



Cisco UCS Director Red Hat Enterprise KVM Management Guide, Release 6.0

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Audience

This guide is intended primarily for data center administrators who use Cisco UCS Director and who have responsibilities and expertise in one or more of the following:

- Server administration
- Storage administration
- Network administration
- Network security
- Virtualization and virtual machines

Conventions

Text Type	Indication
GUI elements	GUI elements such as tab titles, area names, and field labels appear in this font . Main titles such as window, dialog box, and wizard titles appear in this font .
Document titles	Document titles appear in <i>this font</i> .
TUI elements	In a Text-based User Interface, text the system displays appears in <i>this font</i> .

Text Type	Indication
System output	Terminal sessions and information that the system displays appear in <i>this font</i> .
CLI commands	CLI command keywords appear in this font . Variables in a CLI command appear in <i>this font</i> .
[]	Elements in square brackets are optional.
{x y z}	Required alternative keywords are grouped in braces and separated by vertical bars.
[x y z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
<>	Nonprinting characters such as passwords are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

**Note**

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the document.

**Caution**

Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

**Tip**

Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.

**Timesaver**

Means *the described action saves time*. You can save time by performing the action described in the paragraph.

**Warning****IMPORTANT SAFETY INSTRUCTIONS**

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS

Related Documentation

Cisco UCS Director Documentation Roadmap

For a complete list of Cisco UCS Director documentation, see the *Cisco UCS Director Documentation Roadmap* available at the following URL: http://www.cisco.com/en/US/docs/unified_computing/ucs/ucs-director/doc-roadmap/b_UCSDirectorDocRoadmap.html.

Cisco UCS Documentation Roadmaps

For a complete list of all B-Series documentation, see the *Cisco UCS B-Series Servers Documentation Roadmap* available at the following URL: <http://www.cisco.com/go/unifiedcomputing/b-series-doc>.

For a complete list of all C-Series documentation, see the *Cisco UCS C-Series Servers Documentation Roadmap* available at the following URL: <http://www.cisco.com/go/unifiedcomputing/c-series-doc>.

**Note**

The *Cisco UCS B-Series Servers Documentation Roadmap* includes links to documentation for Cisco UCS Manager and Cisco UCS Central. The *Cisco UCS C-Series Servers Documentation Roadmap* includes links to documentation for Cisco Integrated Management Controller.

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to ucs-director-docfeedback@cisco.com. We appreciate your feedback.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see [What's New in Cisco Product Documentation](#).

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the [What's New in Cisco Product Documentation RSS feed](#). RSS feeds are a free service.



CHAPTER

1

New and Changed Information for This Release

- [New and Changed Information for this Release, page 1](#)

New and Changed Information for this Release

The following table provides an overview of the significant changes to this guide for this current release. The table does not provide an exhaustive list of all changes made to this guide or of all new features in this release.

Feature	Description	Where Documented
Creating a RHEV KVM Cloud	While creating a RHEV KVM cloud, you must enter only the RHEV KVM server user name in the Server User ID field. You must not specify the user name with the domain name.	Creating a RHEV KVM Cloud , on page 11
Viewing summary information for a RHEV KVM Cloud account	While viewing summary information for a RHEV KVM cloud account, the Network Usage column in the report will display only VM, even if the account is configured in both, management and VM type networks.	Viewing Summary Information, on page 33



CHAPTER 2

Overview

This chapter contains the following sections:

- [Cisco UCS Director, page 3](#)
- [About the Cisco UCS Director Red Hat Enterprise KVM Connector , page 7](#)
- [Prerequisites, page 7](#)
- [System Requirements, page 7](#)
- [About Workflows, page 8](#)
- [Workflow Designer, page 8](#)
- [Provisioning Support for Microsoft Windows, page 9](#)

Cisco UCS Director

Cisco UCS Director is a complete, highly secure, end-to-end management, orchestration, and automation solution for a wide array of Cisco and non-Cisco data infrastructure components, and for the industry's leading converged infrastructure solutions based on the Cisco UCS and Cisco Nexus platforms. For a complete list of supported infrastructure components and solutions, see the [Cisco UCS Director Compatibility Matrix](#).

Cisco UCS Director is a 64-bit appliance that uses the following standard templates:

- Open Virtualization Format (OVF) for VMware vSphere
- Virtual Hard Disk (VHD) for Microsoft Hyper-V

Management through Cisco UCS Director

Cisco UCS Director extends the unification of computing and network layers through Cisco UCS to provide you with comprehensive visibility and management of your data center infrastructure components. You can use Cisco UCS Director to configure, administer, and monitor supported Cisco and non-Cisco components. The tasks you can perform include the following:

- Create, clone, and deploy service profiles and templates for all Cisco UCS servers and compute applications.

- Monitor organizational usage, trends, and capacity across a converged infrastructure on a continuous basis. For example, you can view heat maps that show virtual machine (VM) utilization across all your data centers.
- Deploy and add capacity to converged infrastructures in a consistent, repeatable manner.
- Manage, monitor, and report on data center components, such as Cisco UCS domains or Cisco Nexus network devices.
- Extend virtual service catalogs to include services for your physical infrastructure.
- Manage secure multi-tenant environments to accommodate virtualized workloads that run with non-virtualized workloads.

Automation and Orchestration with Cisco UCS Director

Cisco UCS Director enables you to build workflows that provide automation services, and to publish the workflows and extend their services to your users on demand. You can collaborate with other experts in your company to quickly and easily create policies. You can build Cisco UCS Director workflows to automate simple or complex provisioning and configuration processes.

Once built and validated, these workflows perform the same way every time, no matter who runs the workflows. An experienced data center administrator can run them, or you can implement role-based access control to enable your users and customers to run the workflows on a self-service, as needed, basis.

With Cisco UCS Director, you can automate a wide array of tasks and use cases across a wide variety of supported Cisco and non-Cisco hardware and software data center components. A few examples of the use cases that you can automate include, but are not limited to:

- VM provisioning and lifecycle management
- Network resource configuration and lifecycle management
- Storage resource configuration and lifecycle management
- Tenant onboarding and infrastructure configuration
- Application infrastructure provisioning
- Self-service catalogs and VM provisioning
- Bare metal server provisioning, including installation of an operating system

Features and Benefits

The features and benefits of Cisco UCS Director are as follows:

Feature	Benefit
Central management	<ul style="list-style-type: none"> • Provides a single interface for administrators to monitor, provision, and manage the system across physical, virtual, and bare metal environments • Provides unified dashboards, reports, and heat maps, which reduce troubleshooting and performance bottlenecks

Feature	Benefit
Self-service catalog	<ul style="list-style-type: none"> • Allows end users to order and deploy new infrastructure instances following IT-prescribed policies and governance
Adaptive provisioning	<ul style="list-style-type: none"> • Provides a real-time available capability, internal policies, and application workload requirements to optimize the availability of your resources
Dynamic capacity management	<ul style="list-style-type: none"> • Provides continuous monitoring that indicates real-time infrastructure consumption to improve capacity planning and management • Identifies underutilized and overutilized resources
Multiple hypervisor support	<ul style="list-style-type: none"> • Supports VMware ESX, ESXi, Microsoft Hyper-V, and Red Hat hypervisors
Computing management	<ul style="list-style-type: none"> • Monitors, manages, and provisions physical, virtual, and bare metal servers, as well as blades • Allows end users to implement virtual machine life-cycle management and business continuance through snapshots • Allows administrators to access server utilization trending analysis
Network management	<ul style="list-style-type: none"> • Provides policy-based provisioning of physical and virtual switches and dynamic network topologies • Allows administrators to configure VLANs, virtual network interface cards (vNICs), port groups and port profiles, IP and Dynamic Host Control Protocol (DHCP) allocation, and access control lists (ACLs) across network devices
Storage management	<ul style="list-style-type: none"> • Provides policy-based provisioning and management of filers, virtual filers (vFilers), logical unit numbers (LUNs), and volumes • Provides unified dashboards that allow administrators comprehensive visibility into organizational usage, trends, and capacity analysis details.

Physical and Virtual Management Features

<p>Physical Server Management</p> <ul style="list-style-type: none"> • Discover and collect configurations and changes • Monitor and manage physical servers • Perform policy-based server provisioning • Manage blade power • Manage the server life cycle • Perform server use trending and capacity analysis • Perform bare metal provisioning using preboot execution environment (PXE) boot management 	<p>Virtual Computing Management</p> <ul style="list-style-type: none"> • Discover, collect, and monitor virtual computing environments • Perform policy-based provisioning and dynamic resource allocation • Manage the host server load and power • Manage the VM life cycle and snapshots • Perform analytics to assess VM capacity, sprawl, and host utilization
<p>Physical Storage Management</p> <ul style="list-style-type: none"> • Discover, collect, and monitor storage filers • Perform policy-based provisioning of vFilers • Provision and map volumes • Create and map Logical Unit Number (LUN) and iGroup instances • Perform SAN zone management • Monitor and manage network-attached storage (NAS) and SAN-based storage • Implement storage best practices and recommendation 	<p>Virtual Storage Management</p> <ul style="list-style-type: none"> • Discover, collect, and monitor storage of vFilers and storage pools • Perform policy-based storage provisioning for thick and thin clients • Create new datastores and map them to virtual device contexts (VDCs) • Add and resize disks to VMs • Monitor and manage organizational storage use • Perform virtual storage trend and capacity analysis
<p>Physical Network Management</p> <ul style="list-style-type: none"> • Discover, collect, and monitor physical network elements • Provision VLANs across multiple switches • Configure Access Control Lists (ACLs) on network devices • Configure the storage network • Implement dynamic network topologies 	<p>Virtual Network Management</p> <ul style="list-style-type: none"> • Add networks to VMs • Perform policy-based provisioning with IP and DHCP allocation • Configure and connect Virtual Network Interface Cards (vNICs) to VLANs and private VLANs • Create port groups and port profiles for VMs • Monitor organizational use of virtual networks

About the Cisco UCS Director Red Hat Enterprise KVM Connector

The Cisco UCS Director Red Hat Enterprise (RHEV) VM Kernel-based Virtual Machine (KVM) Connector is a full virtualization solution for Linux on AMD64 and Intel 64 hardware. KVM is a Linux kernel module created for the standard Red Hat Enterprise Linux 6 kernel.

The Red Hat Enterprise Virtualization Manager can be managed by Cisco UCS Director through the Representational State Transfer (REST) API.

The Cisco UCS Director KVM Connector provides for basic inventory, VM/host level monitoring, VM basic power actions, and snapshot actions. The following provisioning services are also supported:

- **Compute Policy**—Memory and CPU resize options.
- **Storage Policy**—Local, NFS, and iSCSI storage types are supported.
- **Network Policy**—Multiple NICs are supported.

Prerequisites

**Note**

Cisco UCS Director recognizes Red Hat Enterprise Virtual Machine (VM), Red Hat Enterprise Virtual Hypervisor Hosts, and Red Hat Enterprise Linux Hosts for additional functionality.

- Installation of Red Hat Enterprise Virtualization Manager version 3.2 and 3.3
- Installation of Red Hat Enterprise Virtual Hypervisor Hosts/RHEL Hosts (version 6.5)
- Configured system administrator privileges
- Cisco UCS Director release 5.0 or later release

System Requirements

The minimum system requirements depend upon how many VMs you plan to manage.

**Note**

For optimal performance, reserve additional CPU and memory resources.

For information about minimum system requirements for a multi-node setup, see the [Cisco UCS Director Multi-Node Installation and Configuration Guide](#).

Up to 2000 VMs

If you plan to manage up to 2000 VMs, the Cisco UCS Director environment must meet at least the minimum system requirements in the following table.

Table 1: Minimum System Requirements for up to 2000 VMs

Element	Minimum Supported Requirement
vCPU	4
Memory	8 GB
Hard Disk	100 GB

About Workflows

Cisco UCS Director Orchestrator allows you to organize workflows so that you can automate simple or complex actions on your infrastructure (either physical or virtual). By using Orchestrator you can organize tasks into distinct workflows to accomplish specific IT services, such as adding VMs. You can then add multiple tasks to a workflow is accomplished using the workflow UI designer. Triggers help initiate actions inside a workflow. You can execute the workflow directory or have a trigger begin the process. A typical workflow consists of the following elements:

- Workflow Designer (GUI interface)
- Predefined Tasks

The simplest workflow consists of two connected tasks. A task represents a particular action or operation. The workflow determines the order in which your tasks are executed by Orchestrator. When constructing workflows, by dragging-and-dropping tasks, it is possible to route the output of one workflow into the input of another workflow. This connecting of multiple tasks is how you create more complex workflows.

About the Workflow Tasks

Cisco UCS Director includes several workflows tasks to aid in the construction of RHEV KVM-specific workflows using Workflow Designer. The following available workflow tasks are:

- RHEV KVEM VM Tasks
 - RHEV KVM Resource Allocation
 - RHEV KVM VM Provision

Workflow Designer

You use the workflow designer to implement actions or to select tasks from a list and then drag and drop them onto your **Workflow Designer** pane.

Provisioning Support for Microsoft Windows

Cisco UCS Director in conjunction with the Cisco UCS Director Baremetal Agent supports all types of Linux and Microsoft Windows operating systems in baremetal provisioning workflows. Certain operating systems are packaged out-of-the-box with the Cisco UCS Director Baremetal Agent. However, additional operating systems can be added as necessary. Any operating system that supports PXE boot and/or install is supported and can be leveraged in baremetal provisioning workflows.

RHEV KVM supports Microsoft Windows 2008/2012 provisioning.



Adding the KVM Connector

This chapter contains the following sections:

- [Creating a RHEV KVM Cloud](#) , page 11
- [Initiating Inventory Collection for a VM](#), page 13
- [Computing Policies](#), page 13
- [Creating a RHEV KVM Storage Policy](#), page 15
- [Creating a RHEV KVM Networking Policy](#), page 16
- [Virtual Data Centers](#), page 17
- [Creating a KVM Deployment Policy](#), page 19
- [About Managing Catalogs](#), page 19
- [Publishing a Catalog](#), page 20
- [Service Requests](#), page 26

Creating a RHEV KVM Cloud

Before You Begin

Installation of Red Hat Enterprise Virtual Machine (VM) and Hypervisor.

Procedure

- Step 1** On the menu bar, choose **Administration** > **Virtual Accounts**.
- Step 2** Click the **Virtual Accounts** tab.
- Step 3** Click **Add (+)**.
- Step 4** In the **Add Account** dialog box, complete the following fields:

Name	Description
Cloud Type drop-down list	Choose Red Hat KVM . Note The following fields are displayed when RHEV KVM is chosen. Other cloud types display fields that are specific to that cloud type.
Pod drop-down list	Choose a Pod to associate the account to from the drop-down list.
Account Type drop-down list	Choose Red Hat KVM . Note The following fields are displayed when Red Hat KVM is chosen. Other cloud types display fields that are specific to that cloud type.
Account Name field	A unique account name.
Description field	A description of the new account.
Server Address field	The RHEV KVM server address.
Use Credentials Policy check box	If checked, account uses pre-existing credentials policy.
Server User ID field	The RHEV KVM server username. Note You must enter only the username in this field. Do not include the domain name with the user name. Enter the domain name in the Domain field.
Server Password field	The RHEV KVM server password.
Domain field	The domain associated to the new account.
Server Access Port field	The server access port used by the account (default value is 443).
Service Provider field	The service provider associated with the account
Contact field	The contact email address for the cloud.
Location field	The location of the account.

Step 5 Click **Submit**.

Initiating Inventory Collection for a VM

Procedure

-
- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Choose the cloud name.
 - Step 3** Choose the **VMs** tab.
 - Step 4** Choose a VM and click the down arrow button on the right side of the toolbar.
 - Step 5** From the drop-down list, choose **Inventory Collection**.
 - Step 6** Click **Submit**.
-

Computing Policies

Computing policies determine the compute resources that can be used during provisioning to satisfy group or workload requirements.

As an administrator, you can define advanced policies by mixing and matching various conditions in the computing policy.



Note

We recommend that you thoroughly understand all the fields in the computing policy. Some combinations of conditions can result in no host machines being available during self-service provisioning.

Creating a RHEV KVM Computing Policy

Procedure

-
- Step 1** On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Computing**.
 - Step 2** Choose the **RHEV KVM Computing Policy** tab.
 - Step 3** Click **Add (+)**.
 - Step 4** In the **Add Computing Policy** dialog box, complete the following fields:

Name	Description
Policy Name field	The name of the policy. Note This name is used during catalog definition
Policy Description field	The description of the policy.

Name	Description
Cloud Name drop-down list	Choose the cloud where resource allocation occurs.
Host Node/Cluster Scope drop-down list	Choose the scope of deployment. Note You can narrow the scope of deployment by specifying whether to use all, include chosen, or exclude chosen options. Depending on the choices, a new field appears where the required hosts or clusters can be chosen.
Datacenter drop-down list	Choose a datacenter (Pod).
Cluster Scope drop-down list	Choose a type of cluster scope (all or exclude).
Minimum Conditions check boxes	Check the check boxes for one or more conditions that should match. Any hosts that do not meet these criteria are excluded from consideration. If more than one condition is chosen, all of the chosen conditions must match. Choose a less than or equals to value from the drop-down list for further selection.
<i>Deployment Options</i>	
Override Template check box	Check the check box to override the template properties. You are provided with options to enter custom settings for CPU and memory.
<i>Resizing Options</i>	
Allow Resizing of VM check box	Check the check box to allow VM resizing before provisioning or to resize an existing VM.
Permitted Values for vCPUs field	The range of vCPUs to use while provisioning a VM or resizing an existing VM. A range of more than 8 is visible during VM provisioning or resizing only if the chosen cloud is 5 or above and has VM version 8. Only the values specified in the box are visible. Note This option appears if you choose Allow Resizing of VM .
Permitted Values for Memory in MB field	The range of memory to use while provisioning a VM or resizing an existing VM. For example: 512, 768, 1024, 1536, 2048, 3072, 4096, and so on. Only the values specified in the box are visible. Note This option appears if you choose Allow Resizing of VM .

Step 5 Click **Add**.

Creating a RHEV KVM Storage Policy

Procedure

- Step 1** On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Storage**.
- Step 2** Choose the **RHEV KVM Storage Policy** tab.
- Step 3** Click **Add (+)**.
- Step 4** In the **Add Policy** dialog box, complete the following fields:

Name	Description
Policy Name field	Choose the cloud in which resource allocation occurs.
Policy Description field	If you want to narrow the scope of deployment, choose whether to use all, include selected data stores, or exclude selected data stores.
Cloud Name drop-down list	Choose the cloud in which resource allocation occurs.
Datacenter drop-down list	Choose a Pod.
<i>Scope</i>	
Data Stores Scope drop-down list	Choose a type of cluster scope (include/exclude or all).
Selected Data Stores drop-down button	(Optional) Choose a selected datastore.
<i>Storage Options</i>	
Minimum Conditions drop-down list	If you want to narrow the scope of deployment, choose whether to use all, include selected data stores, or exclude selected data stores. Choose a less than or equals to value from the drop-down list for further selection.

- Step 5** Click **Submit**.

Creating a RHEV KVM Networking Policy

Procedure

Step 1 On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Network**.

Step 2 Choose the **RHEV KVM Networking Policy** tab.

Step 3 Click **Add (+)**.

Step 4 In the **Network Policy Information** dialog box, complete the following fields:

Name	Description
Policy Name field	The name of the network policy.
Policy Description field	The description of the network policy.
Cloud Name drop-down list	Choose the cloud account to which the policy applies.
Datacenter drop-down list	Choose a Pod.
Network Name button	Choose a network.
Link State drop-down list	Choose either On or OFF .
Adapter Type drop-down list	Choose the adapter type. Check this option if you want to have the same Adapter Type that is available in the template. Note This option is not visible if the Copy Adapter from Template option is chosen.

Step 5 Click **Next**.

Step 6 Click **Add (+)** in the **Additional Networks** section. The **Add Entry to Additional Networks** dialog box displays.

Step 7 In the **Add Entry to Additional Networks** dialog box, complete the following fields:

Name	Description
NIC Alias field	The name of the network policy.
Network Name drop-down list	The description of the network policy.
Link State drop-down list	Choose the cloud account to which the policy applies.
Adapter Type drop-down list	Choose the adapter type. Check this option if you want to have the same Adapter Type that is available in the template. Note This option is not visible if the Copy Adapter from Template option is chosen.

Step 8 Click **Submit**.

Virtual Data Centers

A Virtual Data Center (VDC) is a logical grouping that combines virtual resources, operational details, rules, and policies to manage specific group requirements.

A group or organization can manage multiple VDCs, images, templates, and policies. Organizations can allocate quotas and assign resource limits for individual groups at the VDC level.

You can also define approvers specific to a VDC. The approvers assigned to a particular VDC must approve all service requests from users for VM provisioning.



Note

There is a default VDC in Cisco UCS Director, and all discovered VMs are part of this default VDC. Discovered VMs are VMs that are created outside of Cisco UCS Director or were already created on VMware vCenter before Cisco UCS Director was installed. Cisco UCS Director automatically discovers such VMs and adds them to the default VDC.

A VM that is provisioned using a service request can be associated with a specific VDC. When you create a service request, you can choose the VDC on which this VM is provisioned. You can view a list of the VDCs that are available for a particular group and choose the required VDC when provisioning VMs.

Creating a RHEV KVM Virtual Pod

In this task, you specify deployment, storage, network, and computing policies. Refer to the Cisco UCS Director System Administration Guide for additional information.

Procedure

Step 1 On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Virtual Data Centers**.

Step 2 Choose the **vDC** tab.

Step 3 Click **Add (+)**. In the **VDC Add** dialog box, complete the following field:

Name	Description
Account Type drop-down list	Choose an account type.

Step 4 Click **Submit**.

Step 5 In the **Add vDC** dialog box, complete the following fields:

Name	Description
vDC Name field	The name of the vDC. After entering the name, it cannot be edited.
vDC Locked check box	Check the check box to deny the use of the vDC for any further deployments. Actions on existing VMs, within this vDC, are disabled. Uncheck the check box to allow the use of the vDC for further deployments.
vDC Description field	The vDC-specific description.
Group drop-down list	Choose the group for which the vDC is being set up. Click the (+) icon to add more groups
Cloud Name drop-down list	Choose the cloud on which the vDC is being set up.
<i>Approvers and Contacts</i>	
First Approver User Name field	The user who must approve the service request.
Second Approver User Name field	The second user who must approve the service request.
Approval required from all users check box	If checked, requires approval from all users.
Provider Support Email Address field	The contact or user's email address. The person who is notified about VM provisioning using this vDC.
Copy Notifications to Email Address field	The second contact's email for copying notifications about this vDC.
<i>Policies</i>	
System Policy drop-down list	Choose the system policy applicable to the vDC.
Computing Policy drop-down list	Choose the computing policy applicable to the vDC.
Network Policy drop-down list	Choose the network policy applicable to the vDC.
Storage Policy drop-down list	Choose the storage policy applicable to the vDC.
Deploy Policy drop-down list	Choose the deploy policy applicable to the vDC
End User Self-Service Policies drop-down list	Choose an end user policy.

Step 6 Click **Add**.

Creating a KVM Deployment Policy

Procedure

Step 1 On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Service Delivery**.

Step 2 Click the **KVM Deployment Policy** tab.

Step 3 Click **Add**.

Step 4 In the **Add Policy** dialog box, complete the following fields:

Name	Description
Policy Name field	The name for the KVM deployment policy.
Policy Description field	The description of the KVM deployment policy
VM Name Template field	The VM name template to use. Cisco UCS Director allows automatically created using a set of variable names. Each variable must be enclosed in <code>\${VARIABLE_NAME}</code> . For example: <code>vm-\${GROUP_NAME}-SR\${SR_ID}</code> .
Cloud Name drop-down list	Choose a cloud from the drop-down list.
Recycle VM Name check box	By default, decommissioned VM names that were previously provisioned are used when creating a new VM. Uncheck this check box if you do not want to recycle previously used VM names.

Step 5 Click **Submit**.

About Managing Catalogs

You can self-provision virtual machines (VMs) using predefined catalog items. Only a system administrator can create a catalog. A catalog defines parameters, such as the cloud name and the group name to which the VM is bound.

The following folders are available by default. You cannot edit or delete them.

- Standard
- Advanced
- Service Container

- Bare Metal

To aid in managing catalogs, Cisco UCS Director allows you to group similar catalogs within a folder. While creating a catalog, you can choose to add it in a previously created folder, or create a new folder. A folder is visible in the system only when it contains a catalog.

The **Manage Folder** option on the **Catalog** page allows you to perform the following tasks:

- Edit a folder—Modify the name of a user-created folder or the folder icon for all folders. You cannot modify the name of a default folder.
- Delete a folder—Delete a folder from Cisco UCS Director. If this folder contains catalogs, then these catalogs are automatically moved into the folders that are available by default, based on the catalog type. Default folders cannot be deleted.
- Re-order the list of folder—Change the order in which the folders are listed in the **Catalog** page. By default, folders are listed alphabetically.



Important

If you have upgraded Cisco UCS Director to the latest version, then all catalogs created in prior versions are grouped into folders available by default, based on their catalog types.

By default, the catalogs will be displayed in a tile view format.



Note

Place the **Catalogs** option on the menu bar to easily access all the catalog-related options. Click your user name on the top right corner of the interface, choose the **Catalogs** tab in the **User Information** dialog box, and check the **Enable Catalogs** check box.

Publishing a Catalog

Procedure

- Step 1** On the menu bar, choose **Policies > Catalogs**.
- Step 2** Choose the **Catalog** tab.
- Step 3** Click **Add (+)**.
- Step 4** In the **Catalog Add** dialog box, select the type of catalog that you want to add. It can be one of the following:
 - **Standard**—Used to create catalogs for VM provisioning, using images from a list of clouds.
 - **Advanced**—Used for publishing orchestration workflows, such as catalog items.
 - **Service Container**—Used for publishing application containers as catalog items.
 - **Bare Metal Catalog**—Used to create catalogs for bare metal server provisioning.

Step 5 Click **Submit**.

Step 6 In the **Create Catalog** dialog box, complete the following fields:

Name	Description
Basic Information pane	
Catalog Name field	Enter a name of the catalog. Note Once created, a catalog name cannot be modified.
Catalog Description field	Enter a description of the catalog.
Catalog Type drop-down list	The type of catalog. It can be one of the following: <ul style="list-style-type: none"> • Standard—Used to create catalogs for VM provisioning, using images from a list of clouds. • Advanced—Used for publishing orchestration workflows, such as catalog items. • Service Container—Used for publishing application containers as catalog items. • Bare Metal Catalog—Used to create catalogs for bare metal server provisioning.
Catalog Icon drop-down list	Choose from a list of icons to associate this catalog with an image. This icon is seen when you are creating a service request using this catalog.
Applied to all groups check box	Check the check box to enable all groups to use this catalog. Leave it unchecked to deny its use to other groups.
Support Contact Email Addresses field	Specify the email address of the support contacts.
Selected Groups check box list	Check the check boxes for included groups that are from the Select Items dialog box. The checked groups use this catalog to provision new VMs.
Publish to end users check box	By default, this check box is checked. Uncheck this check box if you do not want this catalog to be visible to end users. If you do not uncheck this check box, then this catalog is visible to the end users of the system.
Cloud Name drop-down list	Choose the cloud with the image for VM provisioning.

Name	Description
Provision new VM for ISO mounting check box	Check this check box to clone a new VM from a selected image. If you do not check this check box, a blank VM is created.
Image field	<p>Choose the type of image, (any existing templates such as Windows, Linux, and other files that make up the image) that you use when VMs are provisioned using this catalog.</p> <p>If you are a group administrator, or an end user in a group with permissions to create catalogs, this field displays images that have been assigned to the group you belong to.</p> <p>If you are an MSP administrator, then this field displays images that have been assigned to your MSP organization, and to the groups within the MSP organization.</p>
Windows License Pool field	<p>Choose the Windows License.</p> <p>Note This option appears only when a Windows image is chosen. This option is not supported in the RHEV KVM Connector.</p>
Provision all disks in single datastore check box	<p>Check the check box to provision all disks in a single datastore. You can also choose to use the datastores configured for each disk in the storage policy.</p> <p>Note This option appears if the chosen template has multiple disks. This option is not supported in the RHEV KVM Connector.</p>
Service Container Template Name drop-down list	<p>Choose the template from the list.</p> <p>Note This option appears when the chosen Catalog Type is Service Container.</p>
Select Folder drop-down list	<p>Choose the folder within which this catalog must be created.</p> <p>Note The drop-down list includes names of folders that are available by default. You can either select a folder that is available, or click the + icon to create a new folder.</p> <p>To create a new folder in the Add New Folder dialog box, specify a folder name, and select an icon for the folder.</p>

Step 7 Click **Next**.

Step 8 In the **Applications Details** pane, complete the following fields:

Name	Description
Category drop-down list	Choose a VDC category.
Override check box	Check the check box to enable the end user to override the selected category while provisioning a VM using a service request.
Support Contact Email Address field	The email address of the contact who is notified when a service request is created using this catalog item.
Specify OS drop-down list	Choose the type of OS installed on the VM when it is provisioned. Note This option is not supported in the RHEV KVM Connector.
Specify Other OS field	Specify an OS that is not available in the Specify OS list. Note This option is not supported in the RHEV KVM Connector.
Specify Applications check box list	Check the appropriate check boxes to specify applications from the Select Items dialog box. These applications are installed on the VM during provisioning. Note This option is not supported in the RHEV KVM Connector.
Specify Other Applications field	Specify other applications that are not available in the Select Items dialog box. Note This option is not supported in the RHEV KVM Connector.
Application Code field	Specify an application code that is used in the VM name. The application code can be between 1 to 4 characters (for example: W2K3, DB, WS). The application code can be used in a system policy for the VM name by using the variable <code>\${APPCODE}</code> . For example, if the VM Name Template is <code>vm-\${GROUP_NAME}-\${APPCODE}</code> , the VM provisioned with the system policy has the name <code>vm-groupname-W2K3</code> . Note This option is not supported in the RHEV KVM Connector.

Step 9 Click Next.

Step 10 In the **User Credentials** pane, complete the following fields:

Note These options are not supported in the RHEV KVM Connector.

Name	Description
Credential Options drop-down list	Choose to allow or disallow users to retrieve VM access credentials (shared).
User ID field	The user ID. Note This field is available only if a choice is made under Credential Options .
Password field	The user password. Note This field is available only if a choice is made under Credential Options .

Step 11 Click **Next**.

Step 12 In the **Customization** pane, complete the following fields:

Name	Description
Automatic Guest Customization Enable check box	Check the check box to enable automatic guest customization. If you do not check this check box, then Cisco UCS Director does not configure the DNS, Network, and Guest OS properties.
Post Provisioning Custom Actions check box	Check the check box to enable execution of an orchestration workflow after VM provisioning.
Workflow drop-down list	Choose a defined workflow for provisioning. Note This option appears when Post Provisioning Custom Actions is checked.
Virtual Storage Catalog Enable check box	Check the check box to select storage entries from the Virtual Storage catalog.
Virtual Storage Catalog drop-down list	Select a storage entry from the catalog. Note This option appears when the Virtual Storage Catalog Enable check box is checked.
Cost Computation	
Charge Duration drop-down list	Choose Hourly or Monthly .
Active VM Application Cost field	The cost for the application that is included in the template. Note Not supported in the RHEV KVM Connector.

Name	Description
Inactive VM Application Cost field	The cost to this catalog of a VM in inactive state, per hour or month. Note Not supported in the RHEV KVM Connector.
VM Life Cycle Configuration	
Lease Time check box	Check the check box to define a lease time (in days and hours).
Day field	Specify the number of days. This field is visible only when you check the Lease Time check box
Hours field	Specify the number of hours. This field is visible only when you check the Lease Time check box
Hide end user lease configuration check box	Check the check box to prevent service end users from configuring a lease time for VMs.
Hide end user VM provision later check box	Check the check box to prevent service end users from provisioning VMs at a later time.

Step 13 Click Next.

Step 14 In the **VM Access** pane, complete the following fields:

Name	Description
Web Access Configuration	
Enable check box	Check the check box to enable web access to the VM. By default, this check box is unchecked which means that web access to the VM is disabled.
URL field	The URL of the VM. Note This option appears when Web Access Configuration is checked.
Label field	The label that is defined for this URL Note This option appears when Web Access Configuration is checked.
Remote Desktop Access Configuration	

Name	Description
Enable check box	Check the check box to enable remote desktop access to the VM. By default, this check box is unchecked, which means that remote desktop access to the VM is disabled.
Server field	The IP address of the server for remote access. Note This option appears when Remote Desktop Access Configuration is checked.
Port field	The port number on the server for remote access. Note This option appears when Remote Desktop Access Configuration is checked.
Label field	The label that is defined for this remote access. Note This option appears when Remote Desktop Access Configuration is checked.
VMRC Console Configuration	
Enable check box	Check the check box to enable VMRC console access to the VM. By default, this check box is unchecked, which means that the VMRC console access to the VM is disabled.

Step 15 Click **Next**.

Step 16 Review the catalog information in the **Summary** page.

Step 17 Click **Submit**.

Service Requests

You can use the self-service provisioning feature to create a service request to provision virtual machines (VMs), services, or applications. The service request process produces a provisioning workflow for VM creation that includes the following actions:

- Budget validation
- Dynamic resource allocation
- Approvals
- Provisioning
- Lifecycle setup and notification



Note If you change the number of CPU Cores or memory allocation while in the **Deployment Configuration** pane, the total cost is automatically updated and displayed.

To provision a VM or execute an orchestration workflow, you must first create a service request. If desired, you can require approval from one or two administrators or designated users before the VM is provisioned or the workflow executed. VMs can be immediately approved or scheduled to be approved within a maximum of 90 days from the original request.

Creating A Service Request for a Standard Catalog

The administrator publishes catalogs to a group and an end user can choose the required catalog to create a service request. The administrator provides the Self-Service portal with orchestration workflows in the form of catalogs. A catalog, published by the administrator, can be a standard catalog, advanced, or service container.



Important You can complete this procedure only if the administrator has enabled the **Create Service Request** permission for your role. This **Create Service Request** permission enables or disables the **Create Request** option that is accessible only from the **Services** menu option. It does not have any impact on the **Create Request** option from the **Catalog** menu option.

Procedure

- Step 1** On the menu bar, choose **Services**.
- Step 2** Click the **Service Requests** tab.
- Step 3** Click **Create Request**.
- Step 4** In the **Create Service Request** dialog box, complete the following field:

Name	Description
Catalog Type drop-down list	The type of catalog type. Choose Standard . The other options include: <ul style="list-style-type: none"> • Advanced—This catalog type is used exclusively for the orchestration workflow. • Service Container—This catalog type is used in application containers.

- Step 5** Click **Submit**.
- Step 6** In the **Catalog Selection** pane, complete the following fields:

Name	Description
VM Ownership	

Name	Description
Customer Organization radio button	Select this radio button to choose the customer organizations for which a VM is provisioned.
Customer Organizations: field	<p>Click Select to choose the customer organizations to which you want to provision the VM.</p> <p>Note Customer organizations that have valid vDCs are displayed.</p> <p>This field is visible only when you select the Group radio button.</p>
User radio button	Select this radio button to choose the users to whom you want a VM is provisioned.
User field	<p>Click Select to choose the users to whom you want to provision the VM. This list is populated with users from groups which allow resource assignment to users.</p> <p>Note Currently, only VMs that are in a VMware cloud can be assigned to a specific end user.</p>
Catalog Type drop-down list	<p>Displays the catalog type that you previously selected. It can be one of the following:</p> <ul style="list-style-type: none"> • Standard • Advanced • Service Container
Select Catalog drop-down list	Choose the catalog that is used for VM provisioning.
Perform deployment assessment check box	<p>Check this check box to perform an assessment of the budget allocation, resource limits and resource availability prior to submitting a service request. After you check this check box, the summary of the assessment is displayed in the Deployment Assessment pane.</p> <p>Important This option is visible only for VMware catalogs, and for catalogs that are not ISO-based.</p>

Step 7 Click **Next**. The **Deployment Configuration** screen appears.

Step 8 In the **Deployment Specification** screen, complete the following fields:

Name	Description
Select VDC drop-down list	The VDC on which the VM is provisioned. VDCs are defined by the administrator.
Comment field	Any comments relating to the deployment configuration.
Provision drop-down list	Choose either Now or Later . When you choose Now , the VM is provisioned immediately or up to 90 days in the future. When you choose Later , a calendar for the Day, drop-down lists for the Hour and Minute, and radio buttons for AM or PM appear. Important This check box is visible only if the administrator has unchecked the Hide end user VM provision later check box.
Lease Time check box	Check this check box to configure a lease time for the VM. The lifetime of the VM can be assigned in terms of days and hours after the VM is terminated (automatically). The VM is terminated after the specified number of days and hours have elapsed. Important This field is editable only if the administrator has not specified a lease time in the catalog used for VM provisioning and has unchecked the Hide end user lease configuration check box.
Days field	The number of days after which the VM is terminated. Note This option appears when the Lease Time check box is checked.
Hours field	Choose the number of hours after which the VM is terminated. Note This option appears when the Lease Time check box is checked.
VM Name Suffix field	Specify a VM suffix name if required. The name (label) is appended to the VM name. Note You receive this option only if it is enabled by the administrator in the VMware System Policy associated to the (above selected) vDC.

Name	Description
Default Cost Computation Period Settings	Attention These fields are displayed only when the Lease Time check box is unchecked. The cost computation is displayed in the Summary pane.
Charge Duration drop-down list	Choose a charge duration from the drop-down list. It can be Monthly , Hourly , or Daily .
Month field	If you selected Monthly as the charge duration, then specify the number of months the default cost must be calculated for.
Hourly field	If you selected Hourly as the charge duration, then specify the number of hours the default cost must be calculated for.
Daily field	If you selected Daily as the charge duration, then specify the number of days to be included in the cost computation.

Step 9 Click **Next**.

In the **Custom Specification** screen, complete the following fields.

Name	Description
CPU Cores field	The number of CPUs being utilized for the VM being provisioned. This list is available only if you configured the resizing option in the computing policy.
Memory field	The amount of memory for the VM being provisioned. This list is available only if you have configured the resizing option in the computing policy.
Disks field	The datastore for the VM being provisioned. The list of datastores available for selection depends upon the conditions established in the storage policy. You can enable or disable this option in the storage policy.
Storage Tier field	The storage entry for the VM being provisioned. This list appears only if the Virtual Storage Catalog is enabled for the selected catalog.

Name	Description
Select Datastore drop-down list	Choose a datastore. Click Submit to confirm your selection. For templates with multiple disks, you must repeat the datastore selection process for each disk. Note You can select only one datastore for each disk category (System, Data, Database, Swap, and Log). The list of datastore items depends upon the scope conditions in the storage policy.

Step 10 Click **Next**.

The **Custom Workflow Inputs** screen appears. Custom workflow inputs are applicable, if the catalog selected for VM provisioning has Post Provisioning Custom Actions selected during catalog creation. In this scenario, the post provisioning workflow allows end users to specify custom inputs. The inputs option depends upon the workflow attached to a catalog. Complete the following fields:

Name	Description
MAC Address field	The MAC address of the server.
IP Address field	The IP address of the server.
Host Name field	The hostname of the server.

Step 11 Click **Next**.**Step 12** If you checked the **Perform deployment assessment** check box, then review the report of the assessment displayed in the **Deployment Assessment** pane.

If this assessment report identifies errors, then you must return to the previous panes and rectify the errors before submitting the request. If the assessment report shows no errors, then you can proceed to the next pane.

Step 13 Click **Next**.

The **Summary** screen appears. Review the information for accuracy.

Step 14 Click **Submit**.

The **Submit Result** dialog box confirms that the service request was submitted successfully.

What to Do Next

View the service request status.



Managing the KVM Connector

This chapter contains the following sections:

- [Viewing Summary Information, page 33](#)
- [Using VM and Host Level Monitoring, page 34](#)
- [Reports, page 43](#)
- [Managing VM Power Settings, page 45](#)

Viewing Summary Information

The **Summary** tab provides tabular data and charts that describe the status of the RHEV KVM cloud account and general trends. The following information is displayed:

- VMs Active vs Inactive graphs
- Number of VMs (Last Week)
- Number of Host Nodes (Last Week)
- Memory (Last Week)
- Cloud Overview
- Host Nodes
- New VMs
- Deleted VMs



Note

If the network in the Red Hat KVM account is configured with both, management and VM type, then the **Network Usage** column in the user interface displays only VM.

Before You Begin

Create a cloud account (KVM).

Procedure

- Step 1** On the menu bar, choose **Administration > Virtual Accounts**.
 - Step 2** Click the **Virtual Accounts** tab.
 - Step 3** Choose a cloud account.
 - Step 4** Click the **Summary** tab to examine the information.
-

Using VM and Host Level Monitoring

After creating a RHEV KVM cloud (virtual) account and creating a computing policy, you can monitor your VMs and host-related information.

Viewing Polling Information

The **Hosts** tab provides tabular data that describe the current hosts in use in the cloud account. The following information is displayed:

- Start Time
- Collection Type
- Status
- Message
- End Time

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Click a RHEV KVM cloud account.
 - Step 3** Click the **Polling** tab to examine the information.
-

Viewing vDCs

The **vDCs** tab provides tabular data that describe the current hosts in use in the cloud account. The following information is presented:

- Group.

- Type.
- Lock State.
- Total VMs
- Active VMs
- Custom Categories
- Status

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Click a RHEV KVM cloud account.
 - Step 3** Click the **vDCs** tab to examine the information.
-

Viewing Data Centers

The **Data Centers** tab provides tabular data that describe the current pods in use in the cloud account. The following information is displayed:

- ID
- Name
- Status
- Storage Type
- Description

Before You Begin

Create a cloud account (KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Click a RHEV KVM cloud account.
 - Step 3** Click the **Data Centers** tab to examine the information.
-

Viewing Clusters

The **Clusters** tab provides tabular data that describe the current clusters in use in the cloud account. The following information is displayed:

- ID
- Name
- DC ID
- CPU ID
- Description

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
- Step 2** Click a RHEV KVM cloud account.
- Step 3** Click the **Clusters** tab to examine the information.
-

Viewing Host Nodes

The **Host Nodes** tab provides tabular data that describe the current hosts nodes in use in the cloud account. The following information is presented:

- ID
- Address
- Name
- Memory (MB)
- Status
- Port
- Cluster ID

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Click a RHEV KVM cloud account.
 - Step 3** Click the **Host Nodes** tab to examine the information.
-

Viewing VMs

The **VMs** tab provides insight into the VMs used by the RHEV KVM cloud account. The following information is displayed:

- Cloud
- VM Label
- VM Name
- Image ID
- Power State
- Group Name
- Category
- Provisioned
- Scheduled Tenant
- Last Status
- Guest OS Type
- VM Annotation
- Custom Attributes

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Administration > Virtual Accounts**.
 - Step 2** Click the **Virtual Accounts** tab.
 - Step 3** Choose the RHEV KVM cloud.
 - Step 4** Click the **VMs** tab to examine the information.
-

Viewing RHEV KVM Events

The **RHEV KVM Events** tab provides tabular data that describe the current RHEV KVM-specific events in use in the cloud account. The following information is displayed:

- ID
- Name
- Status
- Storage Type
- Description

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
- Step 2** Click a RHEV KVM cloud account.
- Step 3** Click the **RHEV KVM Events** tab to examine the information.
-

Viewing VM Action Requests

The **VM Action Requests** tab provides tabular data that describe the current hosts in use in the cloud account. The following information is presented:

- VM ID
- Action ID
- User Name
- Comment
- Schedule Time
- Status

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Click a RHEV KVM cloud account.
 - Step 3** Click the **VM Action Requests** tab to examine the information.
-

Viewing VM Pools

The **VM Pools** tab provides tabular data that describe the VM pools in use in the cloud account. The following information is displayed:

- Account Name
- Name
- Description
- Size

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Click a RHEV KVM cloud account.
 - Step 3** Click the **VM Pools** tab to examine the information.
-

Viewing Events

The **Events** tab provides tabular data that describe the current events in the cloud account. The following information is displayed:

- Cloud Name
- Severity
- Event Time
- Event
- Event Code
- Description
- Instance Name

- Host Name
- VM Type
- Parent Node

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
- Step 2** Click a RHEV KVM cloud account.
- Step 3** Click the **Events** tab to examine the information.
-

Viewing Roles

The **Roles** tab provides tabular data that describe the current roles in use in the cloud account. The following information is displayed:

- Account Name
- ID
- Name
- Description
- RHEV Controller Reports

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
- Step 2** Click a RHEV KVM cloud account.
- Step 3** Click the **Roles** tab to examine the information.
-

Viewing Images

The **Images** tab provides insight into the images used by the RHEV KVM cloud account. The following information is displayed:

- Image Name
- Image Type
- Guest OS
- Memory (MB)
- Number of CPUs
- Last time the image was updated

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Administration > Virtual Accounts**.
 - Step 2** Click the **Virtual Accounts** tab.
 - Step 3** Choose a RHEV KVM cloud.
 - Step 4** Click the **Images** tab to examine the information.
-

Viewing Tags

The **Tags** tab provides tag data that describe the current roles in use in the cloud account. Tags allow system resources to be arranged into groups or categories on the RHEV KVM connector. The following information is displayed:

- Account Name
- ID
- Name
- Description

Before You Begin

Create a cloud account (KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Click a RHEV KVM cloud account.
 - Step 3** Click the **Tags** tab to examine the information.
-

Viewing Users

The **Users** tab provides information on which users are associated to a particular cloud account. The following information is displayed:

- Account Name
- ID
- Name
- Description
- User Name

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
- Step 2** Click a RHEV KVM cloud account.
- Step 3** Click the **Users** tab to examine the information.
-

Viewing Deleted VMs

The **Deleted VMs** tab provides information on VMs which have been deleted for a particular cloud account. The following information is displayed:

- Cloud
- VM-ID
- VM Label
- Instance Name
- Host Name
- IP Address
- Image ID
- Group Name
- Deleted Time

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Click a RHEV KVM cloud account.
 - Step 3** Click the **Deleted VMs** tab to examine the information.
-

Reports

Cisco UCS Director can help you monitor virtual infrastructure and system resources. It displays a wide variety of reports that provide insight into how the system is performing

Following are the types of reports:

- Tabular reports for system information, including overview, host nodes, new VMs, and deleted VMs.
- Bar and pie graph comparisons, including VMs active versus inactive, and CPU provisioned versus capacity.
- Trend graphs about system resources, including CPU trends, memory trends, and VM additions and deletions.
- Other reports include Top 5 reports at the group, VDC, host node, and VM levels. The Top 5 reports focus on groups with the highest number of VMs, groups with the greatest CPU usage, VDCs with the highest number of VMs, and host nodes with the greatest CPU usage.
- Map reports, displaying the system resource information in the form of heat maps or color-coded maps.

Additional trend reports are available for certain accounts (for example: KVM accounts). Trend reports display data over a selected time frame.

Accessing Reports

Procedure

- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** From the left panel, choose the cloud name.
 - Step 3** Choose the tab with the required type of report (**Map**, **Top 5**, or **More Reports**).
-

Accessing Trend Reports (Summary Level)

The **Summary** tab provides access to trend reports (at the summary level). Trend reports display data collected over a selected time period. The **Duration for Trending** drop-down list (right-side of menu bar) lets you choose daily, weekly or monthly durations. The following information is presented (based upon configuration):

- Trend: Number of Host Nodes (Last Week)
- Memory
- Disk
- VMs Active vs Inactive
- Trend: Number of VMs (Last Week)
- Overview
- Host Nodes
- New VMs
- Deleted VMs

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

-
- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Click a RHEV KVM cloud account.
 - Step 3** Click the **Summary** tab to examine the information.
-

Accessing Trend Reports (VM Level)

The **Details** tab provides access to trend reports (at the VM level). Trend reports display data collected over a selected time period. The **Duration for Trending** drop-down list (right-side of menu bar) lets you choose daily, weekly, or monthly durations. The following information is presented (based on configuration):

- Trend: CPU Usage (Percent) (Last Week)
- Trend: Memory Consumption (Bytes) (Last Week)
- CPU Usage
- Memory Usage
- Overview
- Ownership
- Resources

- Host Nodes
- Display
- Hard Disk 1
- Nic 1
- Catalog Details

Before You Begin

Create a cloud account (RHEV KVM).

Procedure

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- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Click a RHEV KVM cloud account.
 - Step 3** Click the **VMs** tab.
 - Step 4** Click **View Details**.
-

Managing VM Power Settings

Before You Begin

You must be logged in to the appliance to complete this task.

Procedure

-
- Step 1** On the menu bar, choose **Virtual > Compute**.
 - Step 2** Choose the cloud name.
 - Step 3** To bring up virtual machine (VM) actions, choose the **VMs** tab.
 - Step 4** Choose an action and the **VM Task dialog** box appears.

Name	Description
VM Name display-only field	The name of the VM that is the subject of the action.
Power Off display-only field	The task to power off the VM.
Power On display-only field	The task to power on the VM.
Suspend display-only field	The task to put the VM in a suspended state.
Shutdown Guest display-only field	The task to shut down the guest OS on the VM.

Name	Description
Standby display-only field	The task to move the VM into a standby state. Note Not supported in the RHEV KVM Connector.
Reset display-only field	The task to perform a hard reset of the VM. Note Not supported in the RHEV KVM Connector.
Reboot display-only field	The task to perform a soft reboot of the VM. Note Not supported in the RHEV KVM Connector.
Comments field	Enter any comments that help identify the VM.
Schedule Action radio button	The task to power on a VM now or later at a specific date and time.

Step 5 Click **Proceed**.
