

**Lenovo**

Lenovo XClarity Integrator for VMware  
vRealize Orchestrator  
User Guide



**Version 1.1.0**

**Note**

Before using this information and the product it supports, read the information in Appendix A “Notices” on page 11.

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## About this publication

This user guide provides the latest information about Lenovo XClarity Integrator for VMware vRealize Orchestrator .vmoapp plug-in, a plug-in to the VMware vRealize Orchestrator that provides workflows that interact with Lenovo XClarity Administrator.

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## Conventions and terminology

This publication uses conventions and special terms that will aid in your use of the information.

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.

### Frequently used terms

Table 1. Frequently used terms and acronyms

Term/acronym	Definition
LXCI	Lenovo XClarity Integrator
vRO	VMware vRealize Orchestrator

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## Web resources

You can find additional information about Lenovo XClarity Integrator for VMware vRealize Orchestrator in the product documentation and on the Web.

### Lenovo XClarity Integrator for VMware vRealize Orchestrator Web site

Locate the latest downloads for the Lenovo XClarity Integrator for VMware vRealize Orchestrator:

- [Lenovo XClarity Integrator for VMware vRealize Orchestrator website](#)

### System Management with Lenovo XClarity Solutions

This Web site provides an overview of the Lenovo XClarity solutions that integrate System x and Flex System hardware to provide system management capability:

- [System Management with Lenovo XClarity Solution website](#)

### Lenovo technical support portal

This Web site can assist you in locating support for hardware and software:

- [Lenovo Support Portal website](#)

### **ServerProven Web sites**

The following Web sites provide an overview of hardware compatibility for BladeCenter, Flex System, System x, and x Series hardware:

- [Lenovo ServerProven: Compatibility for BladeCenter products](#)
- [Lenovo ServerProven: Compatibility for Flex System Chassis](#)
- [Lenovo ServerProven: Compatibility for System x hardware, applications, and middleware](#)

### **VMware vRealize Orchestrator Web site**

Locate documentation in several formats to assist you with installing, using, and developing with VMware vRealize Orchestrator

- [VMware vRealize Orchestrator Documentation website](#)



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## **Chapter 1. Lenovo XClarity Integrator for VMware vRealize Orchestrator**

The Lenovo XClarity Integrator for VMware vRealize Orchestrator.vmoapp plug-in is a plug-in to the VMware vRealize Orchestrator. It provides workflows that interact with Lenovo XClarity Administrator to automate management, such as server configuration and OS deployment, of LenovoFlex System and System x servers.



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## Chapter 2. Planning and installing Lenovo XClarity Integrator for VMware vRealize Orchestrator

Use this procedure to plan for and install Lenovo XClarity Integrator for VMware vRealize Orchestrator.

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### System requirements

This section describes system requirements for Lenovo XClarity Integrator for VMware vRealize Orchestrator.

### Software requirements

This section describes software requirements for Lenovo XClarity Integrator for VMware vRealize Orchestrator.

#### Supported versions of VMware vRealize Orchestrator

Lenovo XClarity Integrator for VMware vRealize Orchestrator supports the following VMware vRealize Orchestrator releases:

- VMware vRealize Orchestrator 7.3.1
- VMware vRealize Orchestrator 7.4

#### Supported versions of Lenovo XClarity Administrator and Lenovo XClarity Integrator for VMware vCenter

Lenovo XClarity Integrator for VMware vRealize Orchestrator leverages Lenovo XClarity Administrator for server management and has a dependency on Lenovo XClarity Integrator for VMware vCenter.

The following version combinations of Lenovo XClarity Administrator and Lenovo XClarity Integrator for VMware vCenter are supported.

- Lenovo XClarity Administrator 2.0.0 and Lenovo XClarity Integrator for VMware vCenter 5.4.0

### Hardware requirements

The following table lists the minimum and the recommended hardware requirements for Lenovo XClarity Integrator for VMware vCenter.

Table 2. Hardware requirements for Lenovo XClarity Integrator for VMware vCenter

Component	Specification
Memory	<ul style="list-style-type: none"><li>• Minimum: 4 GB of RAM</li><li>• Recommended: 8 GB of RAM</li></ul>
Disk space	<ul style="list-style-type: none"><li>• Minimum: 64 GB of available disk space</li><li>• Recommended: 128 GB of available disk space</li></ul>
Processor	<ul style="list-style-type: none"><li>• Minimum: one processor</li><li>• Recommended: two processors</li></ul>

## Supported hardware

Lenovo XClarity Integrator for VMware vRealize Orchestrator supports all Flex System and System x servers that Lenovo XClarity Administrator supports.

For a complete server list, see to [Supported endpoints in the Lenovo XClarity Administrator online documentation](#).

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## Installing the plug-in

This topic lists the prerequisites for installing the .vmoapp plug-in and the steps for installing the plug-in.

### Before you begin

You must install VMware vRealize Orchestrator. For instructions on installing VMware vRealize Orchestrator, see the [VMware vRealize Orchestrator Documentation website](#).

### Procedure

- Step 1. Log in to the VMware vRealize Orchestrator Configuration page.
- Step 2. Click **Manage Plug-ins**.
- Step 3. In the **Install new plug-in** area, click the **Browser** icon.
- Step 4. Navigate to the folder where you have saved the .vmoapp file, and select the .vmoapp file.
- Step 5. Click **Open**. Choose the .vmoapp file.
- Step 6. Click **Install**.
- Step 7. Wait for about ten minutes. The VMware vRealize Orchestrator server will restart. Then, you can log in by Orchestrator client and start use the plug-in.

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## Uninstalling the plug-in

This topic provides the procedure for uninstalling the .vmoapp plug-in.

### Procedure

Uninstallation of the .vmoapp plug-in follows standard plug-in uninstallation steps. For instructions, see the [Manually removing plug-ins from vRealize Orchestrator 7.3 and later \(2151653\) webpage](#).

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## Chapter 3. Using the plug-in

The plug-in runs via the vRealize Orchestrator client, which is automatically installed with the VMware vRealize Orchestrator package.

The client enables you to:

- Run workflows
- Schedule workflows
- Manage user permissions
- Develop workflows and actions

Ensure that you have met the “Prerequisites” on page 5 for using the plug-in.

For more information about using vRealize Orchestrator client, refer to the "Using the VMware vRealize Orchestrator Client" document on the [VMware vRealize Orchestrator Documentation website](#).

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### Prerequisites

This topic lists prerequisites for using the plug-in.

- Install VMware vRealize Orchestrator
- Ensure that VMware vCenter is available and has been added to vRealize Orchestrator.  
You can do this from the Library tab by clicking **Library → vCenter → configuration → Add a vCenter Server instance**.
- Ensure that Lenovo XClarity Integrator for VMware vCenter is installed and registered as the plug-in for VMware vCenter.
- Ensure that Lenovo XClarity Administrator instances are available and are registered within Lenovo XClarity Integrator for VMware vCenter.

Refer to the "Configuring Lenovo XClarity Administrator" section in the *Lenovo XClarity Integrator for VMware vCenter Installation and User's Guide* for detailed steps. You can download the user's guide from the [Lenovo XClarity Integrator for VMware vRealize Orchestrator website](#).

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### Using the plug-in Inventory

Lenovo XClarity Integrator for VMware vRealize Orchestrator shows all servers in Lenovo XClarity Administrator instances that are connected in the Inventory view.

#### About this task

You can use the Inventory view to add authorization elements or to run workflows on Lenovo XClarity Administrator managed server objects.

You can enable the Use contextual menu in the Inventory option to display the workflows that are available for an Inventory object. When the option is enabled and you right-click an object in the Orchestrator inventory, all available workflows for the object are displayed.

#### Procedure

- Step 1. Run and log into the vRealize Orchestrator client as an administrator.
- Step 2. Click the Inventory view in the vRealize Orchestrator client.

Step 3. In the hierarchical list, select **Library → Lenovo XClarity Integrator** and expand the selection.

**Note:** You must select and run the **Get XClarity Administrators associated to a vCenter** workflow in order to view registered Lenovo XClarity Administrator instances and managed servers in the Inventory view. Follow the prompts on the wizard to run the workflow.

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## Using the plug-in Workflow library

This section describes the Workflow library that the plug-in provides.

### About this task

The Workflow library contains workflows that allow you to run automated processes related to the management of Lenovo XClarity Administrator instances.

### Procedure

- Step 1. Run and log into the vRealize Orchestrator client as an administrator.
- Step 2. Click the Workflows view in the Orchestrator client.
- Step 3. In the hierarchical list, select **Library → Lenovo XClarity Integrator** and expand the selection.
- Step 4. Right-click the workflow you want to run, click **Run**, and follow the prompts on the wizard. For a list of workflows and their descriptions, refer to “Workflows” on page 6.

## Workflows

This topic lists workflows that combine multiple actions to perform a task.

You can use the workflows as building blocks for creating complex custom solutions. By combining standard workflows, you can automate multistep processes.

Table 3. Standard workflow names and descriptions

Workflow name	Description
Get XClarity Administrators associated to a vCenter	Retrieve a list of Lenovo XClarity Administrator instances that have been associated with a vCenter.
Get available servers	Retrieve a list of servers that have not been added to the vCenter.
Get server patterns	Retrieve all server patterns that have been created in Lenovo XClarity Administrator instances.
Assign a configuration pattern	Assign a configuration pattern to a server.
Deassign a configuration pattern	Unassign a configuration pattern from a server.
Deploy ESXi server	Install ESXi on the server.
Deploy ESXi server with static IP	Install ESXi on the server with specified IP address.
Get server MAC addresses	List a server's MAC addresses.

Table 4. Sample workflow names and descriptions

<b>Workflow name</b>	<b>Description</b>
Provision a new server	Deploy a server pattern and then deploy ESXi on the server.
Provision a new server and add to vCenter	Deploy a server pattern on the server, then deploy ESXi and add it to a vCenter cluster.
Power off server	Power off a server normally or immediately
Power on server	Power on a server
Restart server	Restart a server normally or immediately





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## Chapter 4. Troubleshooting

This section provides troubleshooting information that will help you to resolve problems with Lenovo XClarity Integrator for VMware vRealize Orchestrator.

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### Logging

vRealize Orchestrator provides an extensive logging facility for troubleshooting issues.

See to the *Installing and Configuring VMware vRealize Orchestrator* document on the [VMware vRealize Orchestrator Documentation website](#) for details on how to enable logging, how to change log levels, and where to access the log files.

The Lenovo XClarity Integrator for VMware vRealize Orchestrator supports the following log levels:

- INFO
- DEBUG
- ERROR



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## Important notes

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1 024 bytes, MB stands for 1 048 576 bytes, and GB stands for 1 073 741 824 bytes.

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