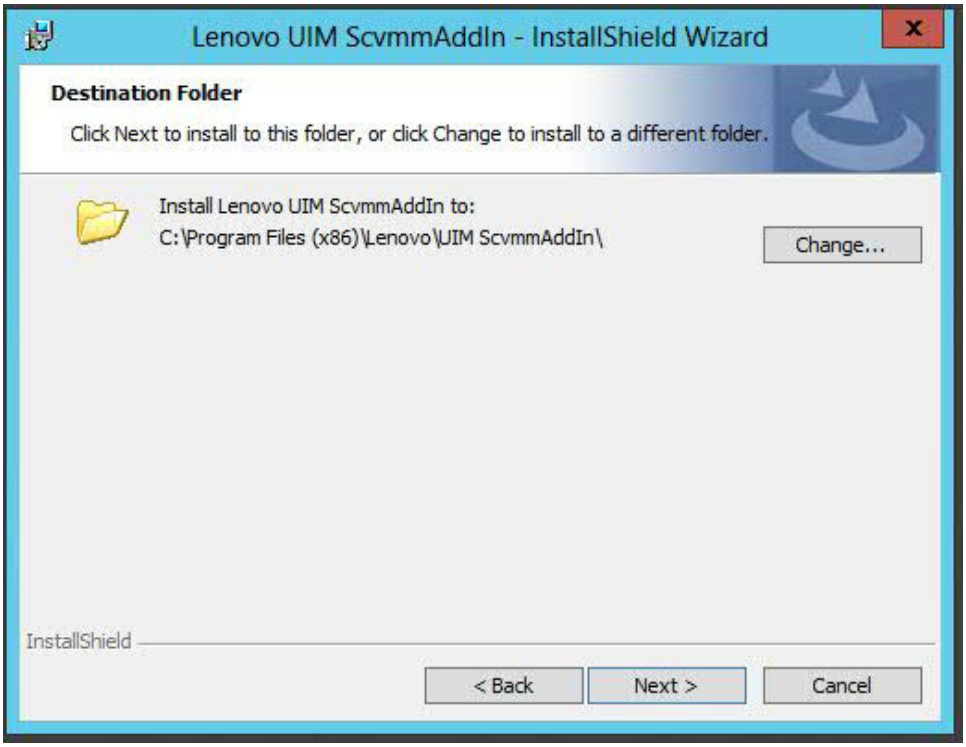
If the Lenovo UIM License tool has not been run on this system, the following window is displayed. If you have the tool, run it now. If you do not have the tool, contact Lenovo to buy the license and download the tool. Click the **Contact Lenovo** button for more details. (Internet access is required.) Click **Next** to continue.



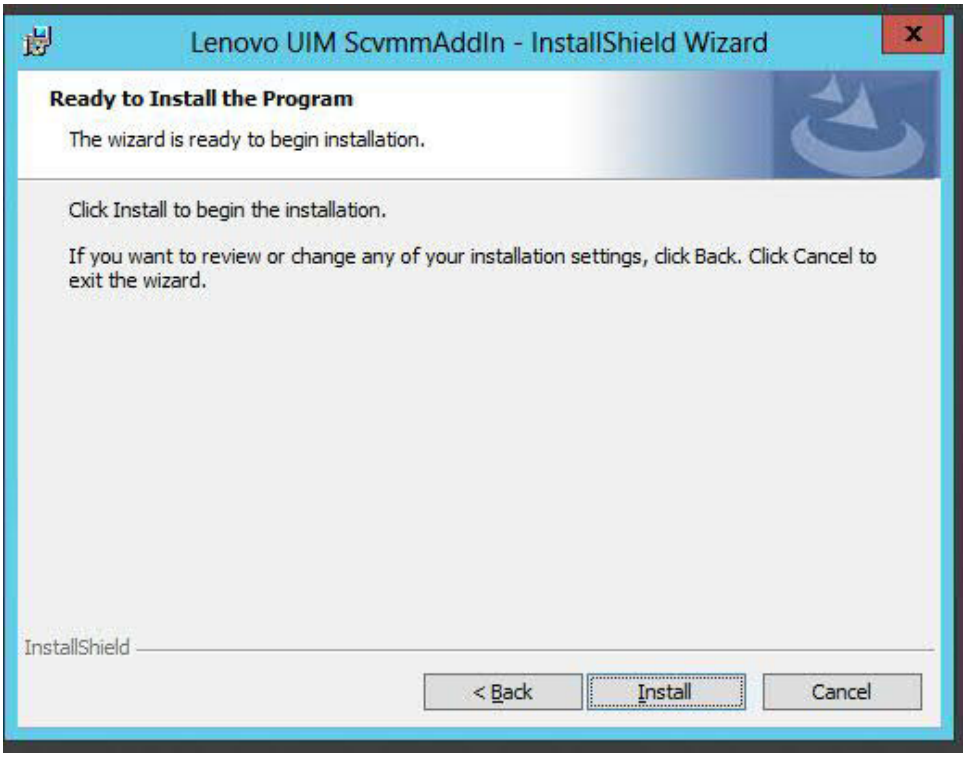
2. Specify the user name and organization. Then click **Next**.



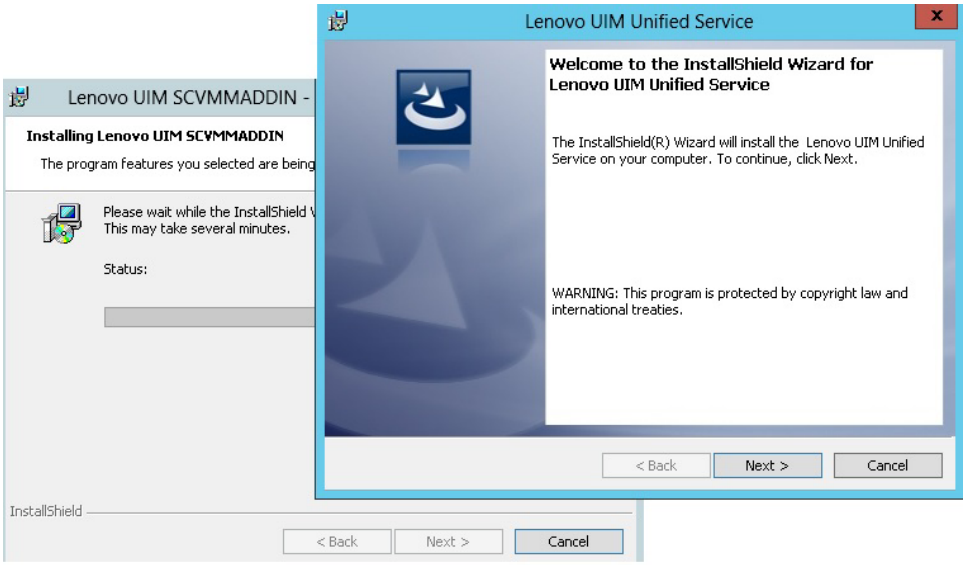
3. Specify the destination folder and click **Next**.



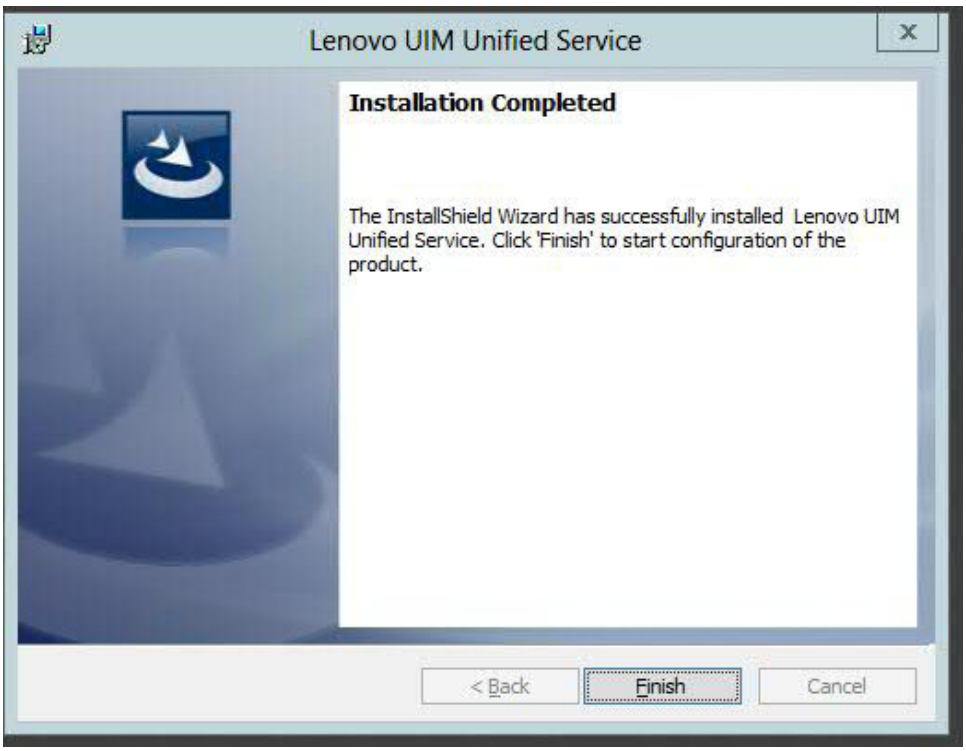
4. Click **Install** to proceed with the installation.



5. During the installation process, the Lenovo UIM Unified Service installer automatically runs.



6. After the Lenovo UIM Unified Service is installed, the installation of the Lenovo UIM SCVMM Add-in is complete. Click **Finish**.

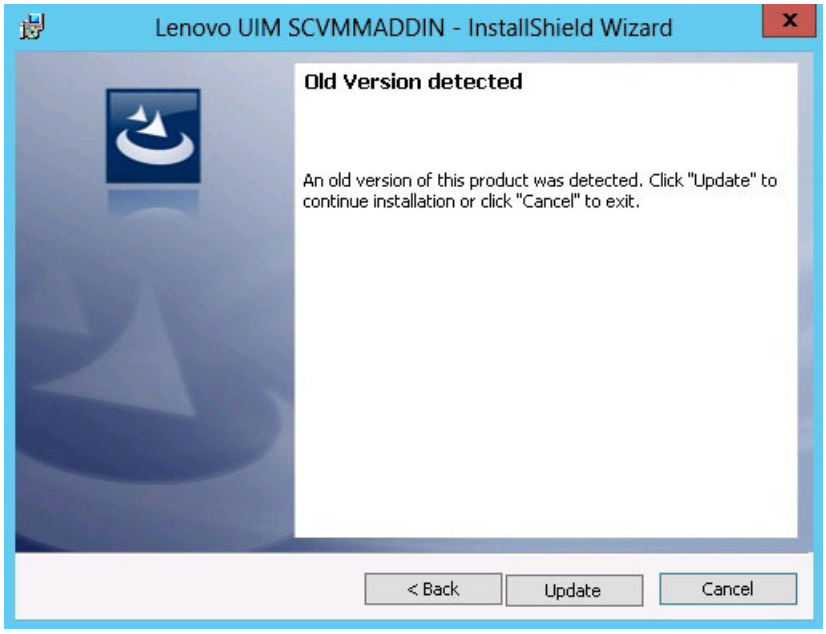


Chapter 4. Upgrading Add-in

If an earlier version of Lenovo UIM SCVMM Add-in application has been installed in the system and a newer version is to be installed, perform an upgrade installation.

Procedure

When the Lenovo UIM SCVMMADDIN - InstallShield Wizard dialog opens, click **Update** to begin the upgrade process.



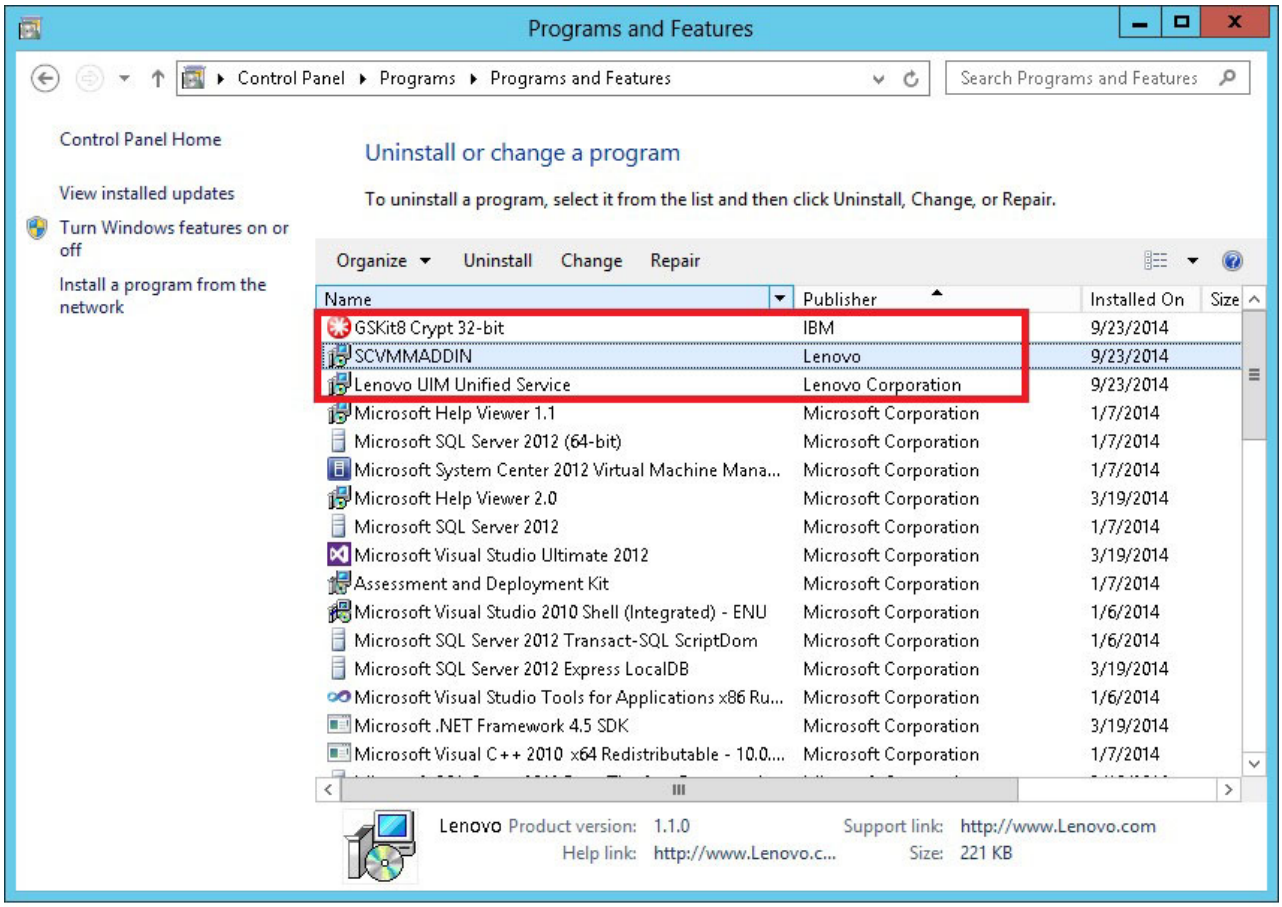
The upgrade process also updates Lenovo UIM Unified Service. For update details, refer to the Lenovo UIM Unified Service User's Guide.

Chapter 5. Uninstalling Add-in

Use this procedure to uninstall SCVMM Add-in.

About this task

Go into the Control Panel and open the Programs and Features dialog. Uninstall Lenovo UIM Unified Service, SCVMMADDIN and GSKit8 Crypt 32-bit.

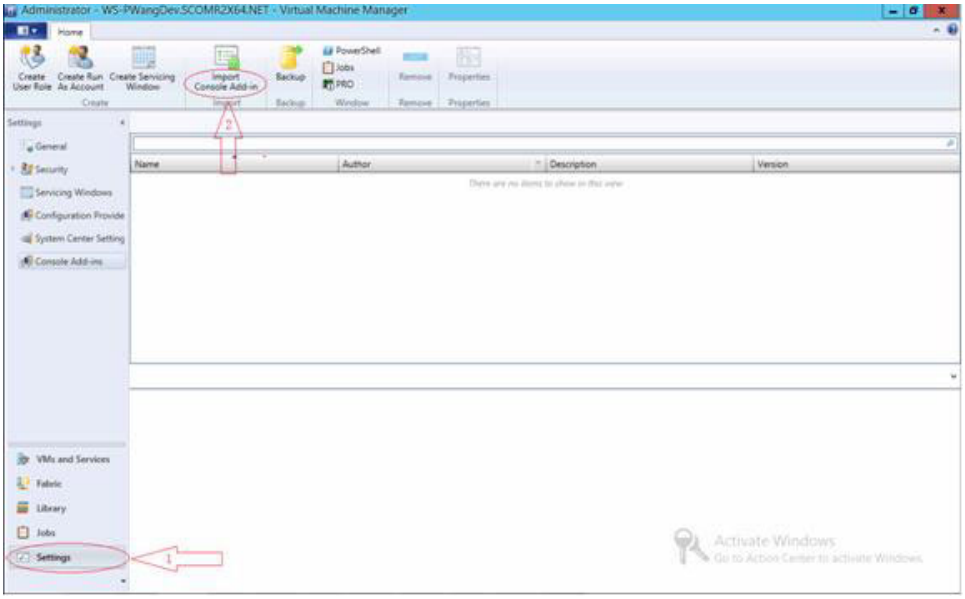


Chapter 6. Importing SCVMM Add-in

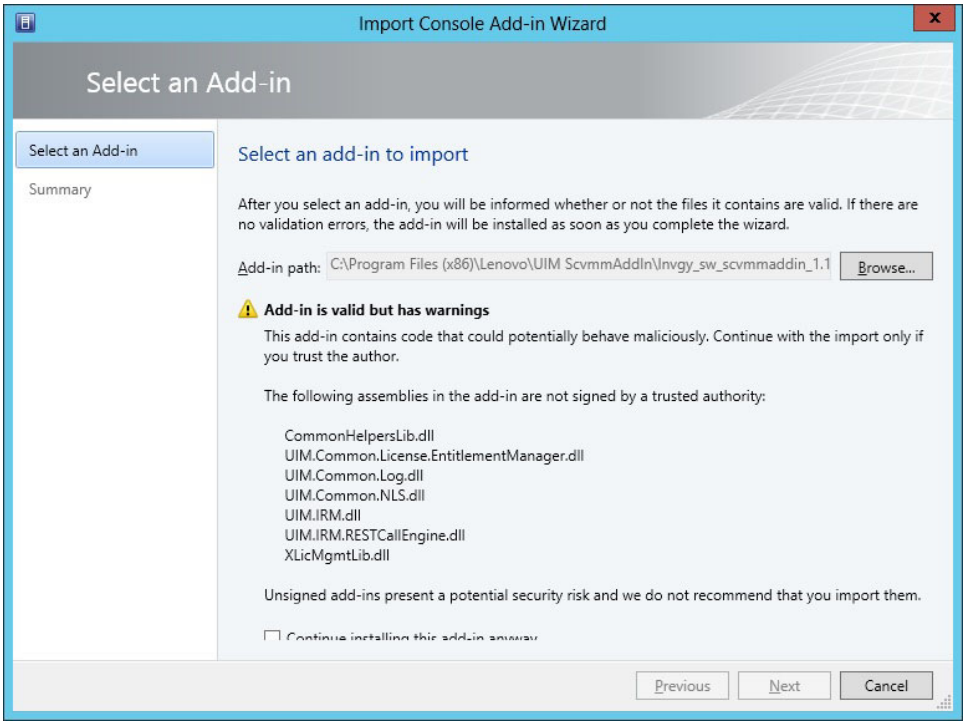
Windows users who need to use an SCVMM add-in must manually import it, because SCVMM does not have the means to install an add-in in SCVMM for either all or specific users, even the current user. The Lenovo UIM SCVMM Add-in installer copies the add-in zip file into the installation folder where it is expanded into a folder named according to the current windows user in the SCVMM installation folder.

Procedure

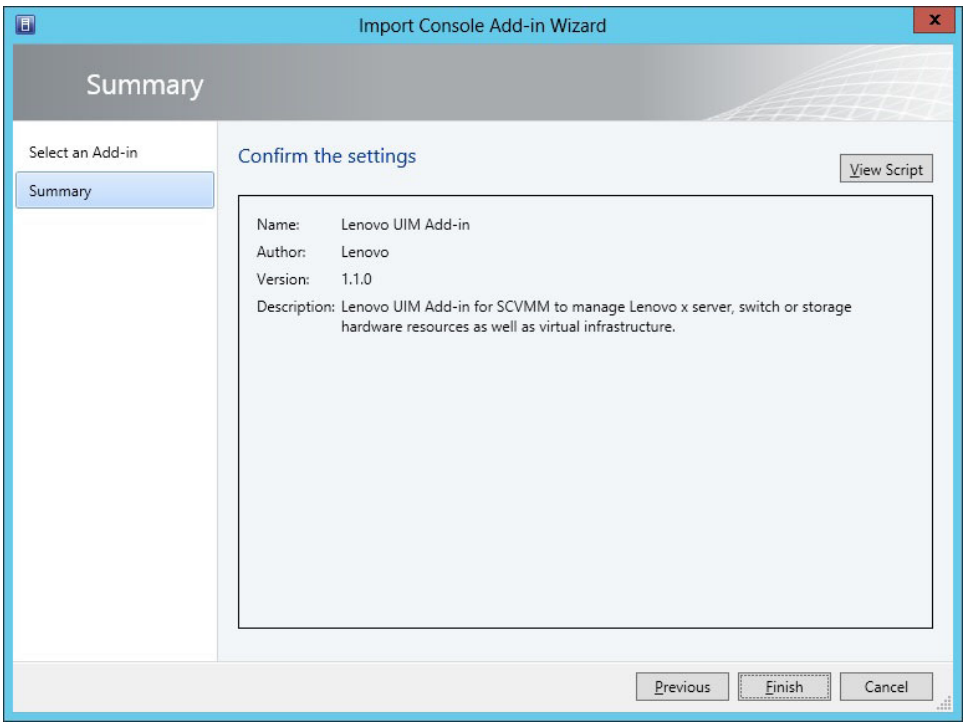
1. From the SCVMM Admin UI, on the Settings category page, click **Import Console Add-in**.



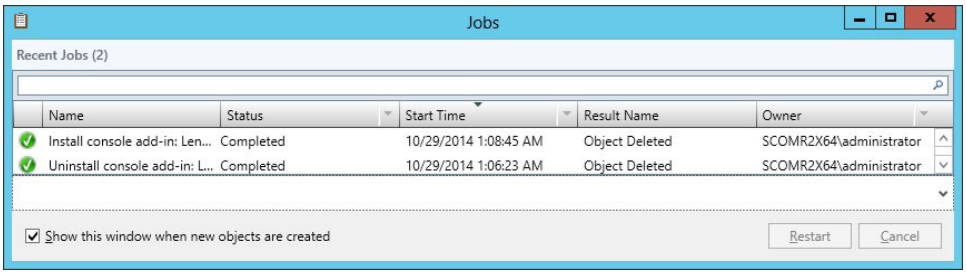
2. In the Import Console Add-in Wizard window, click **Browse** and then navigate to theLenovo UIM SCVMM Add-in ZIP file, which is typically placed in the following path: `C:\Program Files (x86)\Lenovo\UIM ScvmmAddIn\lnvgy_sw_scvmmaddin_1.1.0-1.1_windows_32-64.zip`. Select the **Continue installing this add-in anyway** check box, and click **Next** to continue.



3. Click **Finish** to continue with the import procedure.



The status of the import procedure is presented in the Jobs report console.

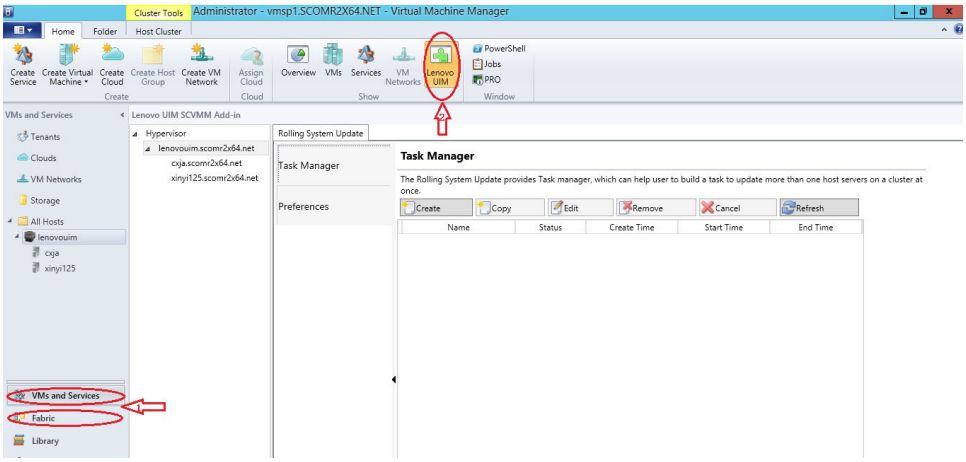

Jobs
Recent Jobs (2)
Name
Status
Start Time
Result Name
Owner
Install console add-in: Len...
Completed
10/29/2014 1:08:45 AM
Object Deleted
SCOMR2X64\administrator
Uninstall console add-in: L...
Completed
10/29/2014 1:06:23 AM
Object Deleted
SCOMR2X64\administrator
Show this window when new objects are created
Restart
Cancel

Chapter 7. Starting SCVMM Add-in

SCVMM Add-in can be started from two areas of the console.

Procedure

1. Open the SCVMM Admin UI.
2. From either the Fabric category page or the VMs and Services page, click the **Lenovo UIM** icon at the top of the window.



The Lenovo UIM SCVM Add-in console comprises two sections. On the left side is a tree view containing managed assets, such as hosts and clusters, which are synchronized to the Lenovo UIM SCVMM Add-in UI from SCVMM. On the right side is a pane that displays the current operation relevant to the asset selected in the left tree view. To refresh the assets in the left tree view, press the F5 key; to retrieve assets, press the Ctrl+F5 keys simultaneously.

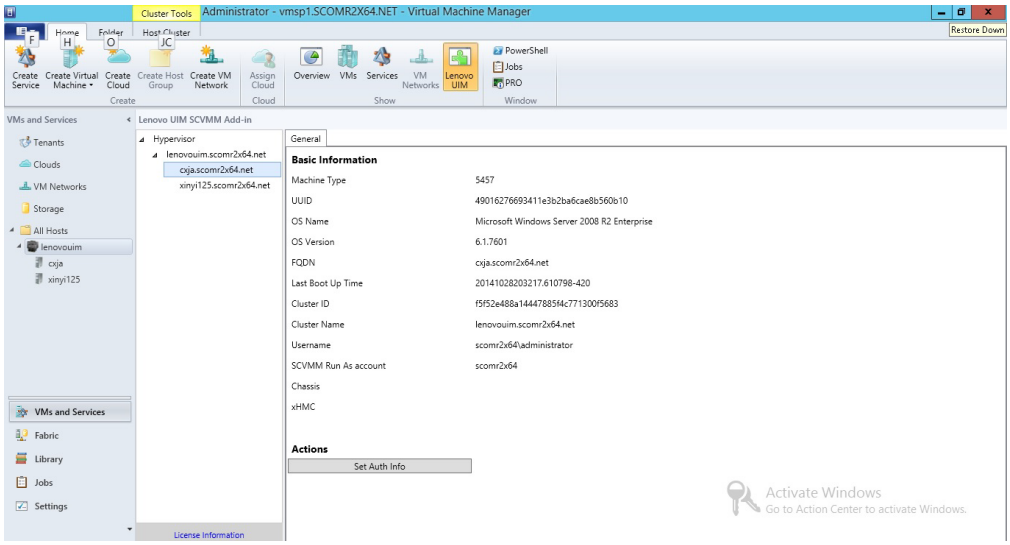
Chapter 8. Host general information

Use the Hypervisor node to view information about the host.

Viewing host information

To see general information for a host inside a cluster, expand the **Hypervisor** node from the left tree view of the Lenovo UIM Add-in 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 left tree view of the Lenovo UIM Add-in UI, then select the host.



Set host authentication information

The authentication information is helpful for collecting detailed system information, such as Machine Type, and enabling some Lenovo UIM operations, such as Rolling System Update.

Run As Account

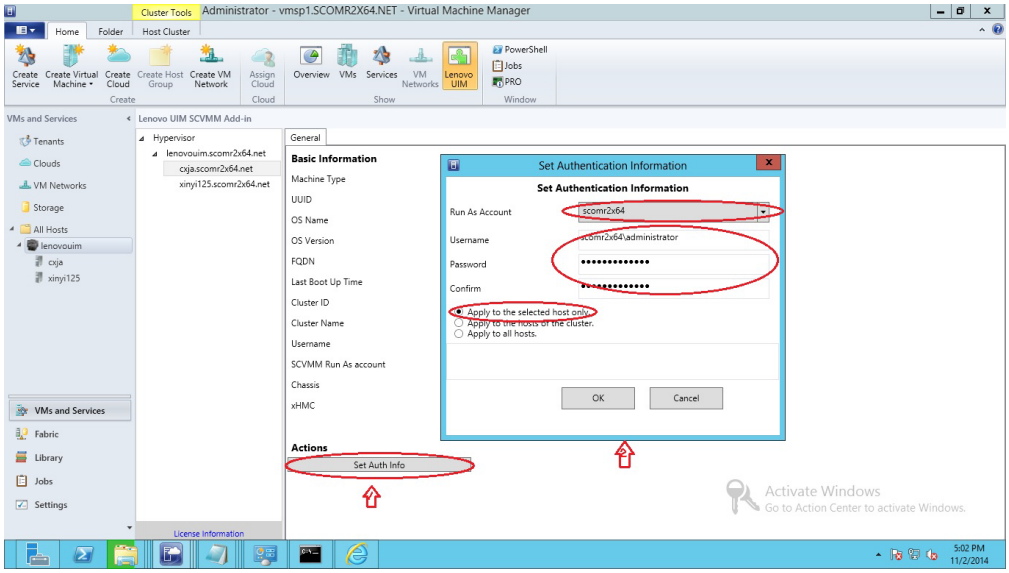
An SCVMM Run As account is used for the SCVMM service to execute scripts on the target host. For best results, specify an account with domain administrator permission; otherwise, some features will not work correctly or the tasks will fail on the specific hosts. Refer to the Microsoft SCVMM help documents for detailed instructions about creating SCVMM Run As accounts.

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 UIM 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 left tree view. Wait after applying the information. The information is verified and the result is shown in the UI.



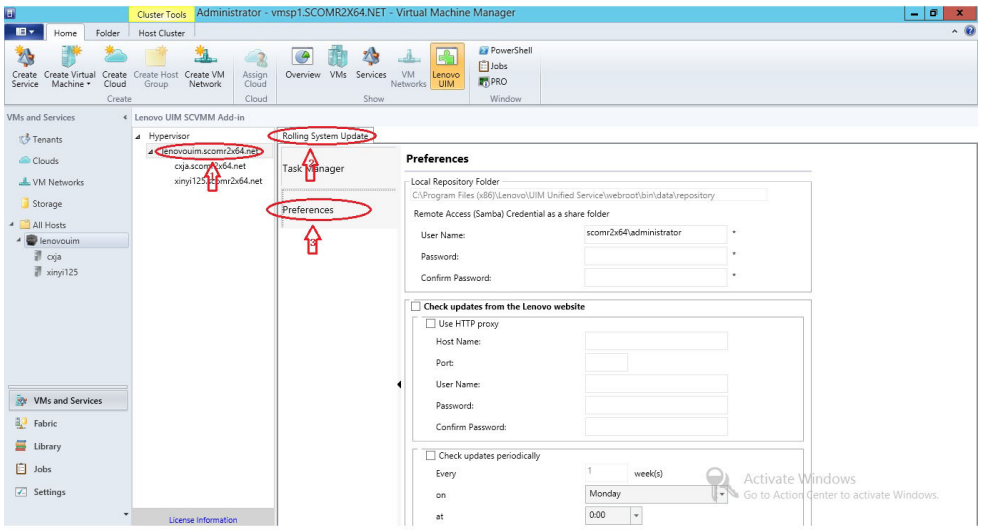
Chapter 9. Cluster management

All the functionality described in this section is cluster-based. Before you continue with the operations, you must create clusters in SCVMM and add hosts in clusters. Refer to the Microsoft MSDN help documents for details.

Rolling System Update

The Rolling System Update feature provides a non-disruptive way to update firmware and drivers for IBM x and IBM Flex servers.

- **Preferences**: The preferences settings are required for Rolling System Update. To set the preferences, select a cluster in the left host tree view, select the Rolling System Update page on the top of the right pane, then click the **Preferences** tab.
- **Local Repository Folder**: This read-only value specifies a folder on the management node in which firmware, driver payload, and description files are located.
- **User name** and **Password**: When an update operation is in process, the local repository folder described previously is exposed to the managed hosts via SMB protocol as a share folder, which is accessed by the managed hosts with the username and password combination specified here.
- **Check Updates from the IBM website**: You can either manually put the firmware and driver payloads in the local repository folder, or you can configure the payloads to be automatically downloaded from the IBM Web repository (IBM Fix Center).
- **Check Now**: If the preferences are configured and saved, the Lenovo UIM automatically checks for updates periodically. If you want to check for updates immediately, use **Check Now**. The return of the operation means that the request to check for updates has been submitted, not that the operation has completed.

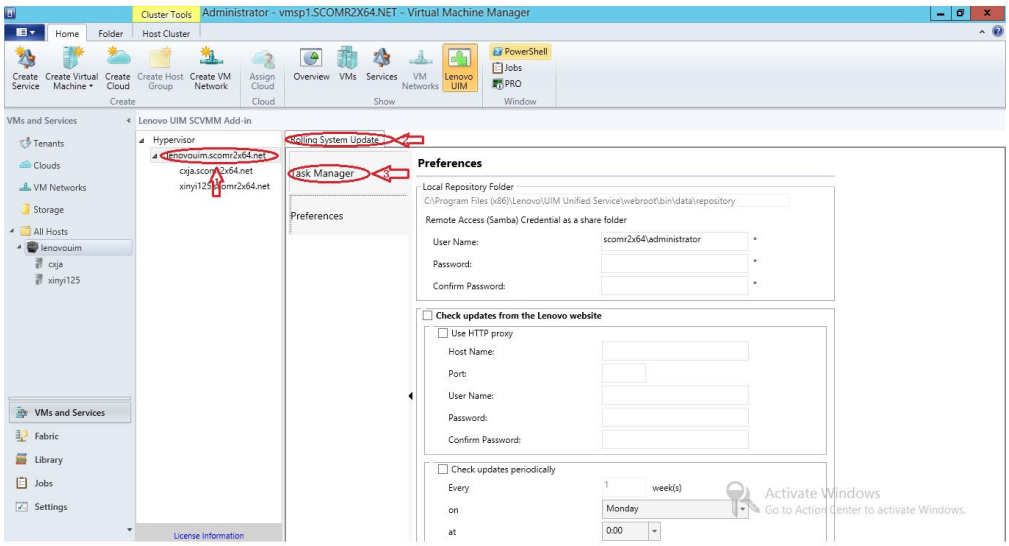


-

Task Manager Rolling System Update (RSU) helps you manage rolling update tasks. A task contains all of the information and options for a rolling update. To

use this feature, select a cluster in the left host tree view, select the Rolling System Update page on the top of the right pane, then click the **Task Manager** tab. From this tab, you can take the following actions:

- Create a task
- Edit a task that has not been started
- Delete a task
- Cancel a running task
- Rerun a failed task
- Clone a completed task
- View reports of tasks



Chapter 10. Tasks

The information in this section describes how to manage tasks. It describes how to create, copy, cancel, edit, and remove tasks.

Creating a task

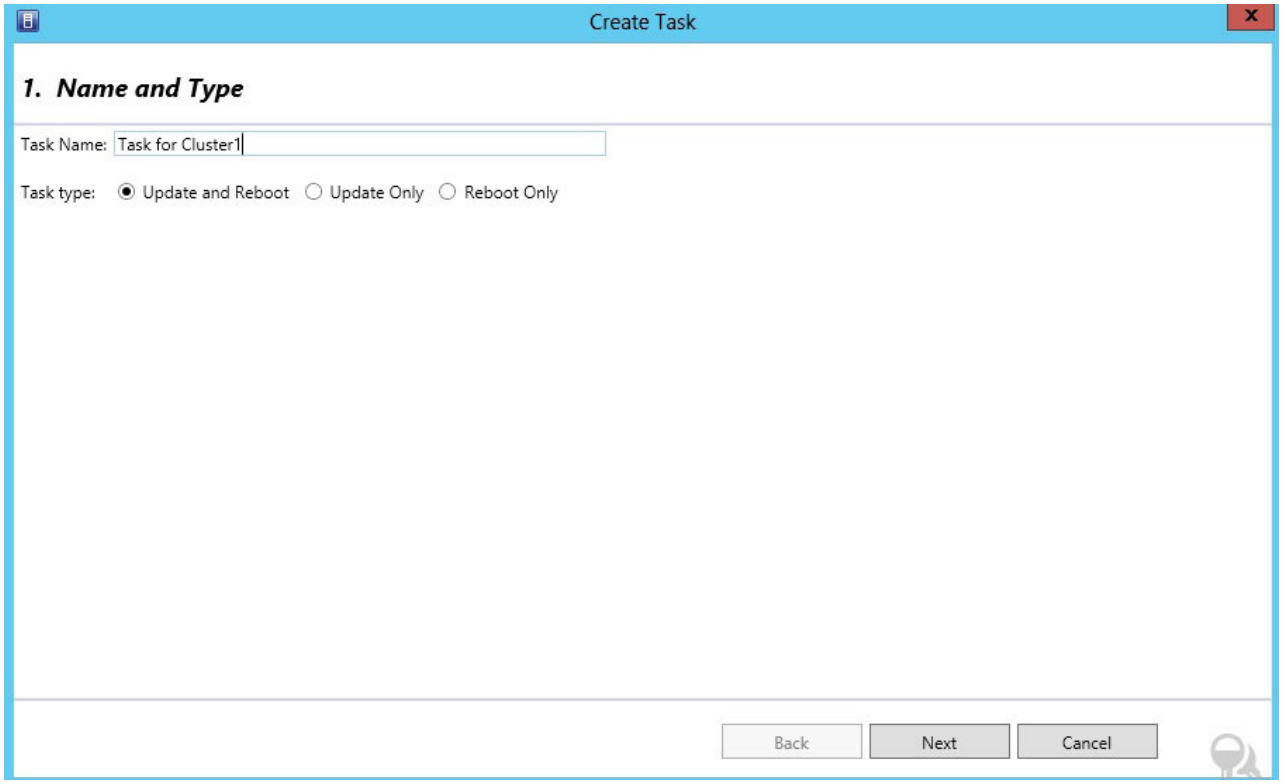
To create a task, you must set the preferences and the authentication information for all hosts in a cluster. You must also either manually or automatically check the available firmware and driver update information.

About this task

Each cluster can have only one active task. If an active task already exists, the **Create** button is disabled.

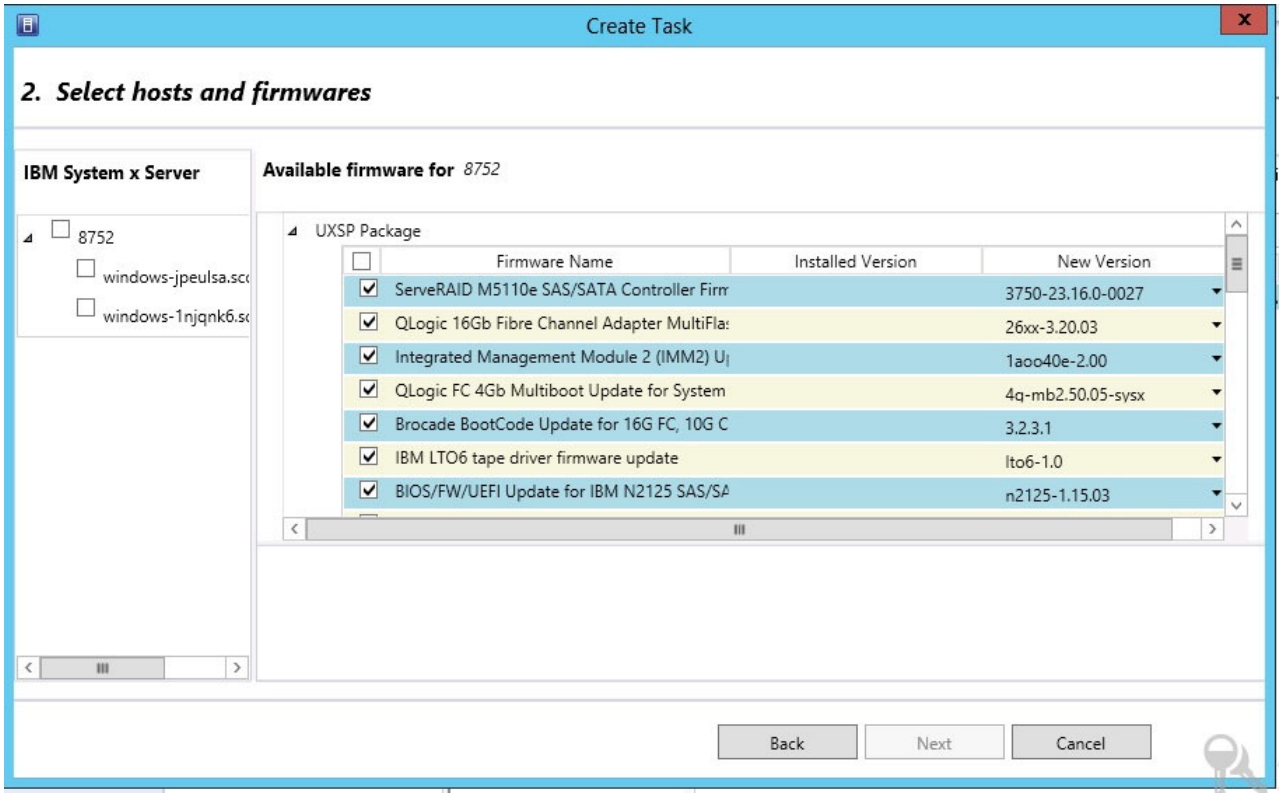
Procedure

1. Click the **Create** button on the Task Manager to open the Create Task wizard.
2. Name the task, and specify the update category.
   - Update and Reboot: update a host and restart it
   - Update Only: update a host without restarting it
   - Reboot Only: restart a host without updating it



3. Select the firmware and drivers for the hosts. All the hosts in the current cluster are displayed on the left and are organized by machine type. Available and

installed firmware versions for each machine type and host are listed on the right. Select a host to view available firmware and choose the updates you want to apply.

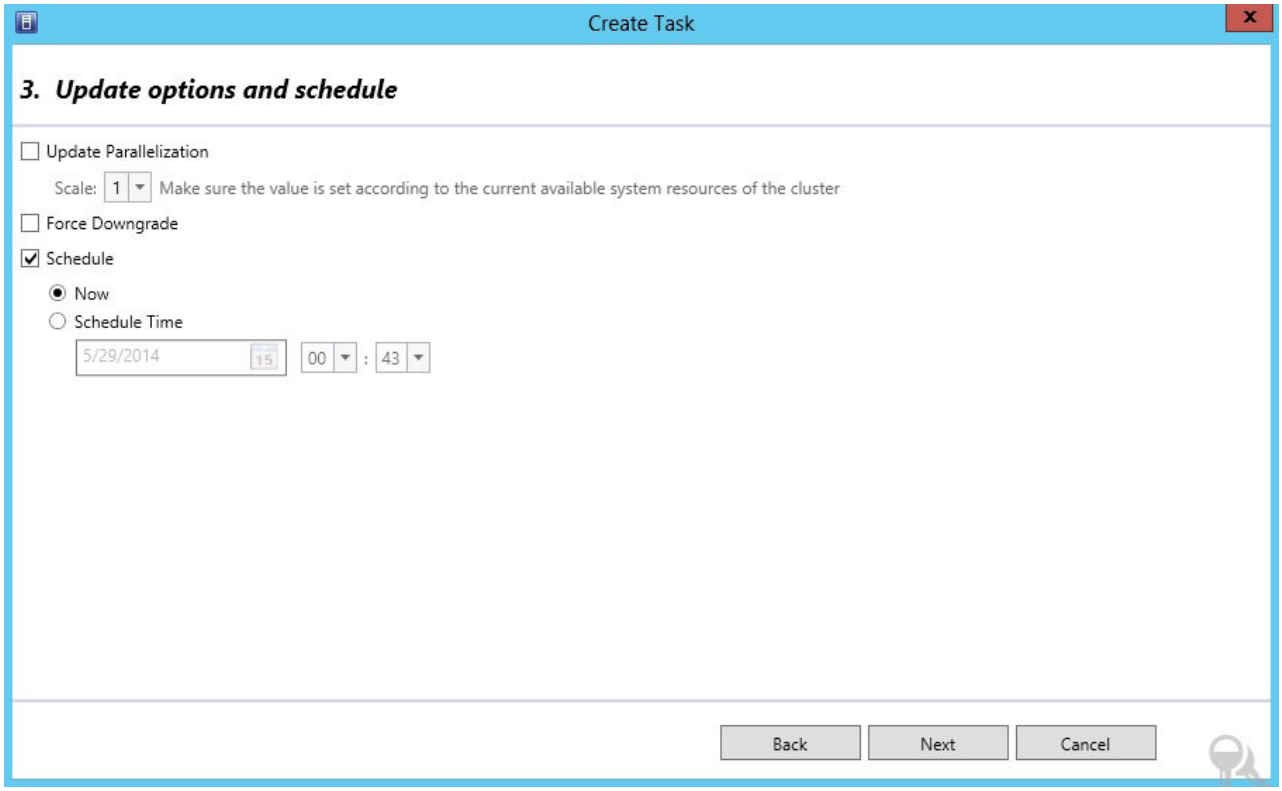


If a machine type is selected, the selection of firmware is applied to all the hosts that have this machine type. If a host check box is disabled, there are no available updates in the repository.

If inventory information has not been collected for a host, RSU displays firmware of its machine type for the host. In this case, you can still select firmware for this host to update. RSU attempts to collect host inventory information when updating and install the selected firmware. If a selected firmware is not available for the host, it is skipped.

Note: A host is excluded when it physically acts as a management node when creating a Rolling System Update task.

4. Specify the task options.
   - **Update Parallelization**: Specifies the number of hosts that can be updated concurrently. Note that updating multiple hosts concurrently requires more system resources, and you should carefully set the value according to the current available system resources, such as CPU and memory of the management node. The default value is 1 and the maximum value is 4.
   - **Reboot after update**: Specifies whether to reboot the host after updates are applied.
   - **Force downgrade**: Specifies whether to update firmware if the installed version is newer than the one you selected.
   - **Schedule**: Specifies when to initiate the task.



5. Review the task details and submit a task. Note that the cluster service may need to manually start from a host when the host restarts if the host is installed with Windows Server 2008 R2.

Copying a task

A finished, failed, or canceled task can be copied as a new task.

Procedure

1. On the **Rolling System Update Task Manager** tab, select a finished, failed or canceled task from the task list of the cluster.
2. Click the **Copy** button at the top the Task Manager to open the Copy Task wizard. Refer to the "Creating A Task" section in this user's guide for more information about using the Copy Task wizard.

Canceling a task

A task can be canceled while it is running.

About this task

When you cancel a task, the task status changes to `Cancelling`. The hosts already in processing will continue until the update operation is complete. The hosts that have not been started are canceled from the updating task. Note that a cancel procedure can take several minutes to complete.

Procedure

1. On the **Rolling System Update Task Manager** tab, select a running task from the task list of the cluster.

2. Click **Cancel**.

Editing a task

Only the tasks with a status of Not Started can be edited.

Procedure

1. On the **Rolling System Update Task Manager** tab, select a task that has not yet started from the task list of the cluster.
2. Click **Edit** at the top of the Task Manager to open the Edit Task wizard. Refer to the "Creating A Task" section in this user's guide for more information about using the Edit Task wizard.

Removing a task

All tasks except a running task can be deleted.

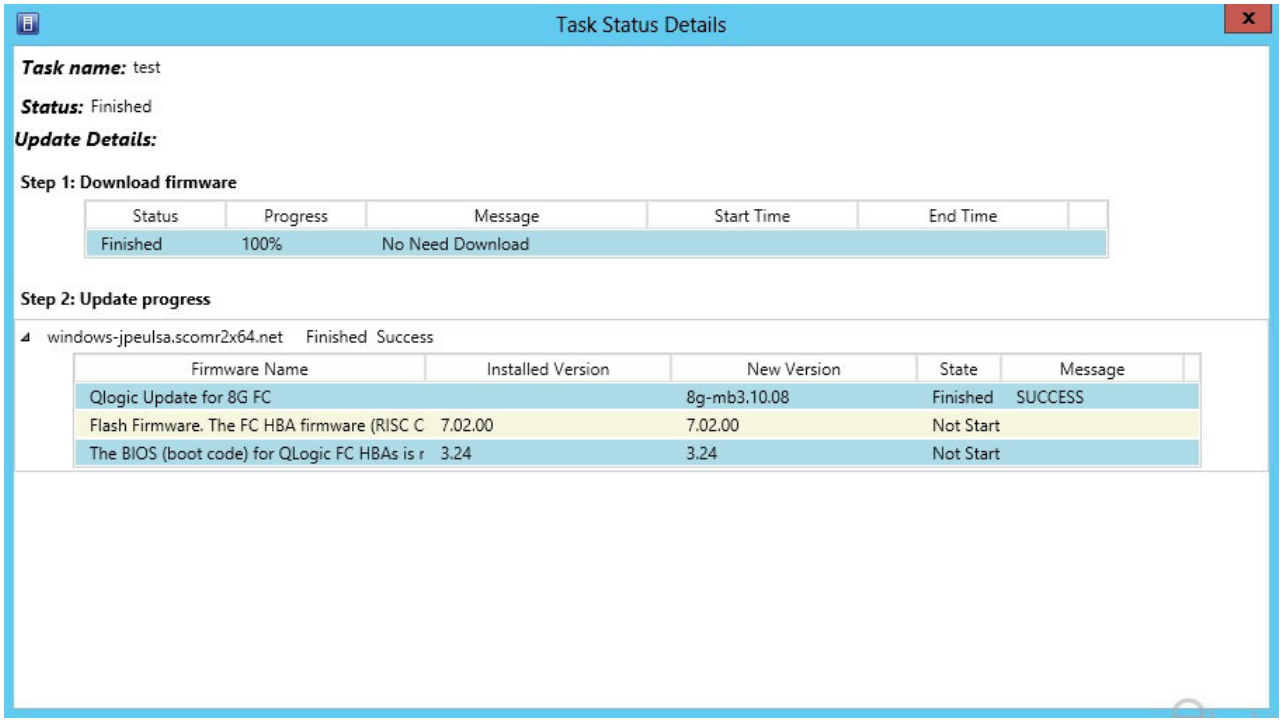
Procedure

1. On the **Rolling System Update Task Manager** tab, from the task list of the cluster, select a task that is not currently running.
2. Click **Remove**.

Viewing task progress

View the status of tasks through the Task Status Details window.

About this task



Procedure

On the **Rolling System Update Task Manager** tab, click the status link of a task to display the Task Status Details window. The following information is displayed.

Table 6. Descriptions of task status

Target	Status	Description
Rolling Update Task	Not started	The task has not started.
	Running	The task is running.
	Canceled	The task is canceled.
	Failed	Causes of task failure can result from: • A firmware package that fails to download • A managed host that fails to reboot • A VM migration that fails • A firmware update that fails
	Finished	The task has completed. If firmware is failing to update, the task is also marked as `Finished`.
Host	Not started	The update for the host has not started.
	Migrating	The host is entering maintenance mode.
	Maintenance	The host is in maintenance mode.
	Updating	The firmware of the host is updating.
	Rebooting	The host is rebooting after updating completes.
	Exit maintenance	The host is exiting maintenance mode.
	Success	The firmware update succeeded.
	Failed	A failure can occur when the host: • Cannot enter maintenance mode • Cannot get the update package • Cannot update the firmware • Cannot be rebooted • Cannot exit maintenance mode

Table 6. Descriptions of task status (continued)

Target	Status	Description
Firmware	Not started	The firmware update has not started.
	Running	The firmware update is running.
	Success	The firmware update succeeded.
	Failed	The firmware update failed.

Chapter 11. 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 UIM Add-in

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

About this task

Occasionally, a host is absent from UIM 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 UIM Add-in host 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 SCVMM Add-in installer will fail and display 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 Add-in will be installed.

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