vCloud Hybrid Service Key Concepts

vCloud Hybrid Service 1.0

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EN-nnnnnn-00

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About vCloud Hybrid Service 1

VMware® vCloud® Hybrid Service™ is a dedicated, secure, production-grade cloud service operated by VMware, leveraging the trusted foundation of VMware vSphere®. The service offers on-demand provisioning and support for existing workloads as well as new application development, enabling your cloud to flex beyond your datacenter.

vCloud Hybrid Service allows you to quickly and securely deploy, provision, and manage virtual machines in a software-defined datacenter.

You should become familiar with the two options of service and the features and resources of vCloud Hybrid Service.

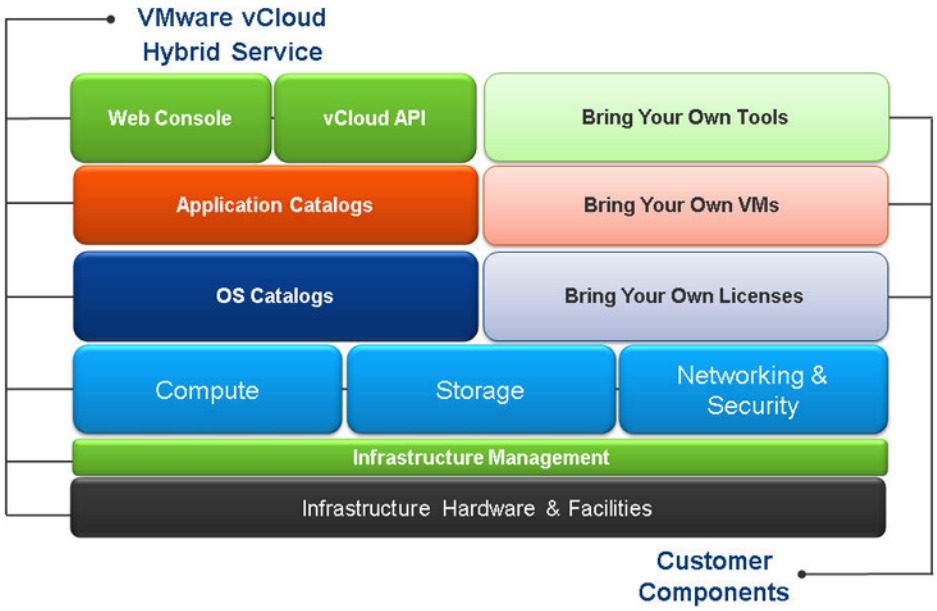
This chapter includes the following topics:

Ways to Access vCloud Hybrid Service

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

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

Figure 1-1. vCloud Hybrid Service and the Customer's Components



vCloud Hybrid Service Console Access

The vCloud Hybrid Service 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-administrator access to the API for programmatic resource management or workload migration.

Types of vCloud Hybrid Service

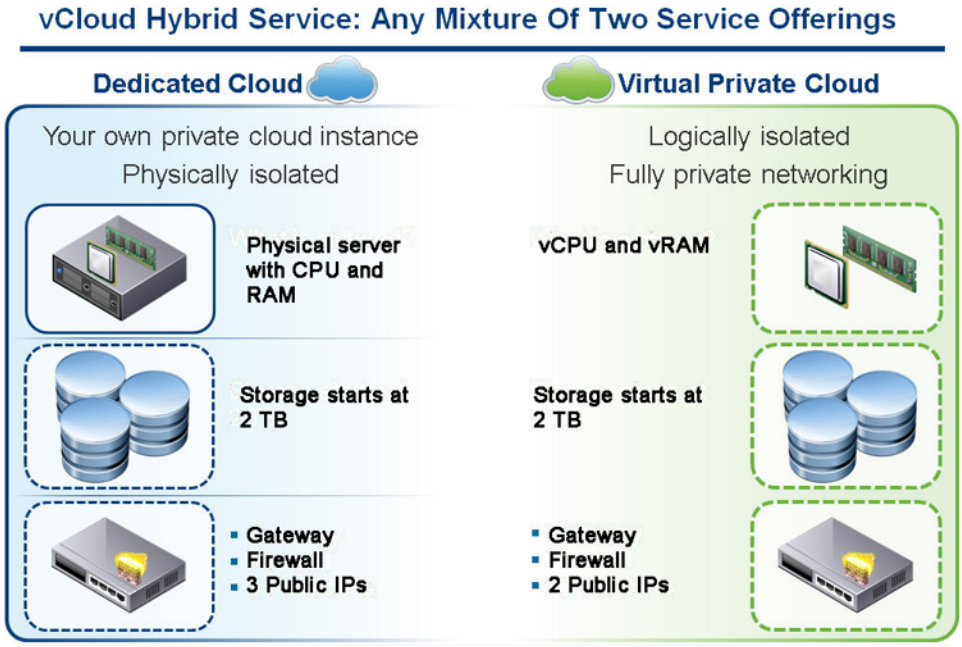
The vCloud Hybrid Service is available as the VMware vCloud® Hybrid Service Dedicated Cloud™, a single tenant virtual private cloud, and as the VMware vCloud® Hybrid Service Virtual Private Cloud™, a multi tenant virtual private cloud.

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 Hybrid Service interactions, and they can be individually created and managed. VMware vSphere® vApps® are visible along with their virtual machine associations through the vCloud Hybrid Service console, but can be created or managed only through vCloud Director.

Figure 1-2. vCloud Hybrid Service Offerings



Dedicated Cloud Service Option

The Dedicated Cloud service option 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 1-1. 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

Virtual Private Cloud Service Option

The Virtual Private Cloud service option 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 1-2. Virtual Private Cloud Core Capacities

Capacity	Service Component
20GB vRAM, 5GHz vCPU (burst to 10GHz)	Compute
2TB	Storage
10Mbps	Bandwidth

Table 1-2. Virtual Private Cloud Core Capacities (Continued)

Capacity	Service Component
2	Public IP addresses
24 x 7 x 365	Production support

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 complete information visit the VMware vCloud Web page at http://vcloud.vmware.com.

vCloud Hybrid Service User Management

Administrators add new users in vCloud Hybrid Service 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.

User Privileges by Role

A user in vCloud Hybrid Service can either be an administrator or an end user. Administrator privileges are grouped into specific administrator roles. The same individual can be assigned one or more of the 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 and data protection. 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.

Network administrator	Network administrators can manage networks and gateways. Network administrators can also view virtual data centers, virtual machines, activity logs, and users.
Subscription administrator	Subscription administrators can manage user accounts in My VMware and have permissions to file support requests. Subscription administrators can also view virtual data centers, virtual machines, gateways, networks, activity logs, and users. Assigning users the subscription administrator role in vCloud Hybrid Service creates a My VMware account for them, or if users already have an account, they are granted permissions to file support requests.
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 and manage data protection for virtual machines.
- Delete virtual machines from the virtual data center.

Important Information 2

This section provides some general information.

For more detailed information, refer to the *vCloud Hybrid Service User Guide*.

This chapter includes the following topics:

Key Terminology

Before you start using vCloud Hybrid Service, become familiar with key terminology and definitions.

A-F

catalog Used for storing content. Each organization has its own catalog to which users can add templates and share content with other users. Using vCloud Director, ISO media files can also be uploaded and shared via catalogs.

CPU resources Virtualization of CPU (vCPU) adds varying amounts of overhead depending on the percentage of virtual machine workload that can run in direct execution, and the costs of virtualizing the remaining instructions that cannot be directly executed. The amount of available CPU therefore impacts performance.

Data Protection An optional data backup feature available for purchase that backs up virtual machines every 24 hours. You can restore a virtual machine using its backup image by working with Technical Support.

G - L

gateway Provides a routed connection between a virtual data center's network and an external network. It can provide network services such as DHCP, firewall, NAT, VPN, static routing, and load balancing.

guest operating system An operating system that runs inside a virtual machine.

limits In vCloud Director, you can specify limits for an upper bound for CPU and memory resources that can be allocated to a virtual machine, but you might waste idle resources. A virtual data center can allocate more than the reservation to a virtual machine, but never allocates more than the limit, even if there are unused resources on the system. When the memory limit is unlimited, the default, the amount of memory configured for the virtual machine when it was created becomes its effective limit in most cases.

M - R

media file
Media refers to ISO images, such as boot and installation CDs or DVDs. Media can be uploaded or imported into a catalog in vCloud Director. A media image in a catalog can be attached to a vApp and mounted by a virtual machine.

memory resources
Virtual memory that is mapped to physical memory on a host.

My VMware
Your account management portal to manage entitlements, purchase new add-ons, and file support requests.

Network Address Translation (NAT)
Modifies the source/destination IP Addresses or packets arriving to and leaving from an edge gateway. SNAT or DNAT stand for source or destination network address translation.

network
In vCloud Hybrid Service, virtual connections between a virtual machine and other virtual machines, between a virtual machine and a virtual data center, and between a virtual data center and the host's physical network. These networks, like physical networks, require information about virtual machines such as machine names, IP, and VPN settings. Virtual data centers can use multiple networks.

Offline Data Transfer Service
An optional data migration service available for purchase that transfers large files from local information systems to vCloud Hybrid Service environments. VMware provides a physical storage device that you load with your data and then return to VMware. Upon receipt of the loaded storage device, VMware transfers the data for you.

OVF
Open Virtualization Format (OVF) packages are based on the Open Virtualization Format Specification. OVF is an industry standard format that describes metadata about virtual machine images in XML format. OVF facilitates the use of vApps. If you upload an OVF file that includes OVF properties for customizing its virtual machines, those properties are preserved in the vApp template.

quotas
How many virtual machines can be stored and powered on in the virtual data center.

regions
Distinctly separate geographic areas. You select a region or regions when you purchase cloud services. Regions enable you to run workloads closer to your business specific customers or comply with various regulations and other legal requirements. Multiple regions can also enable redundancy of your data or workloads.

S - Z

snapshot	A reproduction of the virtual machine just as it was when you took the snapshot, including the state of the data on all the virtual machine's disks and the virtual machine's power state (on, off, or suspended). You can take a snapshot when a virtual machine is powered on, powered off, or suspended. You can revert the configuration or virtual machine to a snapshot.
storage	In vCloud Hybrid Service, a block level persistent storage capacity allocation, enabling custom and flexible storage resource distribution and management at the virtual machine layer within a virtual data center. In the vCloud Hybrid Service user interface, storage is displayed as the SSD-Accelerated tier.
template	A virtual machine image that is loaded with an operating system, applications, and data. A template can be created from a vApp in vCloud Director.
vApp	A preconfigured virtual machine in vCloud Director that packages applications and parameters that define operational details. A vApp packages applications with their required operating system.
vCloud Hybrid Service Customer Success Team	Subscription Service Representatives for vCloud Hybrid Service customers who welcome new customers into the service and coordinate onboarding activities. Representatives also work with customers ongoing to help fully utilize the service and act as liaison for necessary VMware resources.
virtual data center	A logical construct that provides compute, network, and storage resources to an organization. Virtual data centers provide an environment where virtual machines can be created, stored, and operated, enabling complete abstraction between the consumption of infrastructure service and underlying resources. Data centers also provide storage for virtual media.
virtual machine	A software computer that, like a physical computer, runs an operating system and applications. Virtual machines can be treated like physical computers, for example, powered on and off, reset, backed up, and more.
VMware vCloud Connector	A virtual appliance that allows you to extend compute capacity and visibility from vSphere or vCloud Director to private and public clouds. It also allows access and use of vApps and templates in private and public clouds, and copying of virtual machines, vApps, and vApp templates between vSphere and private and public clouds.
VMware vCloud Director	A Web console that provides access to your virtual data center's catalogs, templates, and virtual machines in order to perform advanced management tasks.
VMware Global Services	VMware technical support teams, including Technical Incident Engineers and Solutions Architects. Technical Incident Engineers act as main technical contact and maintain ownership of support requests, engaging other VMware teams where necessary. Solutions Architects are in-depth and experienced technical consultants handling the design and implementation of complex customer scenarios and the resolution of more demanding technical issues within the vCloud Hybrid Service environment.

VMware Tools	A suite of utilities that enhances the performance of the virtual machine's guest operating system and improves management of the virtual machine.
VMware vSphere High Availability	An optional feature that supports distributed availability services in an environment that includes ESXi and vCenter. If VMware Distributed Resource Scheduler™ is configured and one of the hosts that vCenter Server manages becomes unavailable, all virtual machines on that host are immediately restarted on another host.

Supported Browsers for vCloud Hybrid Service

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

vCloud Hybrid Service Console Browser Requirements

The following browsers are supported in the vCloud Hybrid Service 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 the vCloud Director documentation at http://pubs.vmware.com/vcd-51/topic/com.vmware.vcloud.install.doc_51/GUID-71CD8265-A306-49B7-8190-8C0CBF8CEE0D.html.

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 Hybrid Service customers. They work to resolve any and all technical issues experienced when utilizing vCloud Hybrid Service. 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 Hybrid Service customers. Solutions Architects handle the design and implementation of complex customer scenarios within the vCloud Hybrid Service 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 Hybrid Service 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.

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