Cisco UCS Director Red Hat Enterprise KVM Management Guide, Release 6.7

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CONTENTS

Preface

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 *this font*.
TUI elements	In a Text-based User Interface, text the system displays appears in `this font`.
System output	Terminal sessions and information that the system displays appear in `this font`.

Text Type	Indication
CLI commands	CLI command keywords appear in **this font**. Variables in a CLI command appear in *this font*.
[ ]	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

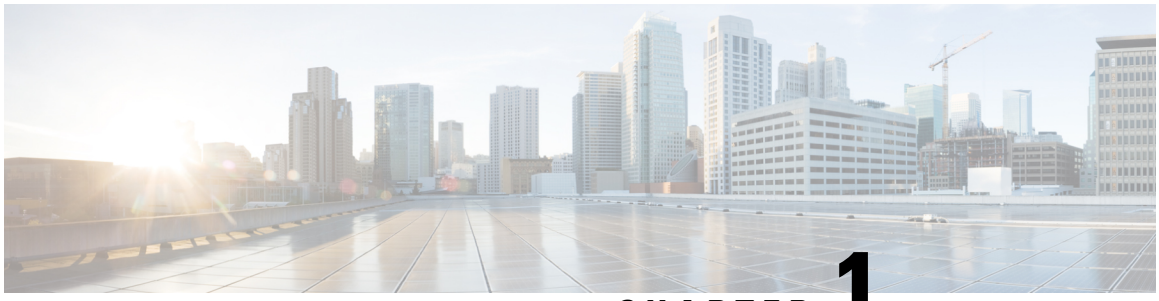
To provide technical feedback on this document, or to report an error or omission, please send your comments to ucs-director-docfeedback@cisco.com. We appreciate your feedback.

Communications, Services, and Additional Information

- To receive timely, relevant information from Cisco, sign up at Cisco Profile Manager.
- To get the business impact you're looking for with the technologies that matter, visit Cisco Services.
- To submit a service request, visit Cisco Support.
- To discover and browse secure, validated enterprise-class apps, products, solutions and services, visit Cisco Marketplace.
- To obtain general networking, training, and certification titles, visit Cisco Press.
- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

Cisco Bug Search Tool

Cisco Bug Search Tool (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.



CHAPTER 1

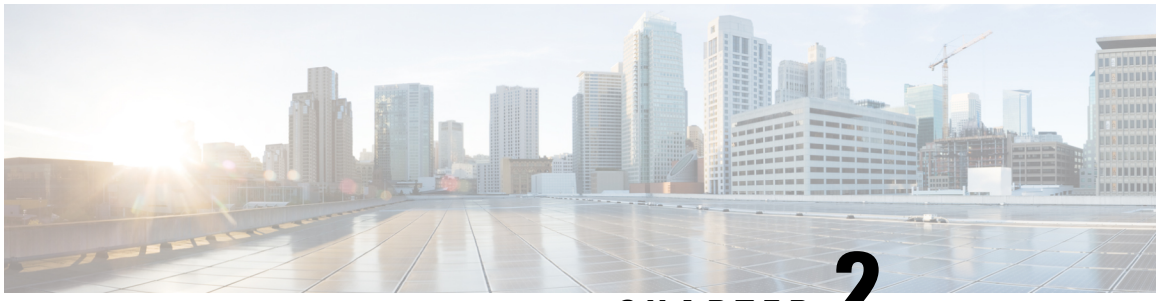
New and Changed Information for This Release

New and Changed Information for This Release

The following table provides an overview of the significant changes to this guide for this current release.

Feature	Description	Where Documented
Support for launching consoles for VMs in a KVM Account	This release of Cisco UCS Director introduces support for launching a console for VMs within Red Hat KVM Virtual accounts.	Launching the SPICE Console for a VM, on page 37

New and Changed Information for This Release



CHAPTER 2

Overview

This chapter contains the following sections:

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 networking 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 basis, as needed.

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	• Provides a single interface for administrators to provision, monitor, and manage the system across physical, virtual, and bare metal environments • Provides unified dashboards, reports, and heat maps, which reduce troubleshooting and performance bottlenecks
Self-service catalog	• Allows end users to order and deploy new infrastructure instances conforming to IT-prescribed policies and governance
Adaptive provisioning	• Provides a real-time available capability, internal policies, and application workload requirements to optimize the availability of your resources

Feature	Benefit
Dynamic capacity management	• Provides continuous monitoring of infrastructure resources to improve capacity planning, utilization, and management • Identifies underutilized and overutilized resources
Multiple hypervisor support	• Supports VMware ESX, ESXi, Microsoft Hyper-V, and Red Hat hypervisors
Computing management	• Provisions, monitors, and manages 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 trend analysis
Network management	• 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	• 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

Physical Server Management	Virtual Computing Management
• Discover and collect configurations and changes • Monitor and manage physical servers • Perform policy-based server provisioning • Manage blade power • Manage server life cycle • Perform server use trending and capacity analysis • Perform bare metal provisioning using preboot execution environment (PXE) boot management	• Discover, collect, and monitor virtual computing environments • Perform policy-based provisioning and dynamic resource allocation • Manage the host server load and power • Manage VM life cycle and snapshots • Perform analysis to assess VM capacity, sprawl, and host utilization

Physical Storage Management	Virtual Storage Management
• 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	• 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
Physical Network Management	**Virtual Network Management**
• Discover, collect, and monitor physical network elements • Provision VLANs across multiple switches • Configure Access Control Lists (ACLs) on network devices • Configure storage network s • Implement dynamic network topologies	• 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

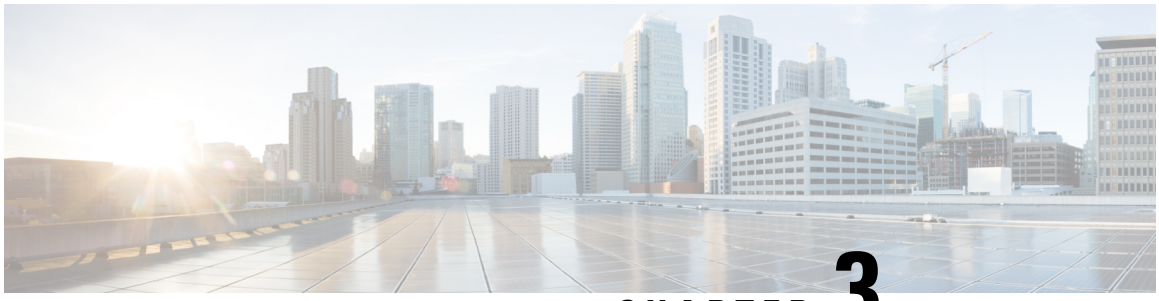
Workflow Designer

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.



CHAPTER 3

Adding the KVM Connector

This chapter contains the following sections:

Creating a RHEV KVM Cloud

Before you begin

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

Step 1 Choose **Administration** > **Virtual Accounts**.

Step 2 On the **Virtual Accounts** page, click **Virtual Accounts**.

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

Step 4 On the **Add Cloud** screen, choose **Red Hat KVM** from the **Cloud Type** drop-down list.

Note The following fields are displayed when RHEV KVM is chosen. Other cloud types display fields that are specific to that cloud type.

Step 5 On the **Add Account** screen, complete the following fields:

Name	Description
Pod drop-down list	Choose a **Pod** to associate the account to from the drop-down list.
Account Name field	A unique account name.

Name	Description
Description field	A description of the new account.
Server Address field	The RHEV KVM server address.
Use Credentials Policy check box	Check this box if you want to use a credential policy for this account rather than enter the username and password information manually.
Credential Policy drop-down list	This field appears only when the **Use Credential Policy** box is checked. Choose a policy from the **Credential Policy** drop-down list.
Server User ID field	This field appears only when the **Use Credential Policy** box is unchecked. 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	This field appears only when the **Use Credential Policy** box is unchecked. 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 6 Click **Submit**.

Initiating Inventory Collection for a VM

Step 1 Choose **Virtual** > **Compute**.
Step 2 On the **Compute** page, choose the cloud.
Step 3 On the **Compute** page, click **VMs**.
Step 4 Click the row with the VM for which you want to request an inventory collection.
Step 5 From the **More Actions** drop-down list, choose **Inventory Collection Request for VM**.
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

Step 1 Choose **Policies** > **Virtual/Hypervisor Policies** > **Computing**.

Step 2 On the **Computing** page, click **RHEV KVM Computing Policy**.

Step 3 Click **RHEV KVM Computing Policy**.

Step 4 Click **Add (+)**.

Step 5 On the **Add Policy** screen, 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.
Cloud Name drop-down list	Choose the cloud where resource allocation occurs.
Datacenter drop-down list	Choose a datacenter (Pod).
Cluster Scope drop-down list	Choose a type of cluster scope. **Note** You can narrow the scope of deployment by specifying whether to use all, include selected cluster, or exclude selected clusters. Depending on the choices, a Selected Clusters field appears where the required clusters can be chosen.
Filter Conditions field	Check the check boxes for one or more conditions and set the condition 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.
Deployment Options	

Name	Description
Override Template check box	Check the check box to override the template properties. On selection, you will get additional fields to enter custom settings for CPU and memory.
Resizing Options	
Allow Resizing of VM check box	Check the check box to allow VM resizing before provisioning or to resize an existing VM.
Permitted Values of No. of CPU Sockets field	The range of CPUs 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 of No. of Cores per Sockets field	The range of cores poermitted per socket. **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 6 Click **Add**.

Creating a RHEV KVM Storage Policy

Step 1 Choose **Policies** > **Virtual/Hypervisor Policies** > **Storage**.

Step 2 On the **Storage** page, click **RHEV KVM Storage Policy**.

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

Step 4 On the **Add Policy** screen, complete the following fields:

Name	Description
Policy Name field	The name of the storage policy
Policy Description field	The description of the storage policy.
Cloud Name drop-down list	Choose the cloud in which resource allocation occurs.

Name	Description
Datacenter drop-down list	Choose a data center.
Scope	
Data Stores Scope drop-down list	Choose **All**, **Include Selected Datastores**, or **Exclude Selected Datastores** as the scope of deployment.
Selected Data Stores field	This field appears when you chose **Include Selected Datastores** or **Exclude Selected Datastores** from the **Data Stores Scope** drop-down list. Exapnd **Selected Data Stores** and select the appropriate datastores.
Storage Options	
Filter Conditions drop-down list	Check the check boxes for one or more conditions and set the condition that should match the data store storage.

Step 5 Click **Submit**.

Creating a RHEV KVM Networking Policy

Step 1 Choose **Policies** > **Virtual/Hypervisor Policies** > **Network**.

Step 2 On the **Network** page, click **RHEV KVM Networking Policy**.

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

Step 4 On the **Add Policy** screen, 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 data center.
Network Name field	Expand **Network Name**, check the network that you want to use, and then click **Validate**.
Link State drop-down list	Choose **On** or **OFF** as the NIC link state.

Name	Description
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. For customizing the guest OS, while provisioning the KVM, choose **Red Hat VirtiO** as the adapter type. **Note** This option is not visible if the **Copy Adapter from Template** option is chosen.

Step 5 Click **Next**.

Step 6 Expand **Additional Networks** and click **Add (+)**.

Step 7 On the **Add Entry to Additional Networks** screen, complete the following fields:

Name	Description
NIC Alias field	The name of the network policy.
Network Name field	Expand **Network Name**, check the network that you want to use, and then click **Validate**.
Link State drop-down list	Choose **On** or **OFF** as the NIC link state.
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** to add the network.

Step 9 Click **Next**.

Step 10 Expand **Guest Networks** and click **Add (+)**.

Step 11 On the **Add Entry to Guest Networks** screen, complete the following fields:

Name	Description
Network Name field	The name of the network policy as available in the template. The name should be the same for customizing the guest OS while provisioning the KVM. For example, if name of the network interface in the template is "eth0", the name of the network policy should be "eth0."
Boot Protocol drop-down list	Choose the type of boot protocol.
IP Address field	Enter the IP address of the network device.
Netmask field	Enter the netmask of the network device.

Name	Description
Gateway field	Enter the IP address of the gateway.

Step 12 Click **Submit** to add the policy.

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.

Step 1 Choose **Policies** > **Virtual/Hypervisor Policies** > **Virtual Data Centers**.

Step 2 On the **Virtual Data Centers** page, click **vDC**.

Step 3 Click **Add**.

Step 4 On the **Add vDC** screen, choose **Red Hat KVM** from the **Account Type** drop-down list.

Step 5 Click **Submit**.

Step 6 On the **Add vDC** screen, complete the following fields:

Name	Description
vDC Name field	The name of the VDC. After entering the name, it cannot be edited.

Name	Description
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 field	Expand **Group** and check the group for which the VDC is being set up. Click the + icon to add a group.
Cloud Name drop-down list	Choose the cloud on which the VDC is being set up.
Approvers and Contacts	
First Level Approver(s) field	Expand **First Level Approvers** and check each user who must approve the service request at first level.
Second Level Approver(s) field	Expand **Second Level Approver(s)** and check each user who must approve the service request at second level.
Approval required from all the users check box	If checked, requires approval from all users.
Number of Approval Request Reminders drop-down list	Choose the number of reminders that has to be sent at the specified interval. Set the reminder to zero to send the reminder email at the specified interval till the request is approved or rejected.
Reminder Intervals (Hours) drop-down list	The time interval to send the next request approval reminder email.
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.
Policies	
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.
System Policy drop-down list	Choose the system policy applicable to the VDC.
VM Management Policy drop-down list	Choose the VM management policy applicable to the VDC
End User Self-Service Policies drop-down list	Choose an end user policy.

Creating a KVM System Policy

Step 1 Choose **Policies** > **Virtual/Hypervisor Policies** > **Service Delivery**.

Step 2 On the **Service Delivery** page, click **RHEV KVM System Policy**.

Step 3 Click **Add**.

Step 4 On the **Add Policy** screen, complete the following fields:

Name	Description
Policy Name field	The name for the KVM system policy.
Policy Description field	The description of the KVM system 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 *${VARIABLE_NAME}*. For example: *vm-${GROUP_NAME}-SR${SR_ID}*.
Cloud Name drop-down list	Choose a cloud from the drop-down list.
Recycle VM Name check box	By default, decommissioned VM names that were previously provisioned are used when creating a new VM. Uncheck this check box if you do not want to recycle previously used VM names.
Host Name Template field	The host name template to use. For example: *host-${GROUP_NAME}-SR${SR_ID}*.
DNS Domain field	The name of the DNS domain.
DNS Server List field	The DNS server list.

Step 5 Click **Submit**.

About Managing Catalogs

You can self-provision virtual machines (VMs) and bare metal (BM) servers 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, catalogs are displayed in a tile view format. You can choose to have the catalogs displayed in a table view format as well. Use the options on the far right of the screen to switch between the table view and the tile view format. In the table view format, you can use the options to expand or collapse all folders.

Publishing a Catalog

Step 1 Choose **Policies** > **Catalogs**.

Step 2 On the **Catalogs** page, click **Add**.

Step 3 On the **Add Catalog** screen, choose the **Catalog Type** 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 to publish orchestration workflows, such as catalog items.
- **Service Container**—Used to publish application containers as catalog items.
- **Bare Metal**—Used to create catalogs for bare metal server provisioning.

Step 4 Click **Submit**.

Step 5 On the **Add Catalog: Basic Information** screen, complete the required fields, including the following:

Name	Description
Catalog Name field	Enter a name for the catalog. **Note** After created, a catalog name cannot be modified.

Name	Description
Catalog Description field	Enter a description of the catalog.
Catalog Type drop-down list	Displays the type of catalog you previously chose. To change the catalog type, you need to cancel and restart this procedure.
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 box to enable all groups to use this catalog. Leave it unchecked to deny its use to other groups.
Support Contact Email Address field	Enter the email address of the support contact who is notified when a service request is created using this catalog item.
Selected Groups list	Click **Select** to the check the checkboxes of specific user groups. The checked groups use this catalog to provision new VMs. After checking the checkboxes of user groups, click **Select** to return to the **Add Catalog** screen.
Publish to end users check box	By default, this box is checked. Uncheck this box if you do not want this catalog to be visible to users. If you do not uncheck this box, then this catalog is visible to the users of the system.
Cloud Name drop-down list	Choose the cloud with the image for VM provisioning.
Provision new VM for ISO mounting check box	Check this box to clone a new VM from a selected image. If you do not check this check box, a blank VM is created.
Image list	Click **Select** to the check the checkboxes of the type of image (any existing templates such as Windows, Linux, and other files that make up the image) to use when VMs are provisioned using this catalog. After checking the checkboxes of the required images, click **Select** to return to the **Add Catalog** screen. If you are a group administrator, or a user in a group with permissions to create catalogs, this field displays images that are assigned to the group to which you belong. If you are an MSP administrator, then this field displays images that are assigned to your MSP organization, and to the groups within the MSP organization.
Provision new VM using Content Library VM Template check box	Check this box to ensure that the new VM is provisioned using the Content Library VM Template. If you choose this option, the **Image** list is hidden.
Content Library VM Template list	Choose the content library VM template.

Name	Description
Windows License Pool field	Enter the Windows License. **Note** This field appears only when a Windows image is chosen. This option is not supported in the RHEV KVM Connector.
Use ReadyClone check box	Check the box to ensure that VMs are deployed using ReadyClones. When this box is checked, the **Use Linked Clone** and **Provision all disks in single datastore** check boxes are not available for editing. **Note** This checkbox is not visible if: 1. The selected image is not on the HX datastore. 2. The VM has multiple disks.
Use Linked Clone check box	Check the box if you want to use a linked clone. Linked Clone or Full Clone depends on the Linked Clone selection in the Storage Policy. **Note** This field appears only when a Snapshot image is chosen.
Provision all disks in single datastore check box	Check the 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. **Note** This field appears only if the chosen template has multiple disks. This option is not supported in the RHEV KVM Connector.
Service Container Template Name drop-down list	Choose the template from the list. **Note** This field appears only when the chosen Catalog Type is **Service Container**.
Select Folder drop-down list	Choose the folder within which this catalog must be created. **Note** The drop-down list includes names of folders that are available by default. You can either choose a folder that is available, or click **Create New Folder**. On the **Add New Folder** screen, enter a **Folder Name**, choose a **Folder Icon**, and click **Add**.

Name	Description
Bare Metal Server Provisioning Policy drop-down list	**Note** This field appears only when the chosen Catalog Type is **Bare Metal**.
Configure Service Request Support Email check box	Check this box to enable the user to set the support email for sending service request status.

Step 6 Click **Next**.

Step 7 On the **Add Catalog: Application Details** screen, complete the required fields, including the following:

Name	Description
Category list	Expand the list to choose a VDC category and click **Select**.
Override check box	Check the box to enable the user to override the selected category while provisioning a VM using a service request.
Support Contact Email Address field	Enter 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	Enter an OS that is not available in the **Specify OS** drop-down list. **Note** This option is not supported in the RHEV KVM Connector.
Specify Applications check boxes	Check the appropriate boxes to specify applications that are installed on the VM during provisioning. **Note** This option is not supported in the RHEV KVM Connector.
Specify Other Applications field	Enter other applications that are not available from the **Specify Applications** check boxes. **Note** This option is not supported in the RHEV KVM Connector.

Name	Description
Application Code field	Enter 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 ${APPCODE}. For example, if the VM Name Template is vm-${GROUP_NAME}-${APPCODE}, the VM provisioned with the system policy has the name vm-groupname-W2K3. **Note** This option is not supported in the RHEV KVM Connector.

Step 8 Click **Next**.

Step 9 On the **Add Catalog: User credentials** screen, complete the required fields, including the following:

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). The following options are available: • **Do not share** • **Share after password reset** • **Share template credentials** The **Do not share** option is chosen if the administrator wants to send the credentials privately to another user outside Cisco UCS Director.
User ID field	Enter the user ID. **Note** This field is available only if a choice is made to share under **Credential Options**.
Password field	Enter the password. **Note** This field is available only if a choice is made to share under **Credential Options**.

Step 10 Click **Next**.

Step 11 On the **Add Catalog: Customization** screen, complete the required fields, including the following:

Name	Description
Automatic Guest Customization Enable check box	Check the 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.
Pre Provisioning Custom Actions Enable	Check the **Enable** check box to enable execution of an orchestration workflow before VM provisioning.
Workflow field	Click **Select** to check the compound workflow that should be used in the orchestration workflow before VM provisioning. Check the check boxes of the required workflows, and click **Select** to return to the **Add Catalog** screen. **Note** This field appears when **Pre Provisioning Custom Actions Enable** is checked.
Post Provisioning Custom Actions Enable check box	Check the box to enable execution of an orchestration workflow after VM provisioning.
Workflow drop-down list	Click **Select** to check the check boxes of the workflows that need to be used in the orchestration workflow after VM provisioning. Check the check boxes of the required workflows, and click **Select** to return to the **Add Catalog** screen. **Note** This field appears when **Post Provisioning Custom Actions Enable** is checked.
Virtual Storage Catalog Enable check box	Check the box to choose storage entries from the Virtual Storage catalog.
Virtual Storage Catalog drop-down list	Chose a storage entry from the catalog. **Note** This field appears when **Virtual Storage Catalog Enable** is checked.
Cost Computation	
Charge Duration drop-down list	Choose **Hourly** or **Monthly**.
Active VM Application Cost USD field	Enter the cost for the application that is included in the template. **Note** This option is not supported in the RHEV KVM Connector.

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

Step 12 Click **Next**.

Step 13 On the **Add Catalog: VM Access** screen, complete the required fields, including the following:

Name	Description
Web Access Configuration Enable check box	Check the 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	Enter the URL of the VM. **Note** This field appears when **Web Access Configuration Enable** is checked.
Label field	Enter the label that is defined for this URL. **Note** This field appears when **Web Access Configuration Enable** is checked.
Remote Desktop Access Configuration Enable check box	Check the 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	Enter the IP address of the server for remote access. **Note** This field appears when **Remote Desktop Access Configuration Enable** is checked.

Name	Description
Port field	Enter the port number on the server for remote access. **Note** This field appears when **Remote Desktop Access Configuration Enable** is checked.
Label field	Enter the label that is defined for this remote access. **Note** This field appears when **Remote Desktop Access Configuration Enable** is checked.
VMRC Console Configuration Enable check box	Check the 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 14 Click **Next**.

Step 15 Review the catalog information on the **Add Catalog: Summary** screen.

Step 16 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** screen, 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 in the **Service Requests** tab. It does not have any impact on the **Create Request** option from the **Catalog** menu option.

Step 1 Choose **Organizations** > **Service Requests**.

Step 2 On the **Service Requests** page, click **Service Requests**.

Step 3 Click **Create Request**.

Step 4 On the Create Request screen, choose **Standard** as the catalog type.

Step 5 Click **Submit**.

Step 6 On the **Create Service Request** screen, complete the following fields:

Name	Description
Catalog Selection	
VM Ownership	Choose one of the following radio button: • Group—Select this radio button to choose the group for which a VM is provisioned. On selecting this radio button, expand **Select Group**, check the group for which the VM has to be provisioned, and then click **Validate**. • User—Select this radio button to choose the users to whom you want a VM is provisioned. On selecting this radio button, expand **User**, check the user for whom the VM has to be provisioned, and then click **Validate**.
Catalog Type drop-down list	Displays the catalog type.
Select Catalog drop-down list	Choose the catalog created for the KVM cloud. The chosen catalog is used for VM provisioning

Step 7 Click **Next**.

Step 8 On the **Deployment Configuration** 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 choosing the date and a drop-down list for choosing the time 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 (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.
Charge Duration drop-down list	Choose a charge duration from the drop-down list. It can be **Monthly**, **Daily**, or **Hourly**.
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**.

Step 10 On the **KVM 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.
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 11 Click **Next**.

Step 12 On the **Custom Workflow Inputs** screen, complete the following fields:

Note The 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.

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.

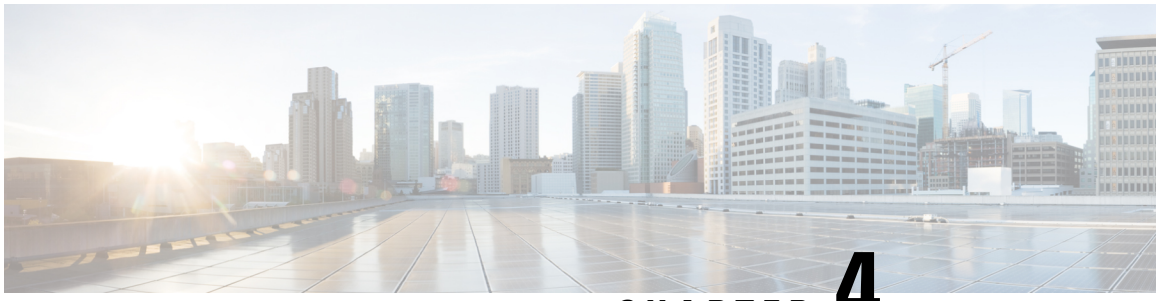
Step 13 Click **Next**.

Step 14 The **Summary** screen appears. Review the information for accuracy.

Step 15 Click **Submit**.

What to do next

View the service request status.



CHAPTER 4

Managing the KVM Connector

This chapter contains the following sections:

Viewing Summary Information

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).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the summary.

Step 4 Click **View Details**.

Step 5 Click **Summary** to examine the 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:

- Number of Host Nodes (Last Week)
- Memory (Last Week)
- Disk
- VMs Active vs Inactive graphs
- Number of VMs (Last Week)

- Cloud Overview
- Host Nodes
- New VMs
- Deleted VMs

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

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the polling information.

Step 4 Click **View Details**.

Step 5 Click **Polling** to examine the information.

The **Polling** tab provides tabular data that describe the polling information in use in the cloud account. The following information is displayed:

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

Viewing vDCs

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the VDC details.

Step 4 Click **View Details**.

Step 5 Click **vDCs** to examine the information.

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

- Group
- vDC
- Type
- Lock State
- Total VMs
- Active VMs
- Custom Categories
- Status

Viewing Data Centers

Before you begin

Create a cloud account (KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the data center details.

Step 4 Click **View Details**.

Step 5 Click **Data Centers** to examine the information.

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

- Account Name
- Name
- Description
- Storage Type
- Storage Format

- Status
- Minor Version
- Major Version
- Minor Supported Version
- Major Supported Version

Viewing Clusters

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the cluster details.

Step 4 Click **View Details**.

Step 5 Click **Clusters** to examine the information.

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

- Account Name
- Name
- Description
- On Error
- Scheduling Policy

Viewing Hosts

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the host details.

Step 4 Click **View Details**.

Step 5 Click **Hosts** to examine the information.

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

- Name
- Is Storage Manager
- Ksm Status
- OS Type
- Type
- IP Address
- State

Step 6 Click the row with a host and click **View Details** to view the VMs, service request details, events, deleted VMs, details, NICs, and more reports of the host node.

Viewing VMs

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the VM details.

Step 4 Click **View Details**.

Step 5 Click **VMs** to examine the information.

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

- Cloud
- VM ID
- VM Label
- VM Name
- Host Name
- IP Address
- Image ID
- Power State
- VM Protected

- Group Name
- VDC
- Category
- Provisioned Time
- Scheduled Termination Time
- Last Status Update

Viewing RHEV KVM Events

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the RHEV KVM events details.

Step 4 Click **View Details**.

Step 5 Click **RHEV KVM Events** to examine the information.

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:

- Account Name
- ID
- Description
- Severity
- Code
- Origin
- Time

Viewing VM Action Requests

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the VM action request details.

Step 4 Click **View Details**.

Step 5 Click **VM Action Requests** to examine the information.

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

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

Launching the SPICE Console for a VM

Important The Simple Protocol for Independent Computing Environments (SPICE) console is supported with only Windows and Linux client browsers.

Before you begin

- Create a cloud account (RHEV KVM).
- The VM must be powered on.
- Virtual Viewer must be installed.

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Choose a RHEV KVM cloud account and click **VMs**.

Step 4 Choose a VM from the list and click **Launch SPICE Console**.

Step 5 In the **Download SPICE Console File** screen, review the information displayed, and click **Submit**.

Step 6 Choose a location on the system to download and save the console-related files.

Step 7 Access the folder in which the file was downloaded to, and extract the contents of the file.

Step 8 Double-click the console file to launch the SPICE console for the VM.

Viewing VM Pools

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the VM pool details.

Step 4 Click **View Details**.

Step 5 Click **VM Pools** to examine the information.

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

Viewing Events

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the event details.

Step 4 Click **View Details**.

Step 5 Click **Events** to examine the information.

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 ID
- Event Code

- Description
- Instance Name
- Host Name
- VM Type
- Parent Node

Viewing Roles

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the role details.

Step 4 Click **View Details**.

Step 5 Click **Roles** to examine the information.

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
- Is Mutable
- Is Administrative

Viewing Images

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the image details.

Step 4 Click **View Details**.

Step 5 Click **Images** to examine the information.

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

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

Click the row with the image and click **View Details** to view the disks and NICs details of the image.

Viewing Tags

Before you begin

Create a cloud account (KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the tag details.

Step 4 Click **View Details**.

Step 5 Click **Tags** to examine the information.

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

Viewing Users

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the user details.

Step 4 Click **View Details**.

Step 5 Click **Users** to examine the information.

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

- Account Name
- ID
- Name
- User Name

Viewing Deleted VMs

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the data center details.

Step 4 Click **View Details**.

Step 5 Click **Deleted VMs** to examine the information.

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

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

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, choose the cloud.

Step 3 Click the name of the report that you want to view (**Map**, **Top 5**, or **More Reports**).

Accessing Trend Reports (Summary Level)

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the report.

Step 4 Click **View Details**.

Step 5 Click **Summary** to examine the information.

The **Summary** tab provides access to trend reports (at the summary level). Trend reports display data collected over a selected time period. The drop-down list (at the right-side of menu bar) lets you choose last day, last week, or last month durations for the trending report. 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

Accessing Trend Reports (VM Level)

Before you begin

Create a cloud account (RHEV KVM).

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, click **Clouds**.

Step 3 Click the row with the RHEV KVM cloud account for which you want to view the trend report at VM level.

Step 4 Click **View Details**.

Step 5 Click **VMs**.

Step 6 Click the row with the VM for which you want to view the trend report.

Step 7 Click **View Details**.

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

Managing VM Power Settings

Before you begin

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

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, choose the cloud.

Step 3 On the **Compute** page, click **VMs**.

Step 4 Click the row with the VM on which you want to perform an action.

Step 5 Choose an action and the **VM Task** screen 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.
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.

Name	Description
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 6 Click **Proceed**.