

VMware vCloud Air User's Guide

vCloud Air

This document supports the version of each product listed and supports all subsequent versions until the document is replaced by a new edition. To check for more recent editions of this document, see <http://www.vmware.com/support/pubs>.

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Contents

About vCloud Air	5
Types of vCloud Air Services	6
Ways to Access vCloud Air	8
Use the vCloud Air Web Console	9
Supported Browsers for vCloud Air	9
Sign In to vCloud Air	9
Change Your Password	10
Select Geographical Region	10
1 About Virtual Data Centers	11
Create a Virtual Data Center	12
View Virtual Data Center Details in vCloud Air	13
Manage Resource Allocation for a Virtual Data Center	14
Manage Virtual Machines in a Virtual Data Center	15
Lock a Virtual Data Center	15
Unlock a Virtual Data Center	16
Set a Limit on Number of Virtual Machines in a Virtual Data Center	16
Change Virtual Data Center Name or Description	16
Delete a Virtual Data Center	16
2 About Gateways and Networks	19
3 Basic Management for Virtual Machines	21
About Catalogs in vCloud Air	21
Add a Virtual Machine from a Template	22
Power On a Virtual Machine	23
Suspend a Virtual Machine	23
Reset a Virtual Machine	23
Delete a Virtual Machine	23
View and Edit Virtual Machine Details	24
4 About Virtual Machine Monitoring	27
View a Virtual Machine's CPU and Memory Usage	27
View Virtual Machine CPU and Memory Usage History	29
5 Advanced Management for Virtual Machines	33
Create a Virtual Machine Without Using a Template	33
Access a Virtual Machine Console	34
Edit Virtual Machine Details in vCloud Director	34
Move or Manage Virtual Machines, vApps, or Templates	35

6	Data Protection Service	37
	Features of the Data Protection Service	37
	About Data Protection Policies	38
	Reporting and Storage Use	40
	Billing for the Data Protection Service	41
	Ways to Restore Virtual Machines	41
	Enable Data Protection for a Virtual Data Center	42
	Update the Data Protection Policy for a Virtual Data Center	43
	Add a Backup Policy for a vApp	43
	Run a Manual Backup	44
	Restore a Virtual Machine from a Backup	45
	Restore a Deleted vApp	45
	Delete a Backup Image	46
7	Disaster Recovery in vCloud Air	47
8	Storage in vCloud Air	49
	Overview of Storage Tiers	49
	Adjust Storage for a Virtual Data Center	53
	Adjust Storage for a Virtual Machine	54
	Migrate Storage for a Virtual Machine to a Different Tier	55
9	About Snapshots	57
	Create a Snapshot for a Virtual Machine	57
	Revert to a Snapshot for a Virtual Machine	57
	Delete a Snapshot for a Virtual Machine	58
10	vCloud Air User Management	59
	User Privileges by Role	59
	Add Users	60
	Assign Users to a Virtual Data Center	60
	About Activity Logs	61
	View Activity Logs	61
	Edit User Details	62
	Reset Passwords	62
	Delete Users from vCloud Air	63
11	Technical Support	65
	About VMware Technical Support	65
	File a Support Request via the vCloud Air Web Console	66
	Index	67

About vCloud Air

VMware® vCloud® Air (formerly known as VMware vCloud Hybrid Service) is a secure, dedicated hybrid cloud service operated by VMware, giving your IT organization a common platform to seamlessly extend your data center to the cloud.

With vCloud Air, you can quickly and securely deploy, provision, and manage virtual machines in a software-defined data center.

vCloud Air features include core services, the ability to deploy virtual machines, integration from your environment to the public cloud, data protection, and migration.

NOTE For information about configuring networking and gateways for vCloud Air, see the [vCloud Air Networking Guide](#).

Customers consume vCloud Air like any software-defined data center. Because vCloud Air is built on the vSphere and vCloud platforms, customers consume it the same way that they consume their existing on-premises vSphere environments.

Using vCloud Air, your data center extends to the public cloud in the following ways:

- New and existing applications are deployable in vCloud Air
- You have seamless networking from your customer premises to vCloud Air
- You have a common management platform from your customer premises to vCloud Air
- You can make one support call to manage your VMware applications on your customer premises and in vCloud Air

Intended Audience

This information is intended for customers who want to manage or use vCloud Air. The information is written for administrators and end users.

Related Documentation

See the following related documentation as part of understanding using vCloud Air:

Table 1. Related Documentation for vCloud Air

See this documentation...	For information about...
vCloud Air Key Concepts	A glossary of terms as used in the vCloud Air and an overview of user roles for vCloud Air
vCloud Air Networking Guide	Configuring networking and gateways for vCloud Air, including how to add gateways to virtual data centers, add networks to gateways, and set up network security by using the gateway's networking services
vCloud Air – Disaster Recovery User's Guide	The tasks for disaster recovery administrators who are responsible for configuring and managing disaster recovery from their source sites to vCloud Air. This guide documents the capabilities and tasks that you do in vCloud Air.
vCloud API with vCloud Air Extensions Programmer's Guide	Version 5.6 of the vCloud Air Extensions and how to use them with the vCloud API
vCloud Air Tutorials	Using many of the vCloud Air features along with informational videos
vCloud Director Administrator's Guide	Performing tasks affecting vCloud Air by using vCloud Director
Using the vCloud Air vSphere Client Plug-in	Using the vCloud Air plug-in in the vSphere Web Client; enabling you to manage your vCloud Air resources from the vSphere Web Client
Using vCloud Connector	Connecting multiple clouds to move cloud content from one cloud to another

Additionally, this guide provides in context cross-references to related information for the topics.

Types of vCloud Air Services

The vCloud Air is available as the VMware vCloud[®] Air Dedicated Cloud, a single tenant virtual private cloud, and as the VMware vCloud[®] Air Virtual Private Cloud, a multi tenant virtual private cloud.

With either service option, customers can create virtual machines. Each class of service includes the capability to access these and manage them to align with different consumption and administration models.

Virtual data centers in both classes of service have an internal virtual data center network and an optional gateway with a NAT-routed network.

Virtual machines are first-class objects in vCloud Air interactions, and they can be individually created and managed. VMware vSphere[®] vApps[®] are visible along with their virtual machine associations through the vCloud Air console, but can be created or managed only through vCloud Director.

NOTE For information about configuring networking and gateways for the Dedicated Cloud service and the Virtual Private Cloud service, see the [vCloud Air Networking Guide](#).

Dedicated Cloud Service

The Dedicated Cloud service provides a single tenant private cloud with dedicated computing servers, layer-2 network isolation for workload traffic, persistent storage volumes, and a dedicated cloud management instance. Infrastructure capacity can be allocated to a single virtual data center or multiple virtual data centers, at your discretion.

Table 2. Dedicated Cloud Core Capacities

Capacity	Service Component
120GB vRAM, 30GHz vCPU	Compute
6TB	Storage
50Mbps	Bandwidth
3	Public IP addresses
24 x 7 x 365	Production support

NOTE You can purchase additional storage for your Dedicated Cloud in 6TB increments by logging into your My VMware account.

Virtual Private Cloud Service

The Virtual Private Cloud service provides a multi tenant virtual private cloud with logically isolated resources on a shared physical infrastructure, configured as a single virtual data center with networking resources. A customer cannot have multiple virtual data centers with a Virtual Private Cloud service, because the Virtual Private Cloud service is provided as a single virtual data center.

Table 3. Virtual Private Cloud Core Capacities

Capacity	Service Component
20GB vRAM, 5GHz vCPU (burst to 10GHz)	Compute
2TB	Storage
10Mbps	Bandwidth
2	Public IP addresses
24 x 7 x 365	Production support

NOTE You can purchase additional storage for your Virtual Private Cloud in 2TB increments by logging into your My VMware account.

Region

Region refers to a collection of physical data centers that are located in distinctly separate geographic areas. You select a region or regions when you purchase cloud services.

Having services available in multiple regions enables you to manage region specific resources. You can run workloads closer to your business specific customers or comply with various regulations and other legal requirements.

You can also choose to leverage multiple regions to enable redundancy of your data or workloads. Redundant configuration can play a role in your business continuity and disaster recovery strategy, which can include failing over to a second data center, protecting data by deploying to a second data center, or recovering operations in a second data center in the event of a disaster.

Adding Capacity

The My VMware account management portal provides customer access to management of all VMware subscriptions and support under a single account. In this portal, users with subscription administrator privileges in your organization can manage entitlements and purchase additional service components.

For information, see the VMware vCloud Web page at <http://vcloud.vmware.com>.

Ways to Access vCloud Air

You can manage and consume your hybrid cloud resources through the vCloud Air Web console. Your vCloud Director organization administrator can use the vCloud Director application programming interface (API).

Customers have access to vCloud Air to manage cloud resources purchased from VMware.

vCloud Air Console Access

The vCloud Air console is the primary portal for access, consumption, and management of cloud resources purchased from VMware, including virtual data center management, configuration of network services, and virtual machine instance lifecycle management. The console also provides single sign-on access to the vCloud Director portal. In vCloud Director, administrators can perform advanced management of virtual data centers, and end users can perform advanced management of virtual machines.

Application Programming Interface Access

VMware provides limited vCloud Director organization access to the API for programmatic resource management or workload migration.

Use the vCloud Air Web Console

Use the vCloud Air in a supported browser after you have received your welcome email.

Supported Browsers for vCloud Air

The consoles used for vCloud Air are compatible with the browser versions listed.

vCloud Air Console Browser Requirements

The following browsers are supported in the vCloud Air console.

- Internet Explorer 8 and later
- Firefox 3.6 and later
- Safari 4 and later
- Chrome 10 and later

vCloud Director and Virtual Machine Console Browser Requirements

For specific browsers that support vCloud Director and virtual machine consoles, see [Browsers That vCloud Director Supports](#) in the *vCloud Director Installation and Upgrade Guide*.

Sign In to vCloud Air

Users use their email addresses as their user names to sign in to vCloud Air.

- The email and password are the vCloud Air credentials. If a password is forgotten at any time, click the link for help, or contact your vCloud Air administrator or VMware technical support.
- If you are an administrator, your default page is your cloud service dashboard by region.
- If you are an end user, your default page is My Virtual Machines, by region.

Prerequisites

Users should verify that they have received an invitation email from vCloud Air that includes a password link.

To review VMware technical support information, see [“About VMware Technical Support,”](#) on page 65.

Procedure

- 1 In the invitation email, click the link.

If the link does not work or has expired, contact your vCloud Air administrator or VMware technical support.

- 2 Type and confirm a password.

Change Your Password

As a vCloud Air user, you can change your password at any time.

If necessary, an account administrator can reset passwords. See [“Reset Passwords,”](#) on page 62.

Prerequisites

Sign in with your current password. If you cannot sign in, see [“Sign In to vCloud Air,”](#) on page 9.

Procedure

- 1 Click your user name in the upper right of any page and select **Change Password**.
- 2 Type and confirm your new password.
Make a note of your changed password.
- 3 Click **Update**.

Your password is changed.

Select Geographical Region

If you have purchased vCloud Air infrastructure resources in multiple regions, you can either set a specific region as the default region or you can select a region each time you sign in to vCloud Air.

Procedure

- 1 Sign in to the vCloud Air console.
- 2 To switch from one region to another, select another region in the drop-down menu at the top of the dashboard page.
- 3 (Optional) In the **Set as default location** drop-down menu, set your desired default region.
Setting a default region takes you directly to this region the next time you sign in to vCloud Air.

About Virtual Data Centers

A virtual data center provides you with clear and simple access to the processor, network, and storage resources of your vCloud Air cloud environment. Virtual data centers allow you to isolate particular applications or groups of applications. An example would be isolating your production applications from development and testing.

NOTE For information about configuring networking and gateways for virtual data centers, see the [vCloud Air Networking Guide](#).

You can manage top level aspects of your virtual data center.

- Set the maximum number of virtual machines.
- Lock the virtual data center from the addition of new virtual machines.
- Change the virtual data center's name.
- Delete a virtual data center.
- Allocate or adjust a storage tier for the virtual data center.

You use the virtual data center to manage many aspects of your cloud environment.

- Review the cloud environment type that the virtual data center resides in, whether Virtual Private Cloud service (multi-tenant) or Dedicated Cloud service (dedicated).
- Review and manage the status of resources (CPU, memory, storage), both allocated and being used.
- Review and manage virtual machines (status and many other details) contained in the virtual data center.
- Review and manage the gateways and networks associated with the virtual data center.
- Review and manage the users that are associated with the virtual data center.
- Manage the catalogs of templates associated with your virtual data center.
- Deploy virtual machines from your private cloud to your virtual data center in vCloud Air.

This chapter includes the following topics:

- [“Create a Virtual Data Center,”](#) on page 12
- [“View Virtual Data Center Details in vCloud Air,”](#) on page 13
- [“Manage Resource Allocation for a Virtual Data Center,”](#) on page 14
- [“Manage Virtual Machines in a Virtual Data Center,”](#) on page 15
- [“Lock a Virtual Data Center,”](#) on page 15
- [“Unlock a Virtual Data Center,”](#) on page 16

- [“Set a Limit on Number of Virtual Machines in a Virtual Data Center,”](#) on page 16
- [“Change Virtual Data Center Name or Description,”](#) on page 16
- [“Delete a Virtual Data Center,”](#) on page 16

Create a Virtual Data Center

In the Dedicated Cloud service, you must create a virtual data center before you can use the infrastructure resources you have purchased. You can group your resources into one or more virtual data centers, depending upon your requirements. For example, you can create one virtual data center for your entire company or you can create different virtual data centers for different departments, project teams, or geographic sites.

When you create a virtual data center, it is set up with compute, storage, and network resources. If you allocate one or more public IP addresses to the virtual data center, an additional network is created that can provide Internet access to virtual machines connected to it.

NOTE For information about configuring networking and gateways for virtual data centers, see the [vCloud Air Networking Guide](#).

Prerequisites

- Verify that you have resources and virtual infrastructure administrator privileges in the Dedicated Cloud service where you will create the virtual data center. You cannot have multiple virtual data centers with a Virtual Private Cloud service, because the Virtual Private Cloud service is provided as a single virtual data center.
- If you have multiple regions, verify where you want to add a new virtual data center.
- If you want to provide access to the Internet to any virtual machines in the data center, verify that you have public IP addresses available. Allocate IP addresses to the virtual data center only if you want to create virtual machines that need access to the Internet. If you allocate IP addresses, they are reserved for the virtual data center.

Procedure

- 1 Sign in to the vCloud Air console.
- 2 Select the region where you will create the virtual data center.
- 3 Click **Add a Virtual Datacenter**.
- 4 In the **Create Virtual Datacenter** pop-up menu, select a cloud.

You can view available CPU, memory, and storage resources for each service. You can also view the number of unused public IP addresses.

- 5 Select the resources to use.
 - To use all the available resources for your new virtual datacenter, select **Use all of these resources**, and click **Create Virtual Datacenter**.
 - To use some of the available resources for your new virtual data center, select **Use some of these resources**, and click **Next**.
- 6 Type a name for the virtual data center.

- 7 Select a size for the virtual data center. You can do one of the following.
 - Select a **Small, Medium, or Large** configuration and then adjust the default settings according to your needs.

You can only select a configuration for which you have available resources.
 - Specify resources individually in the **CPU, Storage, Memory, and Public IPs** text boxes.

NOTE To restrict the storage usage for the virtual machines in the virtual data center, click **Specify by Tier** under **Storage**. The option to select **SSD-Accelerated** or **Standard** storage appears. Select the tier and enter the amount of storage to allocate. When users create virtual machines in the virtual data center, they can add can disks from the designated storage tiers based on the amounts allocated for the tiers.

- 8 Click **Set Up this Virtual Datacenter**.

It may take several minutes for the virtual data center to be created.

The virtual data center is created. It is added to the list of virtual data centers in the **Dashboard** tab. Clicking on the virtual data center allows you to manage it.

What to do next

Assign the users for the virtual data center. See [Chapter 10, “vCloud Air User Management,”](#) on page 59.

View Virtual Data Center Details in vCloud Air

You as an administrator can view detailed information about a virtual data center in the vCloud Air console.

NOTE For information about configuring networking and gateways for virtual data centers, see the [vCloud Air Networking Guide](#).

Prerequisites

Verify that you have administrator privileges. Administrator types include account, virtual infrastructure, network, read-only, and subscription.

Procedure

- 1 Sign in to the vCloud Air console.
- 2 Select the region where you will view the virtual data center.
- 3 On the Dashboard tab, click the virtual data center.
- 4 View information about the virtual data center.

Option	Description
Resources allocated or resources used	Click the Usage & Allocation tab to view allocated resources. To view resources used, click on the name of the resource and view Current Usage. Storage is displayed as the SSD-Accelerated tier.
Virtual machines in the virtual data center and their status	Click the Virtual Machines tab.
Gateways for the virtual data center	Click the Gateways tab.
Networks in the virtual data center	Click the Networks tab.
Users who have access	Click the Users tab.
Whether the virtual data center is locked or unlocked	View STATUS on the right side of the screen.
Limit set for virtual machines	View VM QUOTA on the right side of the screen.

- 5 Note the link to edit the virtual data center name and description.
This is only available for virtual data centers in the Dedicated Cloud service, not in the Virtual Private Cloud service. See [“Change Virtual Data Center Name or Description,”](#) on page 16.
- 6 Note the link to delete the virtual data center.
This is only available for virtual data centers in the Dedicated Cloud service, not in the Virtual Private Cloud service. See [“Change Virtual Data Center Name or Description,”](#) on page 16.
- 7 Note the link to display a URL for the virtual data center for use in API commands.
- 8 Note the link to manage catalogs in vCloud Director.
See [“About Catalogs in vCloud Air,”](#) on page 21.

What to do next

Manage details of the virtual data center.

- To manage resource allocation, see [“Manage Resource Allocation for a Virtual Data Center,”](#) on page 14.
- To manage virtual machines, see [“Manage Virtual Machines in a Virtual Data Center,”](#) on page 15.
- To manage gateways or networks, see [About Managing Gateways and Networks](#) in the *vCloud Air Networking Guide*.
- To manage users, see [“Assign Users to a Virtual Data Center,”](#) on page 60.

Manage Resource Allocation for a Virtual Data Center

In the Dedicated Cloud service, you can change the amount of CPU, memory, and storage resources allocated to the virtual data center.

Prerequisites

Verify that you have virtual infrastructure administrator privileges in the Dedicated Cloud service.

Procedure

- 1 Sign in to the vCloud Air console.
- 2 Select the region where you want to edit the virtual data center.
- 3 In the **Dashboard** tab, click the virtual data center to edit.
- 4 Click the **Usage & Allocation** tab.
- 5 Change the resource allocation.

Option	Description
To change the CPU allocation	<ol style="list-style-type: none"> a Click CPU. b In the CPU Allocation pop-up menu, type the new allocation. c Click Save.
To change the memory allocation	<ol style="list-style-type: none"> a Click Memory. b In the Memory Allocation pop-up menu, type the new allocation. c Click Save.
To change the storage allocation	<ol style="list-style-type: none"> a Click Storage. The Adjust Storage Allocation dialog box appears. b Under New Allocation, type the new allocation for a tier. c Click Adjust Storage Allocation. <p>For more information about managing storage for a virtual data center, see “Adjust Storage for a Virtual Data Center,” on page 53.</p>

Manage Virtual Machines in a Virtual Data Center

You as an administrator can perform many tasks to manage virtual machines in a virtual data center. Many of these tasks are the same as end users can perform, such as powering virtual machines on or off, or editing settings.

Perform administrator tasks on virtual machines belonging to a specific virtual data center.

Prerequisites

Verify that you have virtual infrastructure administrator privileges.

Procedure

- 1 Sign in to the vCloud Air console.
- 2 Select the region where you will view the virtual data center.
- 3 On the **Dashboard** tab, click the virtual data center.
- 4 Click the **Virtual Machines** tab.
- 5 Manage virtual machines.
 - a To search for virtual machines click in the search field and type the text to be searched for.
 - b To power virtual machines on or off click the icon.
See [“Power On a Virtual Machine,”](#) on page 23.
 - c To manage a virtual machine in vCloud Director click **Manage in vCloud Director**.
See [“Edit Virtual Machine Details in vCloud Director,”](#) on page 34.
 - d To add a virtual machine click **Add One**.
See [“Add a Virtual Machine from a Template,”](#) on page 22.
 - e To view and edit virtual machine details click **See More**.
See [“View and Edit Virtual Machine Details,”](#) on page 24.

Lock a Virtual Data Center

In the Dedicated Cloud service, you can lock a virtual data center to prevent users from powering on virtual machines or creating new virtual machines.

Prerequisites

Verify that you have virtual infrastructure administrator privileges in the Dedicated Cloud service.

Procedure

- 1 On the **Dashboard** tab, click the virtual data center to lock.
- 2 Point to the value of **STATUS** on the right of the screen, then click **Lock**.
- 3 Click **Continue**.

Unlock a Virtual Data Center

In the Dedicated Cloud service, you can unlock a virtual data center that is locked. When you unlock a virtual data center, users can again power on virtual machines and add new virtual machines.

Prerequisites

Verify that you have virtual infrastructure administrator privileges in the Dedicated Cloud service.

Procedure

- 1 On the **Dashboard** tab, click the virtual data center.
- 2 Point to the value of **STATUS** on the right of the screen and click **Unlock**.
- 3 Click **Continue**.

Set a Limit on Number of Virtual Machines in a Virtual Data Center

You can set a limit on the number of virtual machines that can be created in a virtual data center.

Prerequisites

Verify that you have virtual infrastructure administrator privileges.

Procedure

- 1 On the **Dashboard** tab, click the virtual data center.
- 2 Point to VM QUOTA on the right of the screen and click **Change Limit**.
- 3 In the **Change Limit** pop-up menu, select the maximum number of virtual machines that can be created in the virtual data center.
- 4 Click **Save**.

Change Virtual Data Center Name or Description

In the Dedicated Cloud service, you can change the name and description of a virtual data center.

Prerequisites

Verify that you have virtual infrastructure administrator privileges in the Dedicated Cloud service.

Procedure

- 1 In the **Dashboard** tab, click the virtual data center to edit.
- 2 Click **Edit VDC Name & Description** on the right of the screen.
- 3 Type the new name and description for the virtual data center and click **Save**.

Delete a Virtual Data Center

You can delete a virtual data center in the Dedicated Cloud service. When you delete a virtual data center, all of its virtual machines and the snapshots associated with them are deleted.

Prerequisites

Verify that you have virtual infrastructure administrator privileges in the Dedicated Cloud service.

Procedure

- 1 On the **Dashboard** tab, click the virtual data center to delete.

2 Click **Delete VDC**.

The virtual data center is deleted and its resources are now available for re-allocation.

About Gateways and Networks

vCloud Air networking replicates traditional network technologies and design. Networking in vCloud Air is based on the software-defined networking (SDN) technologies used by VMware products, including VMware vSphere, VXLAN, vCloud Networking and Security, and vCloud Director.

For information about configuring networking and gateways for the Dedicated Cloud service and the Virtual Private Cloud service, see the [vCloud Air Networking Guide](#).

Basic Management for Virtual Machines

3

A virtual machine is a software computer that, like a physical computer, runs an operating system and applications. Virtual machines are first-class objects in vCloud Air interactions, and you can manage them individually.

You can add a virtual machine, view its status, and manage basic operations in vCloud Air.

NOTE For information about configuring networking for virtual machines, see the [vCloud Air Networking Guide](#).

This chapter includes the following topics:

- [“About Catalogs in vCloud Air,”](#) on page 21
- [“Add a Virtual Machine from a Template,”](#) on page 22
- [“Power On a Virtual Machine,”](#) on page 23
- [“Suspend a Virtual Machine,”](#) on page 23
- [“Reset a Virtual Machine,”](#) on page 23
- [“Delete a Virtual Machine,”](#) on page 23
- [“View and Edit Virtual Machine Details,”](#) on page 24

About Catalogs in vCloud Air

vCloud Air includes a catalog that is populated with CentOS, Linux, and Windows templates that you can use to create virtual machines. Your organization also has its own catalog, My Catalog, that can contain your own customized templates.

In vCloud Air, end users select from catalogs to add new virtual machines. See [“Add a Virtual Machine from a Template,”](#) on page 22.

In vCloud Director, your administrator users can use existing vApp and virtual machine templates, and media files, to create their own vApps and virtual machines to supply what the end user sees as My Catalog.

Administrators can perform the following catalog content tasks in vCloud Director.

- Create and share a catalog. See [Add a New Catalog](#) and [Working with Catalogs](#).
- Upload media files to a catalog. See [Upload Media Files](#).
- Create a new vApp. See [Create a New vApp](#).
- Create a vApp From an OVF Package. See [Upload an OVF package as a vApp template](#).

Add a Virtual Machine from a Template

You can add a virtual machine to act as a software computer to run applications in your virtual data center. You can use virtual machines as desktops or workstation environments, as testing environments, or to consolidate server applications.

A template is an image that is loaded with an operating system, applications, and data. VMware catalog templates are templates that VMware has validated and prepared for you to use inside your cloud service. For more information about how to use templates, see the *Terms of Service*. My Catalog templates are made available from the catalogs accessible to the virtual data center.

NOTE For information about configuring networking for virtual machines, see the [vCloud Air Networking Guide](#).

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, click **Add Virtual Machine**.

- 2 Select a virtual data center to contain the virtual machine.

The name of each available virtual data center and its available resources appears.

- 3 Select a template on which to base the virtual machine.

Templates are made available from the catalogs accessible to the virtual data center.

Option	Description
VMware Catalog	Click on an available template from the VMware catalog.
My Catalog	Click on an available template from a catalog of templates customized to your instance of the Dedicated Cloud service.

- 4 Type a name for the virtual machine.

- 5 Review the allocated resources for the virtual machine.

- 6 Under **Allocated Resources**, specify the number of virtual CPUs, amount of memory per CPU, and the storage tier and amount storage for the primary hard drive.

For information about the storage tiers available in vCloud Air, see "[Overview of Storage Tiers](#)," on page 49.

NOTE When adding storage for the virtual machine, consider how the virtual machine will be used. For example, desktops or workstation environments, testing environments, or server applications will have differing storage needs.

- 7 To add additional disks for the virtual machine, click **Add a Disk**.

The dialog box refreshes with a row for the additional disk. Complete the disk settings.

- 8 Click **Deploy This Virtual Machine**.

The virtual machine is created.

What to do next

Power on the virtual machine. See "[Power On a Virtual Machine](#)," on page 23.

Power On a Virtual Machine

Powering on a virtual machine is the equivalent of powering on a physical machine.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, select the virtual machine.
- 2 Click **Power On**.

Suspend a Virtual Machine

Suspending a virtual machine preserves its current state.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, select the virtual machine.
- 2 Verify that the virtual machine is powered on.
- 3 In the **See More** drop-down menu, select **Suspend**.

The virtual machine is suspended.

Reset a Virtual Machine

Resetting a virtual machine clears the state of memory, cache, and so on, but the virtual machine continues to run.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, select the virtual machine.
- 2 Verify that the virtual machine is powered on.
- 3 In the **See More** drop-down menu, select **Reset**.

The virtual machine is reset.

Delete a Virtual Machine

You can delete virtual machines. Deleting a virtual machine frees all resources allocated to it and deletes any associated snapshot.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, select the virtual machine.

- 2 Verify that the virtual machine is powered off or expired.
- 3 In the **See More** drop-down menu, select **Delete**.

The virtual machine is deleted and does not appear in the list.

View and Edit Virtual Machine Details

You can view information and edit details about virtual machines in vCloud Air.

NOTE For information about configuring networking for virtual machines, see the [vCloud Air Networking Guide](#).

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Viewing and editing privileges differ by user role.

If you are installing VMware Tools, familiarize yourself with its features. For information about VMware Tools, see the following VMware documentation:

- [Installing VMware Tools](#) in *vCloud Director User's Guide*
- [Installing and Configuring VMware Tools](#), the *VMware Tools Installation and Configuration Guide*

Procedure

- 1 Navigate to the virtual machine list.

Option	Description
My Virtual Machines (end users)	Sign in to your cloud service.
All virtual machines in a Dedicated Cloud or Virtual Private Cloud service (administrators)	Sign in and click the Virtual Machines tab.
Virtual machines in a virtual data center (administrator)	On the Dashboard tab, click the virtual data center and click the Virtual Machines tab.

- 2 In the list, review summary details about the virtual machine.
- 3 (Optional) To search for virtual machines click in the search field and type the text to be searched for.
- 4 Access further details of the virtual machine by clicking the virtual machine's name.
- 5 View or edit details of settings or networks.

To edit details, point at an option and change the setting in the dialog box that appears. You cannot change some details unless the virtual machine is powered off.

Option	Description
Click Settings	View or change power status, amount of CPU, memory, and hard drive capacity allocated. For information about adjusting storage for a virtual machine or migrating storage to a different tier, see the following topics: <ul style="list-style-type: none"> ■ "Adjust Storage for a Virtual Machine," on page 54 ■ "Migrate Storage for a Virtual Machine to a Different Tier," on page 55
Click Networks	View network IP, type, gateway, and gateway IP.

You might need to refresh the page view to see changes.

- 6 To change the virtual machine's name and description, click **Edit Name & Description**.

Option	Description
Name	Type a new name for the virtual machine.
Description	Type a description for the virtual machine.

- 7 (Optional) If you are planning to launch the console review these details.

Option	Description
Guest OS Customization	The guest operating system customization status is listed as enabled or disabled.
Guest OS Password	The Guest OS Password, unique to the virtual machine, is displayed on the right side of the page. For security reasons, VMware recommends that you change this password after first use, keeping a record of your new password.
VMware Tools	The installation status of VMware Tools is noted in the Settings tab.

- 8 (Optional) Install VMware Tools.
- Review whether VMware Tools in the Settings tab.
 - Click on **Not installed** to access the install wizard.
 - Follow the install wizard steps to complete the installation.

What to do next

To connect the virtual machine to a network, see [Connect a Virtual Machine to a Network](#) in the *vCloud Air Networking Guide*.

To launch the virtual machine console, see [“Access a Virtual Machine Console,”](#) on page 34.

To edit virtual machine settings in vCloud Director, see [“Edit Virtual Machine Details in vCloud Director,”](#) on page 34.

About Virtual Machine Monitoring

Monitoring provides resource and performance visibility so that you can make sure your virtual machines support your applications. When there are issues with application performance, you have extra visibility to increase or decrease virtual machine resources to optimize performance.

You need to know whether a virtual machine is suffering from resource crunch (high utilization), storage resource crunch, or other potential issues.

Displaying virtual machine details and statistics meets several goals:

- Reports usage trends
- Analyses trends for discrete time periods
- Monitors performance
- Provides troubleshooting

This chapter includes the following topics:

- [“View a Virtual Machine's CPU and Memory Usage,”](#) on page 27
- [“View Virtual Machine CPU and Memory Usage History,”](#) on page 29

View a Virtual Machine's CPU and Memory Usage

You can view real time CPU and memory usage of virtual machines in the **Settings** tab of vCloud Air.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 Navigate to your virtual machine list.

Option	Description
Virtual machines in a virtual data center (end user view)	Sign in to My Virtual Machines in your cloud service.
Virtual machines in a virtual data center (administrator view)	On the Dashboard tab, click the virtual data center and click the Virtual Machines tab.
Virtual machines in a Dedicated Cloud or Virtual Private Cloud service (administrator view)	Sign in and click the Virtual Machines tab.

- 2 Power on the virtual machine.

- 3 Click the virtual machine's name to access further details.
- 4 Click the **Settings** tab.
- 5 View real time CPU and memory resource allocation and usage.

Option	Description
CPU	The CPU row displays either MHz (if usage is below 1GHz) or GHz units of vCPU used and allocated.
Memory	The memory row displays either MB (if usage is below 1GB) or GB units of memory used and allocated.

- 6 Review percentage figure and the color of the resource bars that represent the percentage used for CPU and memory.

Option	Description
Red	Indicates greater than 80% is used.
Green	Indicates less than 80% is used.

Example: Resource Bar Status

These examples show red and green status.

Figure 4-1. Red Resource Bar Showing Greater Than 80% Used

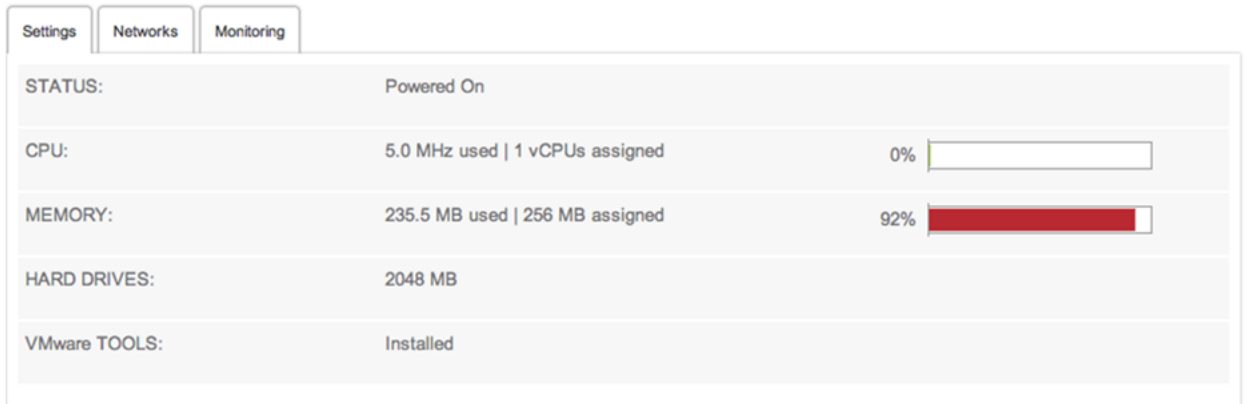
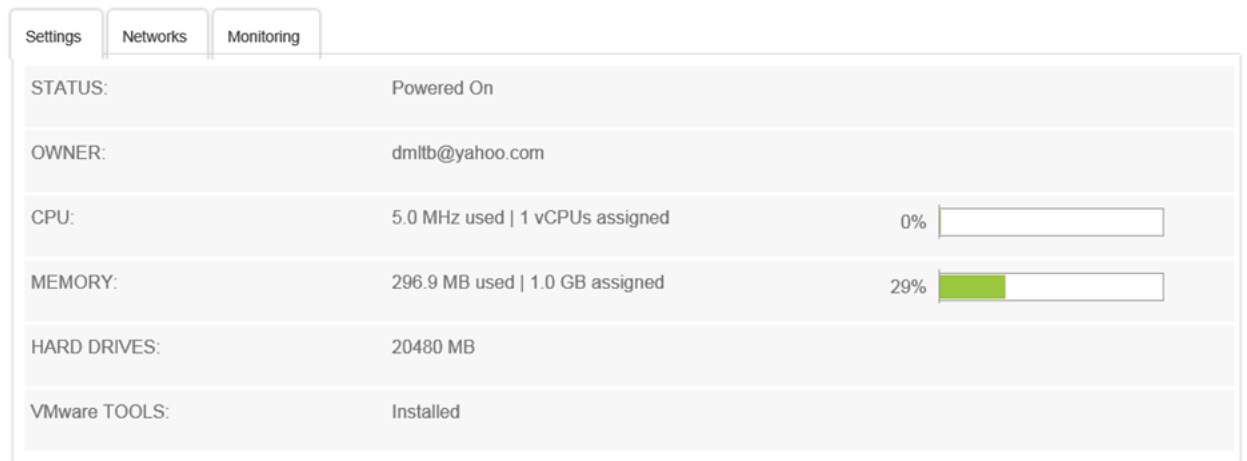


Figure 4-2. Green Resource Bar Showing Less Than 80% Used



What to do next

Review usage history in the Monitoring tab. See [“View Virtual Machine CPU and Memory Usage History,”](#) on page 29.

View Virtual Machine CPU and Memory Usage History

You can view historical graphs of CPU and memory usage of virtual machines in the Monitoring tab of vCloud Air. You can view history by percentage used and by actual usage data.

When you increase or decrease resources, this impacts the timeline view, such as an increase in vCPU that was made to allow a virtual machine more capacity.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 Navigate to the virtual machine list.

Option	Description
My Virtual Machines (end users)	Sign in to your cloud service.
All virtual machines in a Dedicated Cloud or Virtual Private Cloud service (administrators)	Sign in and click the Virtual Machines tab.
Virtual machines in a virtual data center (administrator)	On the Dashboard tab, click the virtual data center and click the Virtual Machines tab.

- 2 Power on the virtual machine.
- 3 Access further details of the virtual machine by clicking the virtual machine's name.
- 4 To view real time resource usage click the **Monitoring** tab.

Click the refresh icon to make sure that the most recent data is displayed.

- 5 View the past 24 hours, 7 days, or 14 days' usage.

The left-hand Y axis for percentage data is fixed between 0-100%, while the right-hand Y axis for raw usage scales with the historical usage data of the individual virtual machine.

Option	Description
View CPU usage	View by percentage or by raw data as MHz units by clicking the controls. The displays toggle on and off.
View memory usage	View by percentage or by raw data as GB units.

Example: Percentage and Raw Usage Graphs

These examples show 24 hour, 7 days, and 14 days views.

Figure 4-3. Graph Showing CPU and Memory Usage Past 24 Hours

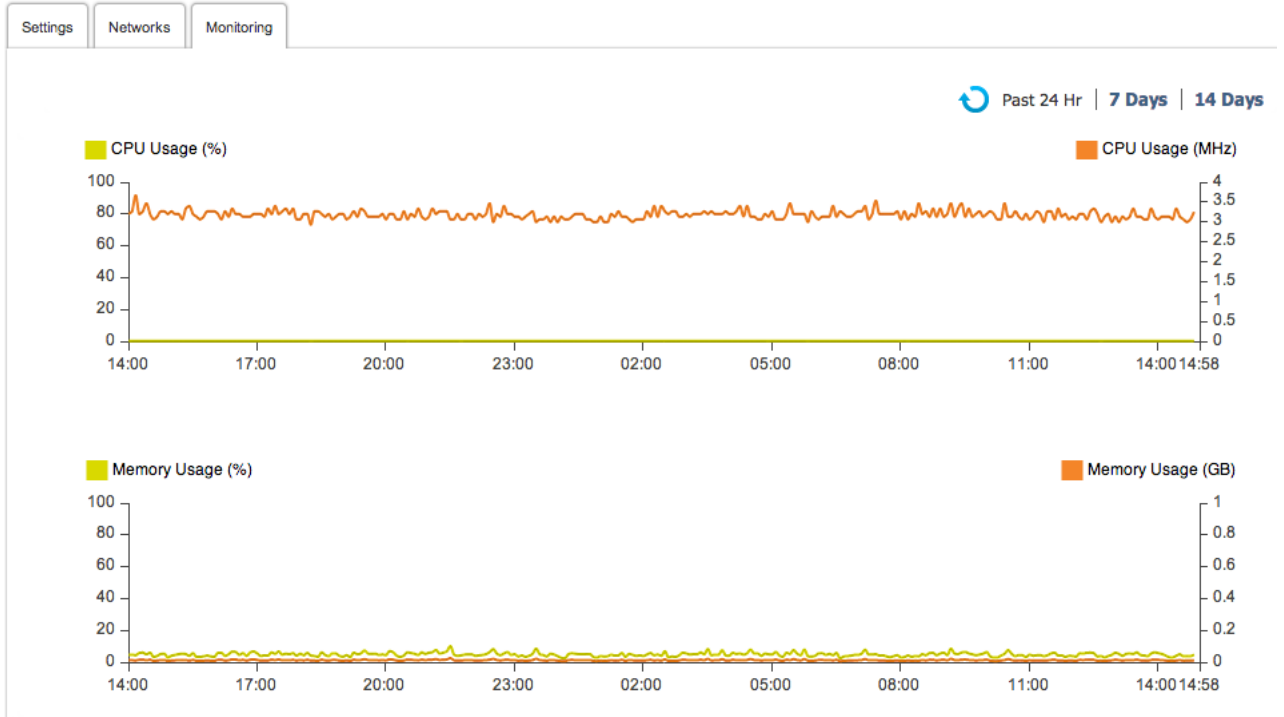


Figure 4-4. Graph Showing CPU and Memory Usage Past 7 Days

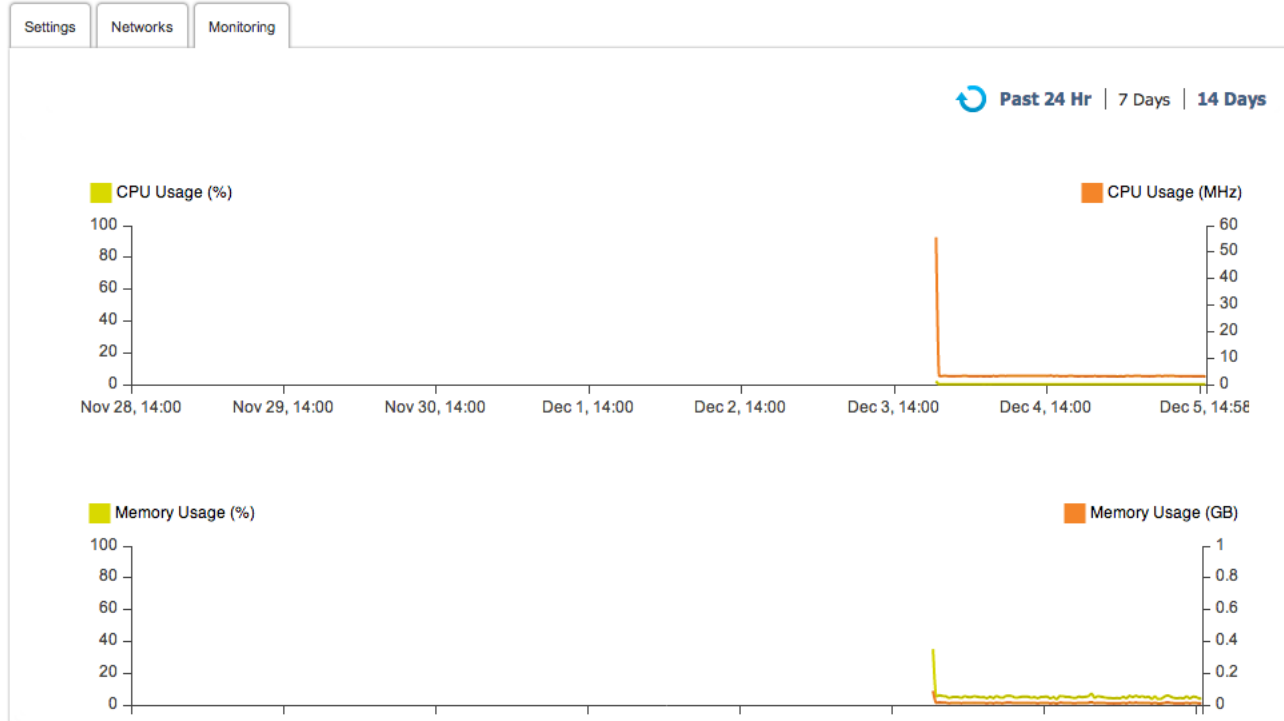
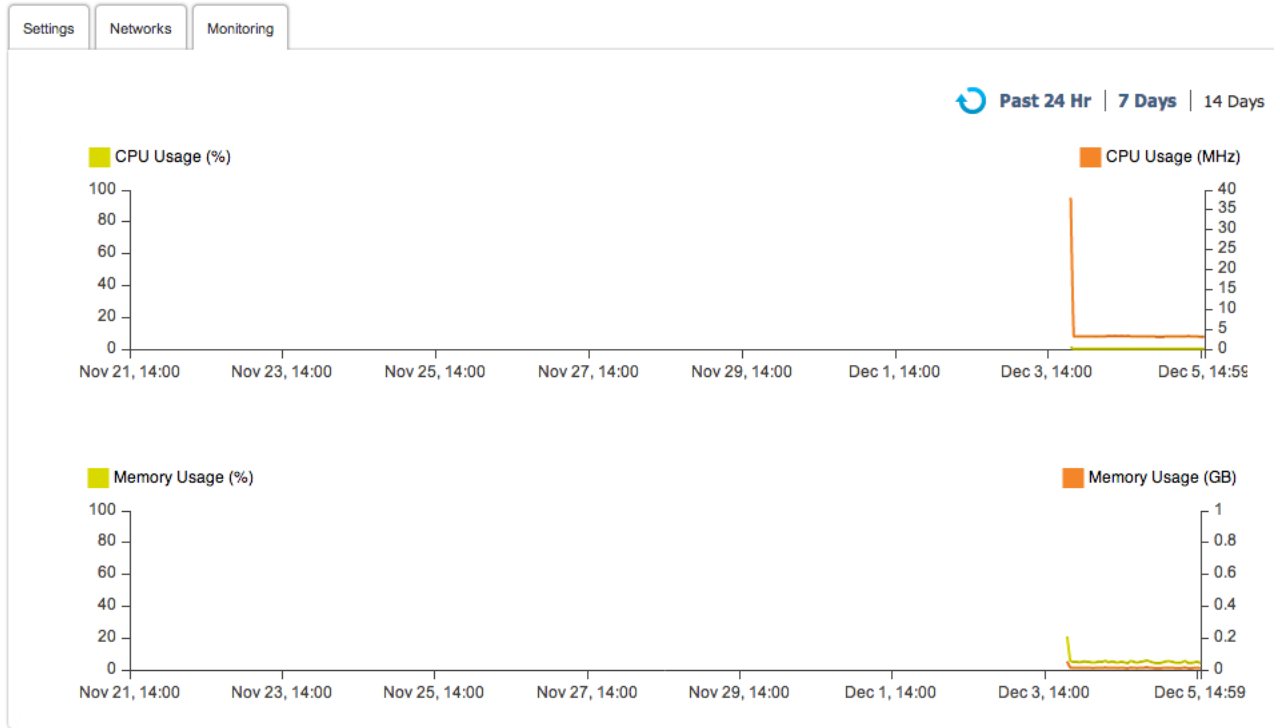


Figure 4-5. Graph Showing CPU and Memory Usage Past 14 Days



Advanced Management for Virtual Machines

5

Advanced procedures include several options.

You can create virtual machines from scratch and access virtual machine consoles. You can perform advanced tasks using the vCloud Director portal. You can also use the capabilities of vCloud Connector or subscribe to the Offline Data Transfer Service in order to move virtual machines, vApps, and templates.

This chapter includes the following topics:

- [“Create a Virtual Machine Without Using a Template,”](#) on page 33
- [“Access a Virtual Machine Console,”](#) on page 34
- [“Edit Virtual Machine Details in vCloud Director,”](#) on page 34
- [“Move or Manage Virtual Machines, vApps, or Templates,”](#) on page 35

Create a Virtual Machine Without Using a Template

If you don't want to create a virtual machine based on a template in the vCloud Air console, you can create a new virtual machine from scratch in vCloud Director. You must first create a new vApp.

NOTE For information about configuring networking for virtual machines, see the [vCloud Air Networking Guide](#).

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, click **Add Virtual Machine**.
- 2 Select a virtual data center to contain the virtual machine.
The name of each available virtual data center and its available resources is displayed.
- 3 Click **Create My Virtual Machine from Scratch** at the bottom of the Select Template dialog box.
You are taken directly to the vApp Quick Access page in vCloud Director.

- 4 Click **Build New vApp** and follow the steps to configure the vApp and its virtual machines.

For more information see [Create a New vApp](#) in the *vCloud Director User's Guide*.

NOTE When creating a vApp using the **New vApp** wizard (**Configure Resources** step) in vCloud Director, you select a default storage policy (SSD-Accelerated, Standard, or both) for the vApp. However, this default storage policy does not impact the storage tier utilized by the new virtual machine in vCloud Air. To allocate storage for the new virtual machine, see "[Adjust Storage for a Virtual Machine](#)," on page 54.

What to do next

Manage your new virtual machine as required in vCloud Air.

Access a Virtual Machine Console

Accessing your virtual machine console allows you to view information about a virtual machine and perform activities such as configuring operating system settings or running applications.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Verify that your system meets system and browser requirements to display the console. See [Browsers that vCloud Director Supports](#).

On the right side of the virtual machine details page, note the guest operating system password. This is necessary to log into the console as the root user.

Procedure

- 1 In My Virtual Machines, select the virtual machine.
- 2 Verify that the virtual machine is powered on.
- 3 In the **See More** drop-down menu, select **Launch Console**.
The console opens.
- 4 If the virtual machine is running Unix, log in as **root** with the guest operating system password.

What to do next

Perform your desired tasks using the console. For more information about console tasks, see [VMware vSphere Documentation](#).

Edit Virtual Machine Details in vCloud Director

You can review and modify the name, description, and other general properties of a virtual machine.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

If you are installing VMware Tools, familiarize yourself with its features. See the following topics:

- [Installing VMware Tools](#) in *vCloud Director User's Guide*
- [Installing and Configuring VMware Tools](#), the *VMware Tools Installation and Configuration Guide*

Procedure

- 1 In My Virtual Machines, select the virtual machine.
- 2 Verify that the virtual machine is powered on.

- 3 On the right side of the virtual machine details page, click **Manage Advanced Virtual Machine Settings** to access the vCloud Director portal.

You are taken directly to the vApp Quick Access page for your virtual machine in vCloud Director. The virtual machine name and vApp name are displayed.

- 4 Click **Open** in the virtual machine name and vApp name area.

The diagram, virtual machines, and networking tabs appear.

- 5 Click the **Virtual Machines** tab.

- 6 Right-click the virtual machine to access details and properties.

Some of these task options are the same tasks you can perform in the vCloud Air console. The references listed here are for when you are using the vCloud Director portal.

Option	See this topic...
Popout Console	Open a Virtual Machine Console
Suspend	Suspend a Virtual Machine
Power Off	Power Off a Virtual Machine
Power On	Power On a Virtual Machine
Reset	Reset a vApp or Virtual Machine
Insert CD/DVD from Catalog	Insert a CD/DVD
Eject CD/DVD	Eject a CD/DVD
Insert Floppy from Catalog	Insert a Floppy
Eject Floppy	Eject a Floppy
Install VMware Tools	Installing VMware Tools
Create Snapshot	Create a Snapshot of a Virtual Machine
Properties	Editing Virtual Machine Properties

What to do next

In vCloud Director, review other details about the virtual machine. See [Working with Virtual Machines](#) in the *vCloud Director User's Guide*.

Move or Manage Virtual Machines, vApps, or Templates

Using vCloud Connector, you can move virtual machines, vApps, and templates from vSphere, vCloud Director, and other vCloud service providers to and from vCloud Air. For moving large quantities at one time, you can subscribe to and use the Offline Data Transfer Service.

Prerequisites

Verify that you have virtual infrastructure administrator privileges.

Verify that you are familiar with vCloud Connector documentation. See https://www.vmware.com/support/pubs/hybridcloud_pubs.html.

Verify which virtual machines, vApps or templates you want to move and where they are currently located. Obtain appropriate vCloud Connector multi tenant node information from the vCloud Air Customer Success Team.

Procedure

- 1 Install and configure vCloud Connector in your vSphere or vCloud Director environment.
- 2 Connect vCloud Connector to your vSphere, vCloud Director, or other vCloud service provider instances.

- 3 Register the multi tenant node (as obtained in the prerequisites) with your vCloud Connector server.
Note that it is not necessary to configure your own vCloud Connector node in vCloud Air.
- 4 Start vCloud Connector in the vSphere client.
- 5 Use the vCloud Connector features.

Option	Description
Manage	Manage virtual machines, vApps, and templates across vSphere, vCloud Director, vCloud service providers, and vCloud Air within your existing vSphere client.
Move	Move virtual machines, vApps, and templates over a network from your existing vSphere, vCloud Director, vCloud service provider environment into or out of your vCloud Air environment.
Sync catalogs	The Content Sync feature of vCloud Connector allows you to synchronize your vCloud Air My Catalog with any of your existing vSphere folders or vCloud Director catalogs. This enables using the same templates across different clouds. For information, see Using Content Sync in the <i>Using vCloud Connector</i> guide.
Move keeping same IP/MAC addresses	The Stretch Deploy feature of vCloud Connector allows you to move a vSphere virtual machine or vApp, or a vCloud Director vApp into vCloud Air while retaining its IP/MAC address so you can continue access without any change. For information, see Offline Data Transfer to VMware vCloud Air in the <i>Using vCloud Connector</i> guide.
Offline data transfer	Move large quantities of virtual machines, vApps, or templates at one time to vCloud Air by subscribing to the Offline Data Transfer Service. For information, see Using Stretch Deploy (Datacenter Extension) in the <i>Using vCloud Connector</i> guide.

Data Protection Service

The data protection feature in vCloud Air extends data protection to your virtual data centers and to the virtual machines maintained within them. The Data Protection Service provides backup and restore service for vApps and virtual machines in the cloud.

To perform the Data Protection Service tasks to protect all virtual machines in a virtual data center, verify that you have virtual infrastructure administrator privileges in the Dedicated Cloud and Virtual Private Cloud services where you plan to manage your Data Protection Service. To manage data protection as an end user, verify that you have permission to manage your virtual machines.

NOTE A vApp consists of one or more virtual machines that communicate over a network and use resources and services in a deployed environment. A vApp can contain multiple virtual machines. vCloud Air displays information about the vApp that contains each virtual machine. You manage vApps by using vCloud Director. See [Working with vApps](#) in the *vCloud Director User's Guide* for information.

This chapter includes the following topics:

- [“Features of the Data Protection Service,”](#) on page 37
- [“About Data Protection Policies,”](#) on page 38
- [“Reporting and Storage Use,”](#) on page 40
- [“Billing for the Data Protection Service,”](#) on page 41
- [“Ways to Restore Virtual Machines,”](#) on page 41
- [“Enable Data Protection for a Virtual Data Center,”](#) on page 42
- [“Update the Data Protection Policy for a Virtual Data Center,”](#) on page 43
- [“Add a Backup Policy for a vApp,”](#) on page 43
- [“Run a Manual Backup,”](#) on page 44
- [“Restore a Virtual Machine from a Backup,”](#) on page 45
- [“Restore a Deleted vApp,”](#) on page 45
- [“Delete a Backup Image,”](#) on page 46

Features of the Data Protection Service

The Data Protection Service, an add-on subscription service orderable through My VMware, offers customers the option to protect their virtual machine data. The Data Protection Service has the following key features.

- Protects customers' vApps and virtual machines by performing regular backup and restore operations.

- Provides a self-service way for customers to configure backup policies to control when scheduled backups occur and how long they are retained.
- Provides a self-service way for customers to opt in or out of backups at the virtual data center and individual vApp level.
- Provides a self-service way for customers to restore in-place or out-of-place vApps and individual virtual machines.
- Allows customers to tailor data protection to suit their needs based on their internal applications and uptime requirements.
- Supports backing up virtual machines without the need to suspend them or power them off.
- Allows customers to specify when to perform backups and how long to implement the backup policy.
- To ensure data security for customers, encrypts all images in the storage space by using fixed keys.
- Supports ad-hoc backups.

NOTE The Data Protection Service does not support backups of virtual machine snapshots. For information about snapshots, see [About Snapshots](#).

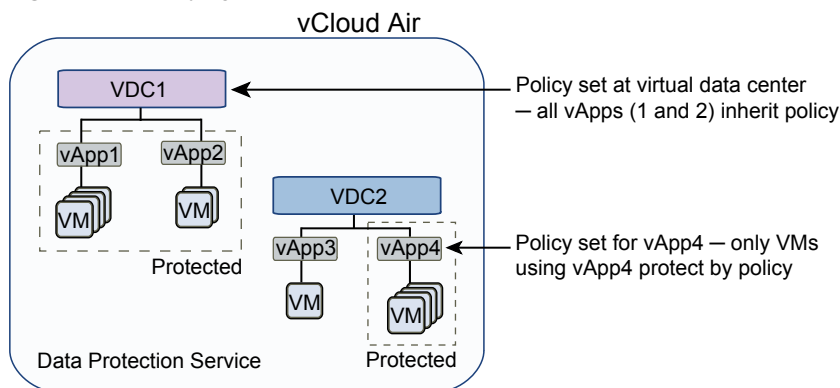
About Data Protection Policies

Using the Data Protection Service, you can set data protection policies for your virtual data centers and vApps to meet your protection needs. You can apply data protection policies in the following ways:

- To a virtual data center (Enabled mode)—when you enable data protection for a virtual data center, all the virtual machines added to that virtual data center are protected automatically.
- To a vApp directly (Self Service mode)—when you switch to Self Service mode, the Data Protection Service does not back up all virtual machines in that data center automatically. You have the option to choose which virtual machines to back up and to apply individual policies to those virtual machines.

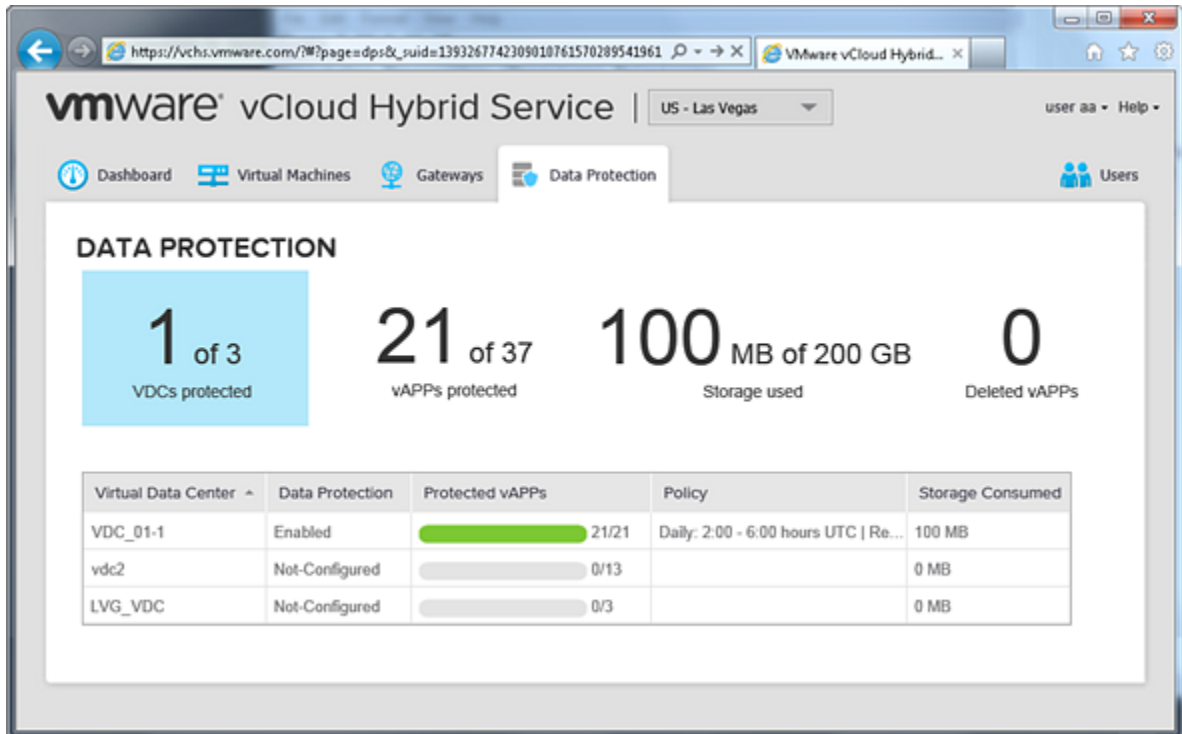
As shown in the following figure, a customer has two virtual data centers in the cloud service. Each virtual data center has a different data protection policy applied:

Figure 6-1. Applying Data Protection Policies at the VDC and vAPP Level



To enable data protection for a virtual data center, you must be logged into vCloud Air as a virtual infrastructure administrator. If you are logged in as an end user, you can set backup policies only for the vApps you own.

Logging as a virtual administrator displays the following features of the Data Protection Service.

Figure 6-2. Data Protection Service in vCloud Air (formerly known as vCloud Hybrid Service)

A virtual infrastructure administrator can configure data protection policies for virtual data centers, vApps, and restore deleted vApps.

NOTE Logging in as an end user displays the **vAPPs protected** tab only.

When you enable data protection for a virtual data center, data protection is set by default to back up vApp data every day between 6:00 and 10:00 UTC and retain the backups for 30 days. You can change the default settings by editing the virtual data center policy. For example, you might want to edit the data protection policy and change the backup window to avoid traffic latencies. When you enable data protection for a virtual data center, you can customize the retention period for backups.

When a vApp gets backed up (either automatically by the system or when you back it up manually), the Data Protection Service retains that backup as a restore point for 30 days by default. When the retention period expires, the Data Protection Service automatically deletes and overwrites the oldest restore point.

To delete an entire backup, see [“Delete a Backup Image,”](#) on page 46 in this guide.

At the vApp level, you can disable backup and restore, set a customize retention period, or reset the data protection policy so that all vApps inherit the policy from the virtual data center.

Details About Backup and Restore

When you change the disk configuration for a virtual machine, the Data Protection Service completes a full backup of the virtual machine the next time the vApp is backed up.

If you add a virtual machine to a vApp and do not backup the updated vApp, and then restore the vApp in place by using a out-of-date version of the backup, the Data Protection Service deletes the added virtual machine.

A vApp is in Maintenance mode during backup and restore operations.

Reporting and Storage Use

In vCloud Air, you can access storage utilization and reporting information for your Data Protection Service in the following ways:

- To view storage utilization information, view the Storage Used tab.
- To view activity information, view the Activity Logs.

Customers can buy fixed amount of backup storage in the vCloud Air cloud. You can purchase additional storage at any time by logging into your subscription services in My VMware.

Analyzing the 30 day Consumption Trend graph for the storage consumed is useful in determining whether to purchase additional storage.

Storage Used Tab

The Storage Used tab shows information about current backup storage utilization, 30-day consumption trends, the top 10 vApps based on storage consumed, and the top 10 virtual data centers based on storage consumed.

NOTE You can also view storage utilization information from the **VDCs protected**, **vAPPs protected**, and **Deleted vAPPs** tabs by checking the **Storage Consumed** column of each table, respectively.

From the Storage Used tab, you can view how much storage is consumed by protecting your virtual machines. The tab displays storage consumption in the following format—the storage used of the storage purchased; as shown in the following example:

510 MB of 100 GB — shows the storage consumed (510 MB) for the amount of storage purchased (100 GB)

VMware calculates how storage is used by the Data Protection Service in the following way.

After a backup runs, the Data Protection Service scans the backup image and determines the amount of storage consumed. Subsequent scans calculate the difference from the last scan and use that delta to determine the current amount of storage consumed. When the retention period for a restore point expires, the Data Protection Service reduces the calculation accordingly. The first time you back up a vApp determines the full size of the vApp.

Activity Log

All backup and restore operations are logged in the Activity Logs. The following Data Protection Service operations are tracked in the Activity Logs for vCloud Air:

Figure 6-3. Activity Logs for Data Protection Service Events

DASHBOARD > ACTIVITY LOG

ACTIVITY LOG

Showing 1183 logged activities ↻

User	Action	Type	Resource	Start Time	End Time	Status
user_aa@sample.com	Created	Adhoc Backup	123	02/24/2014 04:45:07	02/24/2014 04:46:13	Success
user_aa@sample.com	Create	VDC Backup Policy	A_VDC	02/24/2014 04:42:49	02/24/2014 04:42:57	TaskError
user_aa@sample.com	Create	Adhoc Backup	123	02/24/2014 02:29:25	02/24/2014 03:29:30	Success
user_aa@sample.com	Created	VDC Backup Policy	LVG_VDC	02/24/2014 02:28:42	02/24/2014 02:28:55	Success
user_aa@sample.com	Created	VM	A_VN02	02/20/2014 01:57:53	02/20/2014 01:58:51	Success

Create VDC Backup Policy: AMAR_VDC
 Start Time: 02/24/2014 04:42:49 — End Time: 02/24/2014 04:42:57 (8 seconds)

Dedicated Cloud Details:
 DC Name: adidas-dc-074301, DP Policy: Daily:02:00:00 | 10-day Retention

Previous Next

- Each time a user runs a manual backup (also referred to as an ad hoc backup)
- When the Data Protection Service runs a scheduled backup automatically
- When a user restores a vApp or virtual machine
- When an virtual administrator configures a data protection policy for a virtual data center or vApp
- When an end user configures a data protection policy for a vApp
- When a user deletes a backup image

For information about the Activity Logs in vCloud Air, see [About Activity Logs](#).

Billing for the Data Protection Service

Billing for the Data Protection Service uses a similar calculation to how storage is calculated. Billing is based on the following activities performed with the Data Protection Service:

- Creation of virtual machines
- Daily changed bytes
- Additions and removals of hard disks for virtual machines
- Deletion of backup images

The first time a virtual machine is backed up, you are billed on the protected bytes. On subsequent backups, you are billed only on new bytes backed up.

NOTE The first time the Data Protection Service backs up a vApp or virtual machine in place after you restore it, the daily changed bytes from the restore equal the size of the vApp.

Ways to Restore Virtual Machines

To restore virtual machines in vCloud Air by using the Data Protection Service, you choose from backup images of your vApps. When restoring a virtual machine, you have a choice of performing the restore in the following ways:

- An in-place restore—you choose a backup image and restore that image onto the same vApp.

- An out-of-place restore—you choose a backup image and create a new vApp out of that image. You can create the new vApp in the same data center used by the original vApp or in a different virtual data center.

NOTE Performing an out-of-pace restore, does not restore the following items for a vApp:

- vApp configuration data
 - Virtual machine configuration data
 - Virtual machine networking configuration
-

If a vApp contains more than one virtual machine, you can select which virtual machines to restore from that vApp.

NOTE When performing an out-of-place restore, you must create the new vApp in the same cloud service (Dedicated Cloud service or Virtual Private Cloud service) where you are currently subscribed to the Data Protection Service. You cannot create the vApp in another cloud service; for example, if you have subscribed to the Data Protection Service for your Dedicated Cloud service, and you have also subscribed to a Virtual Private Cloud service, you cannot create the vApp in your Virtual Private Cloud .

If you delete a vApp by mistake, you can use the out-of-place restore option to restore that vApp. You must have virtual administrator privileges in vCloud Air to restore deleted vApps.

To restore a virtual machine from a backup, see [“Restore a Virtual Machine from a Backup,”](#) on page 45.

To restore a virtual machine from a deleted vApp, see [“Restore a Deleted vApp,”](#) on page 45.

Enable Data Protection for a Virtual Data Center

Enabling data protection for a virtual data center automatically backs up the virtual machines added to that virtual data center based on the data protection policy applied to the virtual data center.

Prerequisites

- Verify that you have a subscription to the Data Protection Service.
- You must have virtual administrator privileges in vCloud Air to enable data protection for a virtual data center. (End users do not have the privileges to enable data protection for a virtual data center.)

Procedure

- 1 On the **Data Protection** tab, click **VDCs protected**.

A list of your virtual data centers appears that shows the status of data protection per virtual data center.

- 2 Select the virtual data center for which you want to enable data protection.

The details about data protection for that virtual data center appear.

- 3 From the **Actions** menu, choose **Enable Data Protection**.

A dialog box appears confirming the virtual data center for which you are enabling data protection.

- 4 Click **Enable Data Protection**.

The Data Protection tab refreshes and a notification message appears indicating that the data protection policy for that virtual data center updated successfully.

By default, the Data Protection Service creates a data protection policy that automatically backs up daily the virtual machines and vApps in that virtual data center.

To customize the data protection policy for a virtual data center, see [“Update the Data Protection Policy for a Virtual Data Center,”](#) on page 43 in this guide.

Update the Data Protection Policy for a Virtual Data Center

When you enable data protection for a virtual data center, the Data Protection Service creates a default data protection policy. You must manually edit it if you want to customize the settings.

Prerequisites

- Verify that you have a subscription to the Data Protection Service.
- You must have virtual administrator privileges in vCloud Air to edit data protection policies for a virtual data center.

Procedure

- 1 On the **Data Protection** tab, click **VDCs protected**.

A list of your virtual data centers appears that shows the status of data protection per virtual data center.

- 2 Select the virtual data center for which you want to edit data protection.

The details about data protection for that virtual data center appear.

- 3 From the **Actions** menu, choose **Edit Policy**.

The Edit Policy dialog box appears.

- 4 In the **Data Protection Frequency** field, enter the number of days that you want the vApp to be protected. Maximum 365 days – no minimum.

- 5 In the **Backup Window Start** field, select a time window from the drop-down list.

The **Backup Window Start** value configures when the backup process should start. The value indicates the beginning of a 2 hour window during which the backup might run. Running backups by using a window prevents all your backups from running simultaneously and causing excessive system load.

- 6 Click **Save**.

A confirmation message appears indicating that the data protection policy was successfully updated.

NOTE You can reset data protection policy after setting it for specific vApps so that all vApps inherit the policy from the virtual data center. From the vAPPs protected tab, click Set Default Policy from the menu.

Add a Backup Policy for a vApp

You can set a data protection policy directly on your vApps as long as the virtual data center in which the vApp resides is configured for data protection. Configuring data protection for a vApp overrides any data protection policies set at the virtual data center level.

Prerequisites

- Verify that you have a subscription to the Data Protection Service.
- Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 If necessary, set the virtual data center containing the vApps to self-service mode:
 - a From the **VDCs protected** page, selected the virtual data center that contains the vApps.
 - b From the **Actions** menu, choose **Switch to Self Service**.
A confirmation messages appears confirming the virtual data center for which you are setting Self Service mode.
 - c Click **Switch to Self Service**.
The list of virtual data centers refreshes.
- 2 Click **vAPPs protected**.
- 3 Select the vApp for which you want to configure a data protection policy.
- 4 Click **Enable** from the top menu bar.
The Enable Data Protection dialog box appears.
- 5 In the **Data Protection Frequency** field, enter the number of days that you want the vApp to be protected. Maximum 365 days – no minimum.
- 6 In the **Backup Window Start** field, select a time window from the drop-down list.
The **Backup Window Start** value configures when the backup process should start. The value indicates the beginning of a 2 hour window during which the backup will run. Running backups by using a window prevents all your backups from running simultaneously and causing excessive system load. The backup process completes during that 2 hour window.
- 7 Click **Enable Data Protection**.
A confirmation message appears indicating that you successfully configured the data protection policy for the vApp.

Run a Manual Backup

The Data Protection Service automatically runs backups based on the settings configured for data protection policies. However, at any time, you can choose to manually back up a vApp.

When a vApp gets backed up (either automatically by the system or when you back it up manually), the Data Protection Service retains that backup as a restore point for three weeks. When this retention period expires, the Data Protection Service automatically deletes that restore point.

Prerequisites

- Verify that you have a subscription to the Data Protection Service.
- Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 Click **vAPPs protected**.
- 2 Select the vApp for which you want to run a manual backup.
- 3 Click **Run Backup Now** from the top menu bar.
The Run Backup dialog box appears confirming that you want to run a backup for the selected vApp.
- 4 Click **Run Backup Now**.
A confirmation message appears indicating that the backup is running.

When the backup finishes successfully, the restore points increment by one.

Restore a Virtual Machine from a Backup

You can restore a virtual machine from any restore point created when the Data Protection Service backs up a vApp.

Prerequisites

- Verify that you have a subscription to the Data Protection Service.
- Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 From the **VDCs protected** or **vAPPs protected** tabs, click the link in the **Available Restore Points** column for the vApp that you want to restore.

The restore points dialog box appears.

- 2 Select the restore point to use.
- 3 From the top menu, select one of the following options:

- **Restore as New vAPP**
- **Restore vAPP In-place**

See [“Ways to Restore Virtual Machines,”](#) on page 41 for information.

- 4 If you are creating a new vApp from the restore point (**Restore as New vAPP**), specify these settings:
 - a Select the virtual data center for the vApp from the drop-down list.
 - b Enter a name for the new vApp.
- 5 From the Restore field, select one of the following options:
 - **Entire vApp**
 - **Select specific Virtual Machines to restore** and select the check boxes of the virtual machines to restore.
- 6 Click **Restore**.

A confirmation message appears that the vApp was restored successfully.

Restore a Deleted vApp

If you mistakenly deleted a vApp by using vCloud Director, you can use the out-of-place restore option to restore that vApp when the vApp is protected by the Data Protection Service.

To restore a deleted vApp, the vApp must be protected by the Data Protection Service. See [“About Data Protection Policies,”](#) on page 38.

For information about deleting vApps, see [Delete a vApp](#) in *vCloud Director User’s Guide*.

NOTE In vCloud Air, vApps and the virtual machines they contain typically have a one-to-one correspondence.

Prerequisites

- Verify that you have a subscription to the Data Protection Service.
- You must have virtual administrator privileges in vCloud Air to restore deleted vApps.

Procedure

- 1 On the **Data Protection** tab, click **Deleted vAPPs**.

A list of your deleted vApps appears that shows the virtual data center from which they were deleted and their available restore points.

- 2 Click the link in the **Available Restore Points** column for the vApp that you want to restore.

The restore points dialog box appears.

- 3 Select the restore point to use.

- 4 In the Out-of-Place Restore dialog box, complete the following settings:

- a Select the virtual data center for the vApp from the drop-down list.

- b Enter a name for the new vApp.

- c From the **Restore** field, select one of the following options:

- **Entire vApp**

- **Select specific Virtual Machines to restore** and select the check boxes of the virtual machines to restore.

- 5 Click **Restore**.

Delete a Backup Image

When you manually delete a backup image, the Data Protection Service displays a confirmation message that the image was deleted. Additionally, the Data Protection Service automatically deletes restore points for a backup when they expire after three weeks. You can only delete an entire backup image for a vApp. You cannot delete individual restore points.

Prerequisites

- Verify that you have a subscription to the Data Protection Service.
- Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 From the **VDCs protected** or **vAPPs protected** tabs, click the link in the **Available Restore Points** column for the vApp backup that you want to delete

The restore points dialog box appears.

- 2 Click **Delete All**.

Disaster Recovery in vCloud Air

vCloud Air – Disaster Recovery is a Recovery-as-a-Service (RaaS) offering intended to protect virtual workloads managed by VMware vSphere that are either deployed in a private cloud or data center.

Subscribing to the Disaster Recovery service is a separate enrollment process whether you already have a subscription for vCloud Air. If you are not a Disaster Recovery customer, you will not see the Disaster Recovery functionality in your vCloud Air Web console.

For information about using Disaster Recovery with vCloud Air, see the [vCloud Air – Disaster Recovery User's Guide](#).

Storage in vCloud Air

vCloud Air lets you direct storage for your virtual machines to either higher performance or lower cost storage tiers.

You can allocate virtual machine storage when creating virtual data centers and virtual machines or by adjusting their storage after you create them.

NOTE While the total subscribed storage can be fully allocated to one or more Virtual Data Centers, some storage is reserved for operational overhead, including swap files and catalogs. This prevents you from fully provisioning the storage allocation to virtual machines. For further information, please review this Knowledge Base article:

http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2043173.

- To allocate storage to a specific tier when creating a virtual machine using a template, see “[Add a Virtual Machine from a Template](#),” on page 22.
- To allocate storage to a specific tier when creating a virtual machine from scratch, see “[Create a Virtual Machine Without Using a Template](#),” on page 33.
- To allocate storage from a specific tier to a virtual data center when creating the virtual data center, see “[Create a Virtual Data Center](#),” on page 12.

When users create virtual machines in the virtual data center, they can add can disks from the designated storage tiers based on the amounts allocated for the tiers.

This chapter includes the following topics:

- “[Overview of Storage Tiers](#),” on page 49
- “[Adjust Storage for a Virtual Data Center](#),” on page 53
- “[Adjust Storage for a Virtual Machine](#),” on page 54
- “[Migrate Storage for a Virtual Machine to a Different Tier](#),” on page 55

Overview of Storage Tiers

Tiered storage is the assignment of different categories of data to different types of storage media in order to reduce total storage cost. vCloud Air offers two storage tiers for virtual machines.

- **Standard Storage**

Standard storage provides traditional block storage for virtual machines. Standard storage is lower cost and appropriate for storage of tier 2 and tier 3 data. Tier 2 and tier 3 include data that is seldom-used or event driven.

Examples of tier 2 and tier 3 data include large data sets, such as log file storage and archival of large sets of static data.

- **SSD-Accelerated Storage**

SSD-Accelerated storage provides higher performance block storage for virtual machines. SSD-Accelerated storage is appropriate for all tiers (1, 2, and 3); though, it is most recommended for tier 1 data. Tier 1 includes data that is mission-critical, frequently accessed, or requires a high degree of security.

Examples of tier 1 data include a high-access database, which is part of a three-tier application, a host cache, or a virtual machine boot (primary) disk.

Features of Storage in vCloud Air

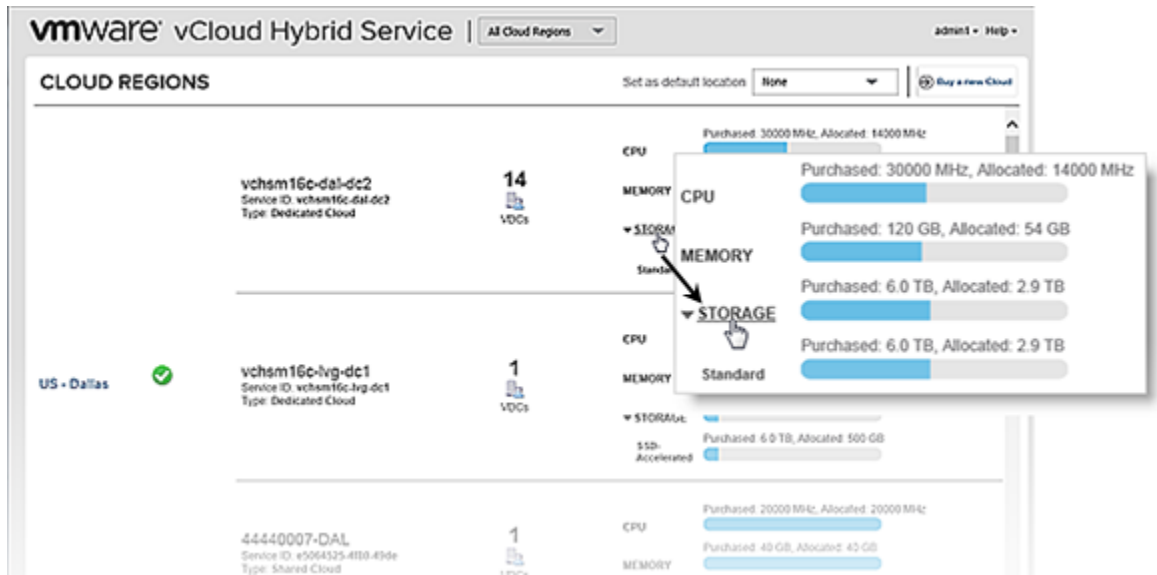
- Migrating virtual machine disks between tiers has no impact on virtual machine uptime or availability; for example, when moving a virtual machine disk to the other storage tier, the virtual machine can remain powered on and accessible.
- You can allocate storage to a virtual machine on a per-disk basis; for example, a virtual machine with two disks could have one disk utilizing SSD-Accelerated storage and the other disk utilizing Standard storage.
- Adjusting storage allocation for a virtual machine does not impact existing snapshots for the virtual machine; for example, when expanding disk storage for a virtual machine, you do not need to snapshot the virtual machine before expanding the storage.
- While the total subscribed storage can be fully allocated to one or more Virtual Data Centers, some storage is reserved for operational overhead, including swap files and catalogs. This prevents you from fully provisioning the storage allocation to virtual machines. For further information, please review this Knowledge Base article:
http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2043173.

How to View Storage Allocation

There are several ways to view your storage allocation in the vCloud Air (formerly known as vCloud Hybrid Service) console.

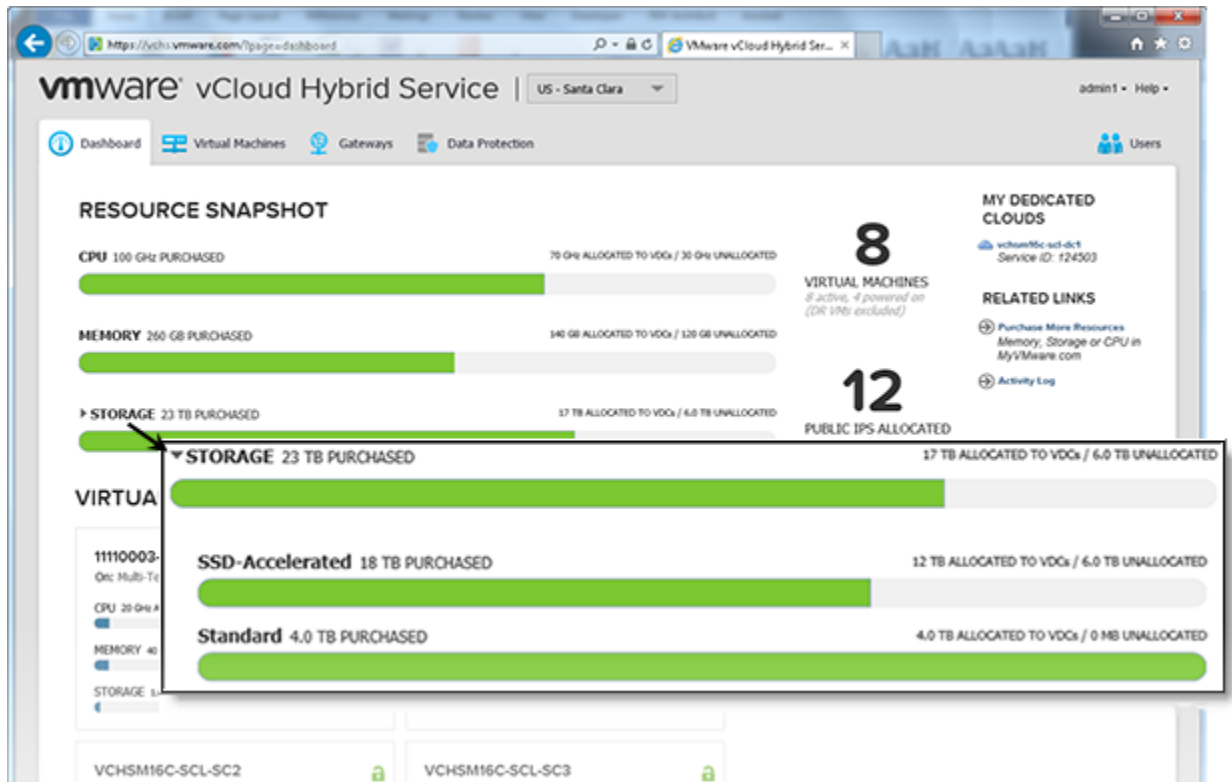
Administrators can view allocated storage at a virtual data center level:

- As a list of virtual data centers for all regions by selecting **All Cloud Regions** from the drop-down menu at the top of the console

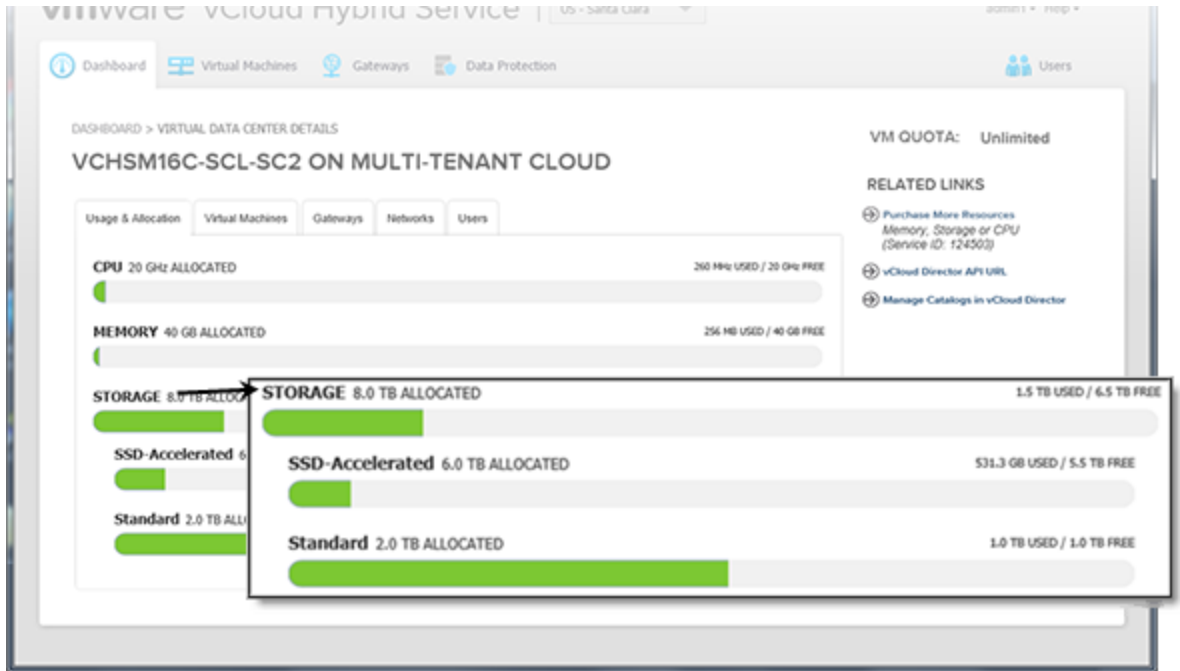


vCloud Air displays all virtual data centers in the selected cloud. (The regions menu is available when you have vCloud Air resources in multiple regions.)

- For all virtual data centers in a region by selecting a region from the drop-down menu and clicking the arrow next to **Storage** under **Resource Snapshot**

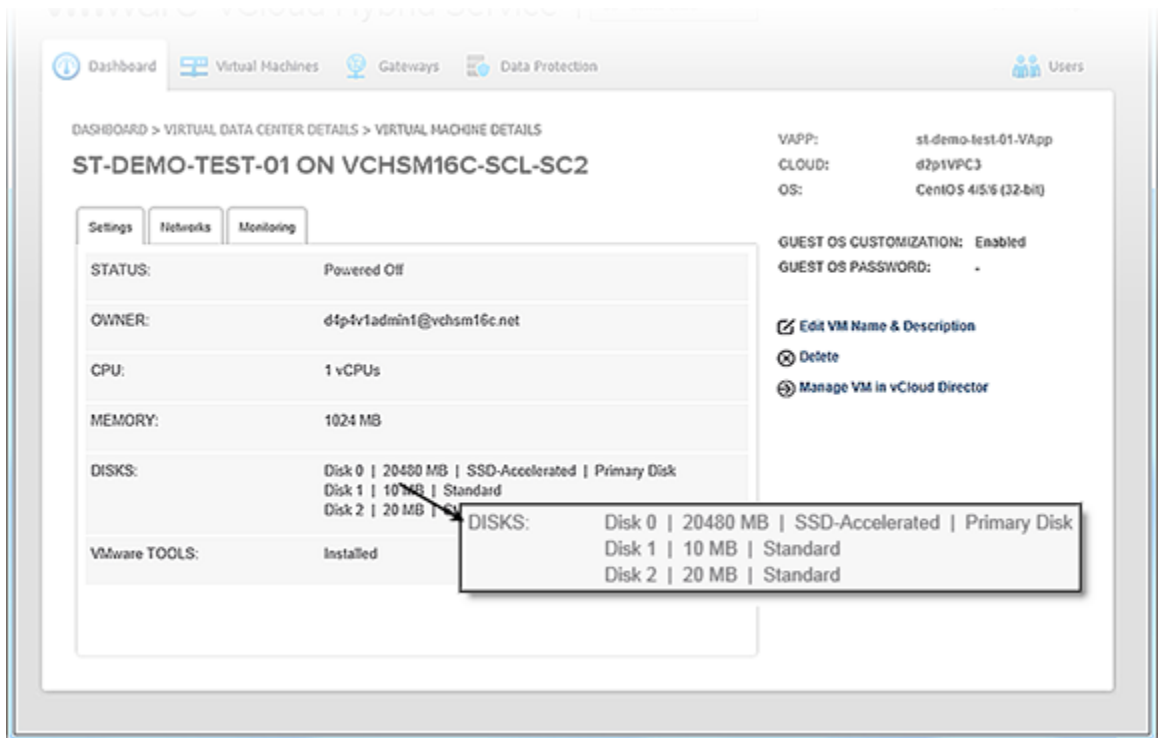


- For a virtual data center by selecting the virtual data center in the Dashboard and viewing the storage information on the **Usage & Allocation** tab of the Virtual Data Center Details page



- For a selected virtual machine within a virtual data center by selecting the virtual data center in the Dashboard, clicking the **Virtual Machines** tab, then the virtual machine name for which to view storage information

The **Setting** tab appears for the virtual machine. The storage information is appears in the **Disks** row.



Users can view allocated storage for their virtual machines:

- For selected virtual machines by clicking the **Virtual Machines** tab from the Dashboard, clicking the virtual machine name for which to view storage information

The **Setting** tab appears for the virtual machine. The storage information is appears in the **Disks** row.

Adjust Storage for a Virtual Data Center

As an administrator, you can manage storage allocated for your virtual data centers.

Specifying tiers (SSD-Accelerated, Standard, or both) and the amount of storage to allocate to each tier controls how users can allocate storage for the virtual machines in the virtual data center. When users create virtual machines in the virtual data center, they can add can disks from the designated storage tiers based on the amounts allocated for the tiers.

Prerequisites

Verify that you have virtual infrastructure administrator privileges.

Procedure

- 1 Select the region where you want to edit the virtual data center.
- 2 In the Dashboard tab, click the virtual data center to edit.
- 3 Click the **Usage & Allocation** tab.
- 4 Click **Storage**.

The Adjust Storage Allocation dialog box for the virtual data center appears and displays the following information for the storage tiers allocated to the virtual data center:

Table 8-1. Description of Storage Allocation Values

Value	Description
Current Usage	The amount of storage used by the storage tier
Current Allocation	The amount of storage allocated to the storage tier NOTE If a tier is not allocated to the virtual data center but the tier is available in your Dedicated Cloud or Virtual Private Cloud , the current allocation value is zero.
New Allocation	The new amount of storage available for the virtual data center, which must be between the min and max values displayed for the storage tier
Min	The current amount of storage used by the storage tier
Max	The amount of storage available for the tier calculated as the total amount of storage purchased for your cloud minus the amount of storage allocated to your other virtual data centers

- 5 In the allocation dialog box for the tier, type the new allocation for that tier.
- 6 Click **Save**.

The **Usage & Allocation** tab for the virtual data center refreshes with the updated storage allocation per tier.

Adjust Storage for a Virtual Machine

You can adjust the amount of storage and for an existing virtual machine.

While adjusting storage for a virtual machine, consider how the virtual machine will be used. For example, desktops or workstation environments, testing environments, or server applications will have differing storage needs. For information about the storage tiers available in vCloud Air, see [“Overview of Storage Tiers,”](#) on page 49.

You do not have to power off a virtual machine to adjust its storage allocation.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, click the virtual machine name for which you want to adjust storage.

The **Setting** tab for the virtual machine appears.

NOTE If you are an administrator, you can adjust storage for a virtual machine from the **Virtual Machines** tab in the region or in the virtual data center.

- 2 Select the **Disks** row and right-click.

The Adjust dialog box appears.

- 3 Click **Storage Allocation**.


The Adjust Storage Allocation dialog box appears.

- 4 For the disk you want to modify, enter a new allocation value.

NOTE You cannot change the storage tier for an existing disk when adjusting storage. To change the storage tier for a disk, see [“Migrate Storage for a Virtual Machine to a Different Tier,”](#) on page 55.

- 5 (Optional) Click **Add a Disk** and specify its storage tier and size.

NOTE The vCloud Air console supports adding up to 8 disks (VMDKs) per virtual machine. If a virtual machine requires more than 8 disks, add disks by using vCloud Director. See [Add a Virtual Machine Hard Disk](#) in the *vCloud Director User's Guide*.

- 6 To delete a disk from the virtual machine, click the delete icon () to the right of the hard disk you want to delete.

NOTE The vCloud Air console supports deleting only the last disk for a virtual machine. You can use vCloud Director to delete an intermediate disk for a virtual machine; however, after deleting the disk in vCloud Director, you cannot manage the disks in the vCloud Air console.

For information about deleting disks by using vCloud Director, see [Delete a Virtual Machine Hard Disk](#) in the *vCloud Director User's Guide*.

- 7 Click **Adjust Storage Allocation**.

Migrate Storage for a Virtual Machine to a Different Tier

You can move a virtual machine disk for an existing virtual machine between the storage tiers available in vCloud Air.

When moving a virtual machine disk to another storage tier, consider how the virtual machine will be used; for example the storage tiers in vCloud Air support different workload tiers. See [“Overview of Storage Tiers,”](#) on page 49 for information.

You do not have to power off a virtual machine to adjust its storage allocation.

NOTE During storage tier migration, virtual machine performance can decrease. Virtual machines can be powered on or off during migration; however, if the virtual machine is not required to be powered on during migration, VMware recommends you power it off, migrate the disk, and power on the virtual machine after the migration finishes.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, click the virtual machine name for which you want to move disks.

The **Setting** tab for the virtual machine appears.

NOTE If you are an administrator, you can adjust storage for a virtual machine from the **Virtual Machines** tab in the region or in the virtual data center.

- 2 Select the **Disks** row and right-click.

The Adjust dialog box appears.

- 3 Click **Storage Tiers**.

The Adjust Storage Tier dialog box appears.

- 4 For the disk you want to modify, select the storage tier from the drop-down list.

- 5 Click **Adjust Storage Tier**.

The **Settings** tab for the virtual machine refreshes with the updated storage allocation per tier.

About Snapshots

In vCloud Air, a snapshot captures a reproduction of the virtual machine, including the state of the data on all of the virtual machine's disks and whether the virtual machine is powered on, powered off, or suspended.

In vCloud Air, you can create, revert, or delete a snapshot.

This chapter includes the following topics:

- [“Create a Snapshot for a Virtual Machine,”](#) on page 57
- [“Revert to a Snapshot for a Virtual Machine,”](#) on page 57
- [“Delete a Snapshot for a Virtual Machine,”](#) on page 58

Create a Snapshot for a Virtual Machine

You can take a snapshot when a virtual machine is powered on, powered off, or suspended.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, select the virtual machine.
- 2 In the **See More** drop-down menu, select **Create Snapshot**.

The snapshot is created.

What to do next

You can revert to or remove the snapshot.

- To revert, see [“Revert to a Snapshot for a Virtual Machine,”](#) on page 57.
- To remove, see [“Delete a Snapshot for a Virtual Machine,”](#) on page 58.

Revert to a Snapshot for a Virtual Machine

You can revert the configuration or virtual machine to a snapshot. The virtual machine is reverted to the state it was in when the snapshot was created.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, select the virtual machine.
- 2 In the **See More** drop-down menu, select **Revert Snapshot**.

The virtual machine is reverted to the state it was in when the snapshot was created.

Delete a Snapshot for a Virtual Machine

You can delete a snapshot when you do not need it.

Prerequisites

Verify that you have end user or virtual infrastructure administrator privileges.

Procedure

- 1 In My Virtual Machines, select the virtual machine.
- 2 In the **See More** drop-down menu, select **Delete Snapshot**.

The existing snapshot is deleted.

vCloud Air User Management

Administrators add new users in vCloud Air and assign one or more roles to them. User roles have a default group of privileges. If your cloud has multiple virtual data centers, administrators assign access to each virtual data center using the available list of users.

Administrators can manage users and their details, and view their activities in the activity log.

This chapter includes the following topics:

- [“User Privileges by Role,”](#) on page 59
- [“Add Users,”](#) on page 60
- [“Assign Users to a Virtual Data Center,”](#) on page 60
- [“About Activity Logs,”](#) on page 61
- [“View Activity Logs,”](#) on page 61
- [“Edit User Details,”](#) on page 62
- [“Reset Passwords,”](#) on page 62
- [“Delete Users from vCloud Air,”](#) on page 63

User Privileges by Role

A user in vCloud Air can either have administrator privileges or end user privileges, but not both. Administrator privileges are grouped into specific administrator roles. The individual acting as an administrator can be assigned multiple administrator roles.

Specialized Administrator Roles

Specialized administrator roles allow you to assign one or multiple individuals to perform these tasks.

Virtual infrastructure administrator

Virtual infrastructure administrators can add and modify virtual data centers in a Dedicated Cloud service. Virtual infrastructure administrators can manage virtual machines. They can also view gateways, networks, activity logs, and users.

Account administrator

Account administrators can add users and reset passwords. This role has the ability to create users with any and all administrator privileges. Account administrators can also view virtual data centers, virtual machines, gateways, networks, and activity logs. Account administrators can manage user accounts in My VMware and have permissions to file support requests.

Network administrator	Network administrators can manage networks and gateways. Network administrators can also view virtual data centers, virtual machines, activity logs, and users.
Read-only administrator	Read-only administrators can view but not alter settings in administration areas. Read-only administrators can view virtual data centers, virtual machines, gateways, networks, activity logs, and users.

End User Role

End users create and manage virtual machines within virtual data centers to which they are assigned access. The end user role includes the following procedures.

- Add virtual machines based on a template from VMware catalog and from My Catalog, your organization's custom templates.
- Create a virtual machine in vCloud Director.
- Power on, power off, reset, and suspend virtual machines in a virtual data center.
- Use snapshots of virtual machines.
- Delete virtual machines from the virtual data center.

Add Users

You can add users and assign privileges to them in vCloud Air.

Prerequisites

Verify that you have account administrator privileges.

Procedure

- 1 Click **Users** in the top right of the dashboard.
- 2 Click **Add Individual User**.
- 3 Type name and email address.
vCloud Air uses the email address as the user name.
- 4 Assign roles.

Users can have either the end user role or multiple administrator roles. The same user cannot be both an end user and an administrator.

vCloud Air uses the email as the user name and sends users information on signing in for the first time. The user you added receives an invitation email about accessing the service and can create a password. Users can also contact vCloud Air if the invitation expires or if they forget their password and need to reset it.

What to do next

Assign users to a virtual data center. See [“Assign Users to a Virtual Data Center,”](#) on page 60.

Assign Users to a Virtual Data Center

You can assign users to a specific virtual data center so that they can view and perform actions in the data center.

Prerequisites

Verify that you have account administrator privileges.

Procedure

- 1 In the Dashboard, click the area of the virtual data center.
- 2 Click the **Users** tab.
- 3 Click **Edit Access**.
- 4 Select users and click **Save**.

Users are assigned to the virtual data center.

About Activity Logs

Activity logs display changes to entities across all regions that administrators can view to gain insight about user activities.

The activity log appears as a grid of log entries. It does not display virtual machine monitoring or performance characteristics and is not viewable by end users.

The activity log displays several types of information.

- You can view the user and the type and name of the resource that is affected by the activity.
- You can view the start and end time of the activity, such as when the task of creating a virtual data center began and ended.
- You can view details of the activity, such as a changed user name or the name of a new virtual data center.

View Activity Logs

You can view activity logs to see changes such as when virtual data centers, virtual machines, networks, or gateways were added or deleted, or when user information was edited.

Use the activity log to monitor user activities and changes to your cloud environment, across all regions.

Prerequisites

Verify that you have administrator privileges. Administrator types include account, virtual infrastructure, network, read-only, and subscription.

Procedure

- 1 On the Dashboard tab, under Related Links, click **Activity Log**.
- 2 View information about user activities.

Option	Description
User	View the user name (email).
Action type	View the action type, such as create, delete, or edit.
Resource type affected	View the resource type affected, such as whether a user, a network, a virtual machine, or a virtual data center was changed.
Resource name acted upon	View the name of the resource affected, such as the name of the user that was updated.
Start and end time	View the date stamps for the activity shown in the user's local time.
Status of the change	View post-change status, such as Success.
Details of the activity	View details at the lower left of the highlighted activity. Click Previous or Next to navigate up or down the list and change the focus of the log and details shown in the lower left.

- 3 To make sure the view of the activity log is current, click the refresh icon above the table.

- (Optional) To show more of the list, pull down the lower edge of the panel.

Edit User Details

You change the listed name of users, enable or disable them, or change their role assignments.

Prerequisites

Verify that you have account administrator privileges.

Procedure

- Click **Users** in the top right of the dashboard.
- Select the users.

Option	Description
Select an individual user	Click the check box of the user.
Select by category	In the Select drop-down menu, select all, enabled, or disabled.

- In the **More** drop-down menu, select **View and Edit Details**.
- Edit the user details.

Option	Description
Name	Type a new name.
Status	Change the status to enabled or disabled.
Roles	Assign new roles.

You cannot edit the email address.

- To change the email address, delete the user, then add and assign as a new user.
- Click **Save**.

The user's details are changed.

Reset Passwords

Administrators can reset a user password. After you reset the password, the user receives a notification and must enter a new password.

Prerequisites

Verify that you have account administrator privileges.

Procedure

- Click **Users** in the top right of the dashboard.
- Select the users for whom to reset passwords.

Option	Description
Select an individual user	Click the check box of the user.
Select by category	In the Select drop-down menu, select all , enabled , or disabled .

- Click **Reset Password** and confirm the reset.

The existing password is deleted and the user receives an email to create a password. See [“Sign In to vCloud Air,”](#) on page 9.

Delete Users from vCloud Air

You can delete users from vCloud Air to revoke their access to the service. In this way you can recover any resources that were assigned to this user.

Prerequisites

Verify that you have account administrator privileges.

Procedure

- 1 Click **Users** in the top right of the dashboard.
- 2 Select the users to delete.

Option	Description
Select an individual user	Click the check box of the user.
Select by category	In the Select drop-down menu, select all, enabled, or disabled.

- 3 Click **Delete** and confirm the deletion.

If you delete users who are signed in at the time, their sessions will be forcibly terminated and they will be signed out.

The user is deleted and does not appear in the user list. The user's resources are moved to the administrator who deleted the user.

Technical Support

VMware provides direct support via the VMware Global Services team, as appropriate to your issue and your service offering, Dedicated Cloud or Virtual Private Cloud .

Technical support is a vital part of the total VMware customer experience. We want you to get the most from your service and are dedicated to ensuring that every issue is resolved to your satisfaction.

This chapter includes the following topics:

- [“About VMware Technical Support,”](#) on page 65
- [“File a Support Request via the vCloud Air Web Console,”](#) on page 66

About VMware Technical Support

Subscription administrators for your organization can file support requests that are addressed by the technical support teams.

Technical Support Teams

VMware provides specialized technical support in the form of two teams.

- Technical Incident Engineers act as main technical contacts within VMware for vCloud Air customers. They work to resolve any and all technical issues experienced when utilizing vCloud Air. Technical Incident Engineers maintain ownership of support requests, engage other VMware teams where necessary, and provide the customers with a singular point of contact from inception through resolution.
- Solutions Architects are in-depth and experienced technical consultants for vCloud Air customers. Solutions Architects handle the design and implementation of complex customer scenarios within the vCloud Air environment. Solutions Architects also serve as an escalation point for resolving more demanding technical issues that customers experience within the service offerings.

Filing Support Requests

Subscription administrators for your organization can file support requests for technical or customer service help via your My VMware account or by phone.

File a request online from your My VMware account, either by directly signing in to your My VMware account, or via the vCloud Air help menu.

File a request by phone by following the automated phone system prompts. Use the phone number based on your region.

- For the U.S. and Canada, call 1-877-4VMWARE (1-877-486-9273) or 1-650-475-5345 (choose technical support).

- For global toll free numbers, refer to http://www.vmware.com/support/phone_support.html.

File a Support Request via the vCloud Air Web Console

File support requests for technical or customer service help via the vCloud Air Web console.

Prerequisites

Verify that you have subscription administrator privileges.

Procedure

- 1 Sign in to the vCloud Air console.
- 2 Click **Help** and select **File Support Request** in the drop-down menu.
You are taken to the My VMware portal.
- 3 Follow the steps for filing for support for the product area of vCloud Air that is involved.

The support request is filed.

Index

A

- activity logs
 - introduction **61**
 - view **61**
- allocate, storage **49**
- allocate resources **14**
- API **8, 13**
- Application Programming Interface **8**
- automatic backup **38**

B

- backup
 - deleting image **46**
 - manual **44**
 - start window defined **43**
- billing, Data Protection Service **41**
- browsers, supported **9**

C

- catalogs, introduction **21**

D

- data protection policies
 - automatic backup **38**
 - overriding **38, 43**
- Data Protection Service
 - features **37**
 - vApps protected **37**
- Dedicated Cloud service **6**
- default data protection policy **42**
- Disaster Recovery **47**

E

- encryption for backups **37**
- end user license agreement (EULA) **21**

G

- geographical regions **6, 10**

I

- in-place restore, defined **41**

L

- logging in to vCloud Air **9**

M

- maximum number of virtual machines **16**
- monitoring of virtual machine, introduction **27**
- My VMware, order Data Protection Service **37**

O

- Offline Data Transfer Service **35**
- out-of-place restore
 - defined **41**
 - for expired vApps **41**

P

- password
 - changing your own **10**
 - reset **62**
- portals, introduction **8**
- power operations, during backups **37**
- preface **5**
- privileges by role **59**
- purchasing additional capacity **6**

R

- regions
 - select **10**
 - set default **10**
- reporting **37, 40**
- restore, ways to **41**
- restore points
 - deleting **46**
 - retention **38, 40**
- role
 - administrator **59**
 - end user **59**

S

- self service mode **38, 43**
- service tiers **6**
- signing in to vCloud Air **9**
- snapshot
 - creating **57**
 - delete **58**
 - introduction **57**
 - revert **57**
- SSD-Accelerated Storage **49**
- Standard Storage **49**

- storage
 - adjust for a virtual machine **54**
 - definition **49**
 - manage in virtual data center **53**
 - migrate disks **55**
 - overview **49**
- storage calculations **40**
- subscriptions **6**
- support request, filing **59**
- support requests, filing **65, 66**

T

- technical support
 - contact information **65**
 - file a support request **66**
 - introduction **65**
- tiers, storage **49**
- traffic latency, avoiding **38**

U

- user management, introduction **59**
- users
 - adding **60**
 - assign to a virtual data center **60**
 - deleting **63**
 - editing **62**

V

- vApp
 - data protection policy **43**
 - deleted restore **45**
 - restore points **45**
- vCloud Air
 - adding capacity **6**
 - Disaster Recovery Service **47**
 - introduction **6**
- vCloud Air classes of service **6**
- vCloud Connector **35**
- vCloud Air Networking Guide **19**
- vCloud Director, browser requirement **9**
- vCloud Director API **8**
- virtual data center
 - default data protection policy **42**
 - locking **15**
 - update policy **43**
 - view details **13**
- virtual machines
 - adjust storage **54**
 - migrate disks **55**
- virtual data centers
 - allocate resources **14**
 - basics **11**
 - create **12**
 - deleting **16**

- describing **16**
- limiting number of virtual machines **16**
- manage storage **53**
- naming **16**
- unlocking **16**
- virtual machine
 - accessing the console **34**
 - adding from a template **22**
 - advanced management **33**
 - console browser requirement **9**
 - CPU usage **27, 29**
 - creating without a template **33**
 - deleting **23**
 - edit details in vCloud Air **24**
 - edit details in vCloud Director **34**
 - introduction **21**
 - manage in a virtual data center **15**
 - memory usage **27, 29**
 - moving in bulk **35**
 - power on **23**
 - quota **16**
 - resetting **23**
 - restore **45**
 - suspending **23**
- virtual machine monitoring, introduction **27**
- Virtual Private Cloud service **6**
- VM Tools, install and use **24**
- VMware Tools, install and use **34**

W

- Web console, introduction **8, 9**