Helping Customers Move Workloads into the Cloud

A Guide for Providers of vCloud® Powered Services

TECHNICAL WHITE PAPER

vmware®

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Introduction

Today, many IT organizations utilize VMware® vSphere™ to virtualize their enterprise infrastructure or create private clouds with VMware vCloud Director™. As enterprises look for ways to contain costs, many are turning to public clouds in order to reduce their IT infrastructure footprint or expand a private cloud with additional resources. Unfortunately, many public cloud offerings require customers to adopt proprietary and incompatible packaging, making it difficult, time-consuming, and expensive for customers to make the transition. The VMware cloud computing approach—made possible by sophisticated and readily available automation, provisioning, management, and virtualization technologies—gives cloud service providers the ability to offer on-demand infrastructure that is consumed as a service.

Unlike other public cloud offerings that require customers to adopt proprietary and incompatible packaging, VMware vCloud Powered™ public clouds are based on the same VMware technology that companies already use every day in their virtualized environments. As a result, service providers that deploy public or hybrid clouds based on VMware technology can tap into an extensive customer base that has the technology in place to integrate with a vCloud Powered public cloud. Because VMware solutions are designed to work together, customers are assured an easy and smooth transition. They can use the tools with which they are already familiar to quickly and easily migrate workloads into the cloud—with just a few simple clicks in an intuitive interface.

This white paper reviews the capabilities of VMware vCloud™ Connector, and the common use cases for interacting with the software to move workloads from private, virtualized environments into hybrid or public cloud environments. It then illustrates the simplicity and ease with which customers can move workloads into a vCloud Powered cloud. As this document is intended only to provide guidance and an overview of the process, readers should refer to the Using vCloud Connector guide for detailed technical information.

About VMware® vCloud™ Connector

VMware vCloud Connector makes it easy to integrate existing infrastructure with public clouds. Built upon VMware vSphere and vCloud APIs, vCloud Connector allows customers to connect VMware vSphere or VMware vCloud Director-based private and public clouds and manage them under a single interface. With this plug-in, workloads can be transferred between private, public, and hybrid clouds in a seamless and reliable manner— without modifying the operating environment—to take advantage of additional infrastructure capacity (Figure 1). Users can view, copy, and operate on workloads, including virtual machines and templates, across internal datacenter and private or public clouds—and retain the freedom to move applications back into the private datacenter when desired.
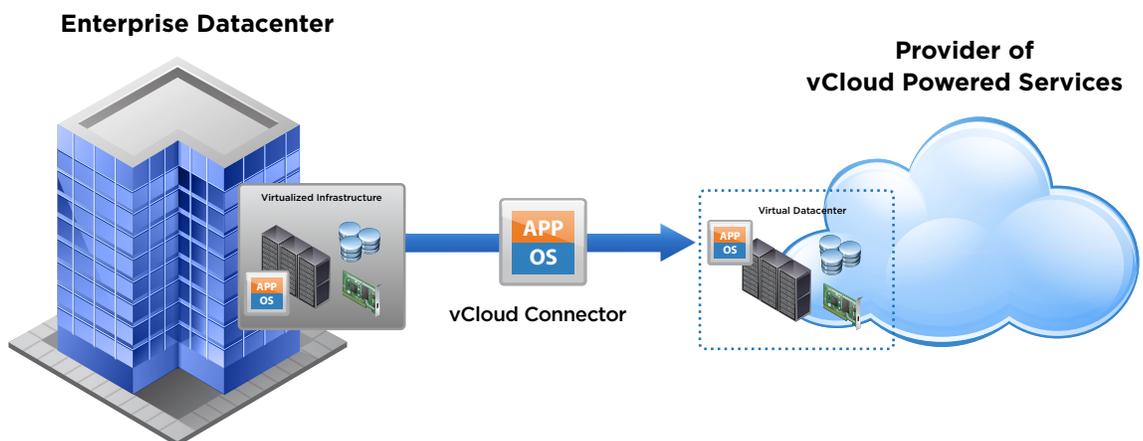
Figure 1. vCloud Connector makes it easy to move workloads from private virtualized environments into a public or hybrid cloud.

By using vCloud Connector to access vCloud Powered clouds, customers can:

• **Extend the logical boundaries of the datacenter**
vCloud Connector enables IT organizations to move virtual machines, vApps, and templates from private vSphere environments to a public cloud to free up on-premise datacenter resources. By taking advantage of public cloud resources, IT organizations can create a flexible, interoperable service delivery model while preserving control over virtual infrastructure resources.

• **Simplify management**
Using vCloud Connector, companies can visualize and operate on resources across vSphere deployments and vCloud Powered clouds. Through a single pane of glass, IT organizations can operate on workloads, manage virtual machines and vApps, deploy templates, perform power operations on workloads, access virtual machine consoles, add clouds to the environment, and more.

• **Consume public cloud resources with confidence**
Because vCloud Powered clouds are based on proven VMware technology with which they are already familiar, companies can run development, quality assurance (QA), and production workloads on VMware technology-based public clouds with confidence.

Use Cases

Two intuitive interfaces are available to help users move workloads out of a private vSphere or vCloud Director virtualized environment into a vCloud Powered cloud. A plug-in makes the vCloud Connector client accessible through the vSphere Client interface. Alternatively, users can access a Web-based version of the user interface at vcloud.vmware.com using a standard Web browser.

Prerequisites
To get started, VMware vCloud Connector must be deployed through the VMware vSphere Client or the vCloud Director client interface. As the VMware vSphere administrator, download the software from the VMware Web site. Prior to use, the vCloud Connector software must be installed and configured, including configuring vCloud Connector Server, installing vCloud Connector Nodes, and registering the nodes and user interface so they appear in the vSphere Client or on vcloud.vmware.com. See the Installation and Configuration guide for vCloud Connector for detailed information on software installation and configuration.

Working with the vCloud Connector Client

After the vCloud Connector software is installed and configured, the vCloud Connector graphical user interface (GUI) can be accessed through the vSphere Client or through vmware.cloud.com, depending on how the software was installed.

Accessing vCloud Connector with the vSphere Client

If vCloud Connector is registered with the vCenter Server to which the vSphere Client is pointing, vCloud Connector acts as a client plug-in and can be accessed from the vSphere Client. It is located in the Solutions and Applications section on the Home page (Figure 2).
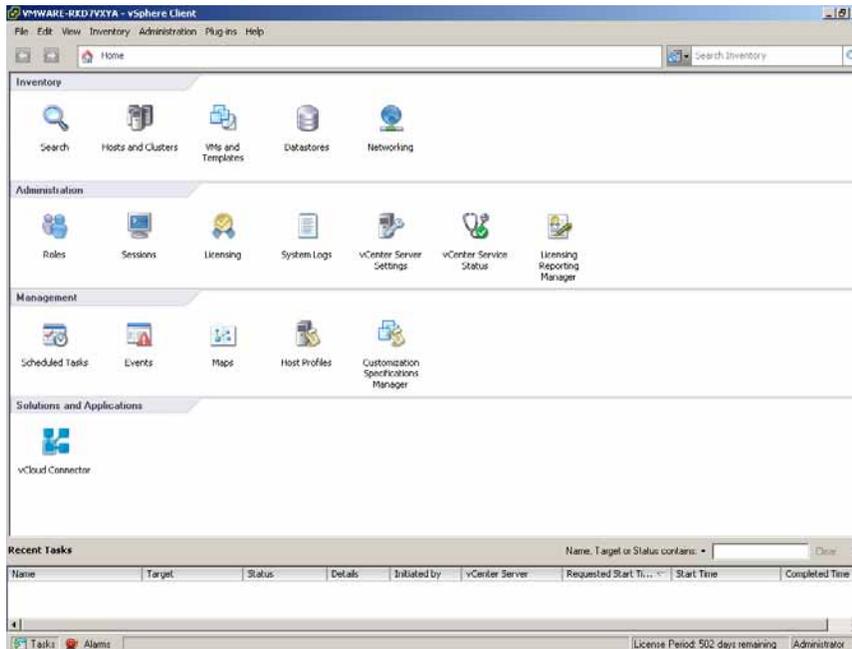
Figure 2. The vCloud Connector user interface can be accessed from the vSphere Client.

Gaining Access to the Cloud

Before workloads can be moved, the cloud must be made available to vCloud Connector and added to the available cloud list. In the vCloud Connector window, simply add a cloud by selecting the name of cloud that is registered with the vCloud Connector Server, and enter the administrative username and password (Figure 3). The cloud is added to the cloud list, enabling workloads to be moved into the cloud when needed.
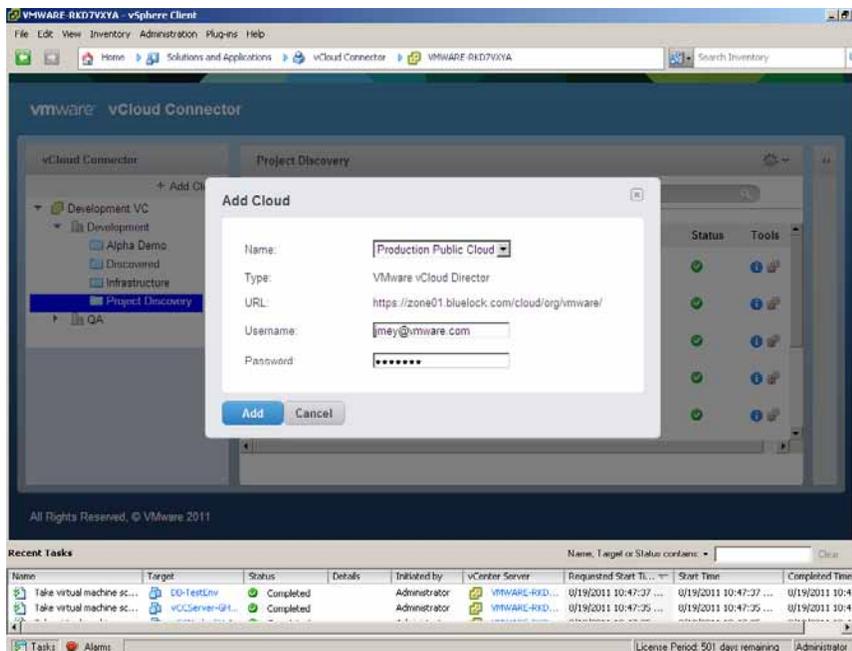
Figure 3. Adding a cloud requires simply selecting from a list of registered clouds.

Moving Workloads into the Cloud

Moving an existing workload from private, enterprise infrastructure into a public or hybrid cloud is as easy as selecting a workload—virtual machine, vApp, or template—and copying it to the cloud. First, power off the virtual machines and vApps to be moved to the cloud. Log in to vCloud Connector and select the virtual machines or vApps to be moved. Select Copy to begin the process (Figure 4).
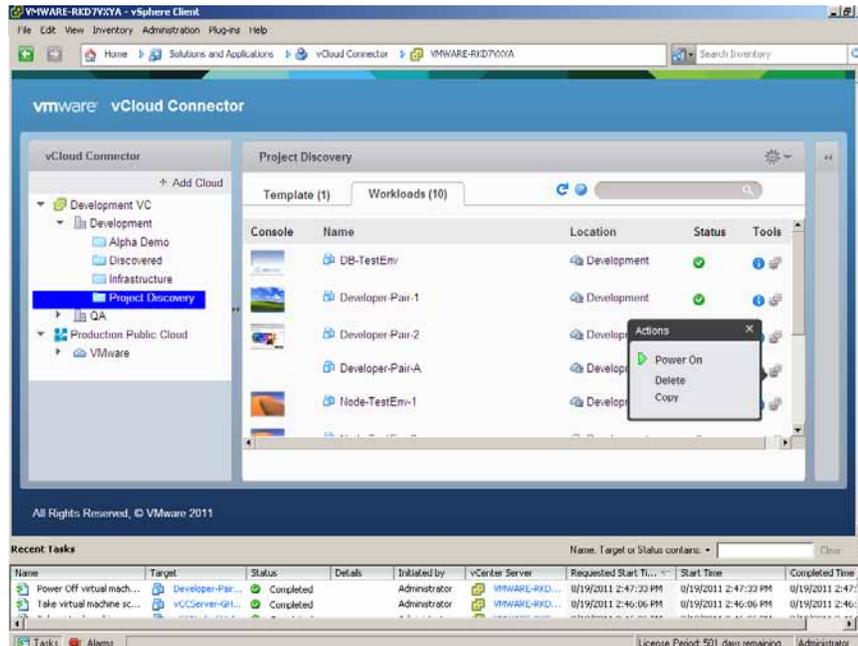
Figure 4. Start the copy operating by selecting the workloads to be moved to the cloud.

Next, identify the cloud to which the workloads should be moved. Specify a vApp template name and description (Figure 5). If the source location is a vCloud Director cloud and the target is a vSphere cloud, additional items must be specified, including the Source Catalog, cluster or host, resource pool, and datastore for the new instance.
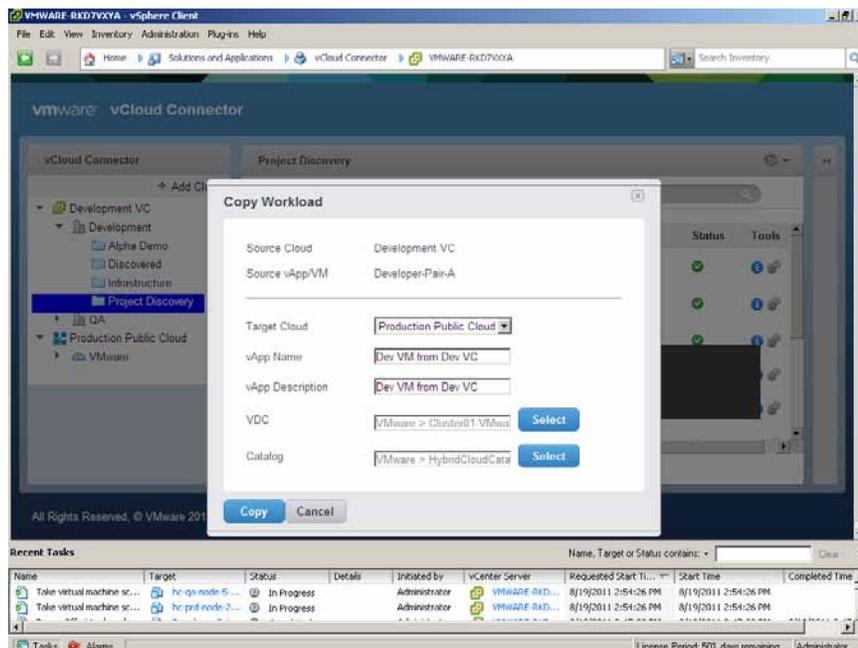
Figure 5. Identify the target cloud for the workload migration.

Next, copy the workload to the cloud. A progress indicator displays the copy status. After the copy operation completes, the workload is listed in the Completed section of the Tasks pane. The original workload can be deleted from the source infrastructure, if desired. Finally, power on the virtual machines and vApps to enable them to be used.
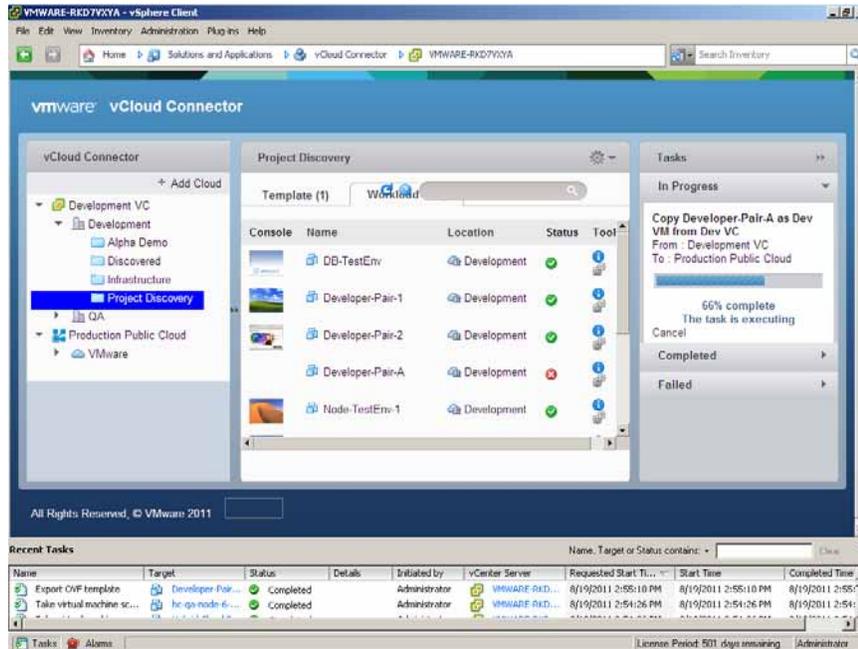
Figure 6. Copy the workload to the cloud.

Working with a Browser Interface

If vCloud Connector is registered with the vcloud.vmware.com website, the vCloud Connector user interface can be accessed over the Internet using a standard Web browser. First, go to vcloud.vmware.com and log in using the vmware.com store account associated with the VCloud Connector user interface during registration.

Adding a Cloud

A cloud must be made available to the system in order for workloads to be copied to it. In the vCloud Connector window, simply add a cloud by selecting the name of cloud that is registered with the vCloud Connector Server, and enter the administrative username and password (Figure 7). The cloud is added to the cloud list, enabling workloads to be moved into the cloud when needed.
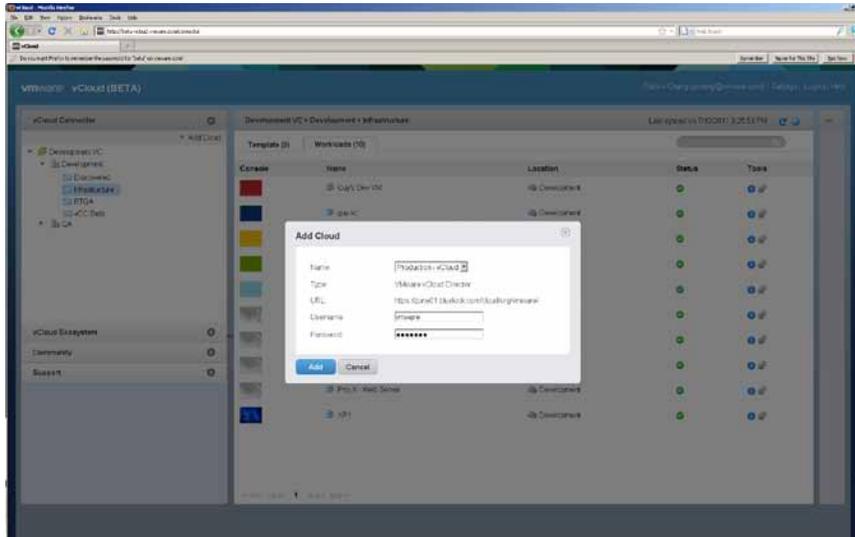
Figure 7. Add a registered cloud to the list of available clouds.

Moving Workloads into the Cloud

Moving an existing workload from private, enterprise infrastructure into a public or hybrid cloud is as easy as selecting a workload—virtual machine, vApp, or template—and copying it to the cloud.
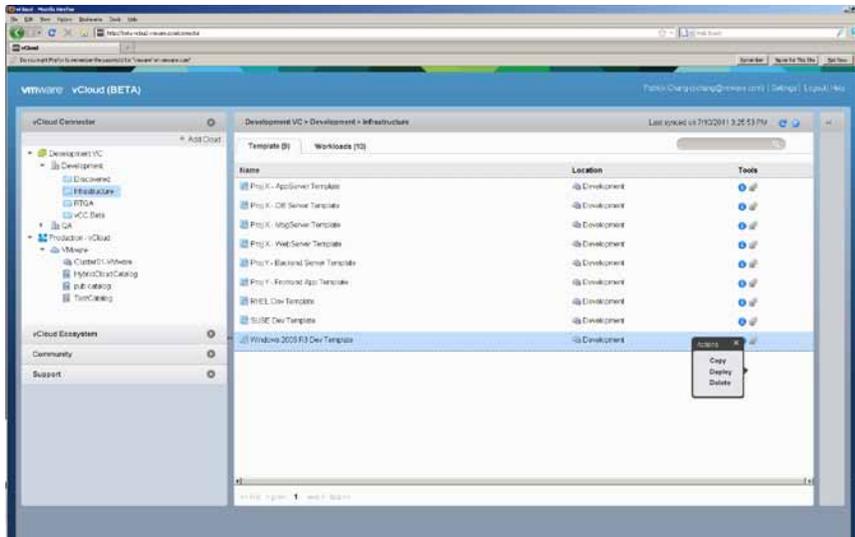
Figure 8. Select the workload to move to the cloud.

Next, identify the workload and the registered cloud (private, public, or hybrid) to which it should be moved (Figure 9). Specify a vApp template name and description. If the source location is a vCloud Director cloud and the target is a vSphere cloud, additional items must be specified, including the Source Catalog, cluster or host, resource pool, and datastore for the new instance.
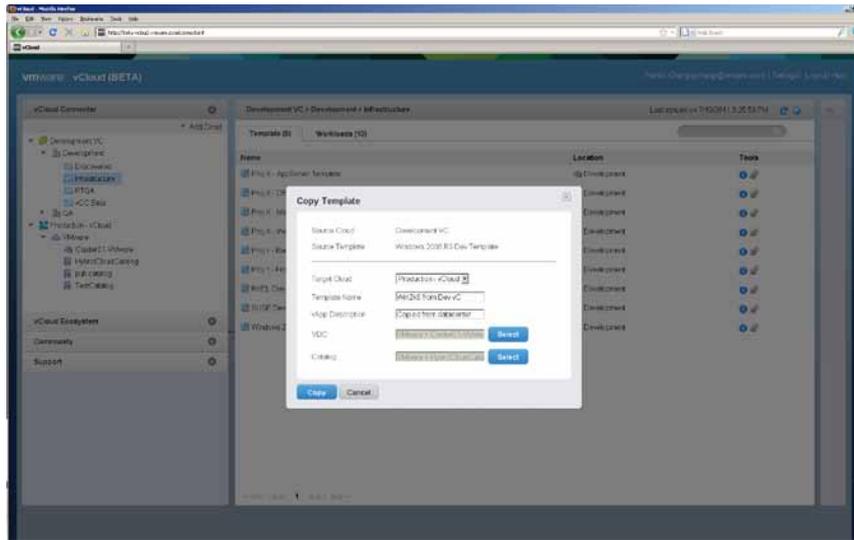
Figure 9. Identify the workload and start the copy operation.

Next, copy the workload to the cloud. A progress indicator displays the copy status (Figure 10). After the copy operation completes, the workload is listed in the Completed section of the Tasks pane. The original workload can be deleted from the source infrastructure, if desired. Finally, power on the virtual machines and vApps to enable them to be used.
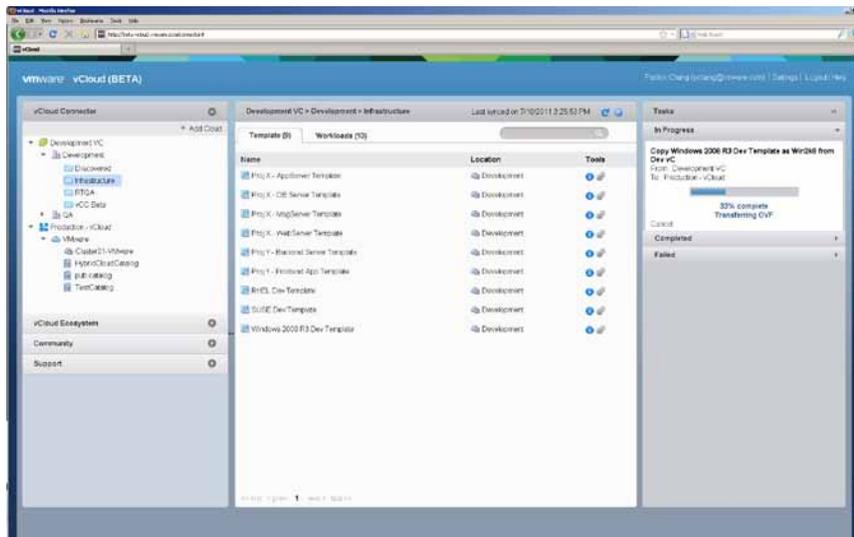
Figure 10. Copy the workload to the cloud.

Conclusion

As enterprises look to add infrastructure capacity, they are demanding the flexibility, scale, and price-performance of cloud providers—but do not want to replace legacy applications, perform cumbersome migrations, or retool, recode, and retest business-critical applications. Providers of vCloud Powered services are in a unique position to help. By offering secure clouds that complement private VMware-based cloud infrastructure, providers of vCloud Powered services can offer customers seamless access to public or hybrid clouds without modification to the existing environment or applications. With the ability to tap into the numerous organizations that already use VMware virtualization technology, providers of vCloud Powered services can accelerate growth opportunities and gain broad access to enterprise cloud computing spending.

Next Steps

Additional Documentation

For more information about VMware vCloud Connector, please visit the product page at http://www.vmware.com/products/datacenter-virtualization/vcloudconnector/overview.html.

For detailed information on using VMware vCloud Connector, refer to the Using vCloud Connector guide.

VMware Contact Information

For additional information or to purchase VMware vCloud Connector, VMware's global network of solutions providers is ready to assist. If you would like to contact VMware directly, you can reach a sales representative at 1-877-4VMWARE (650-475-5000 outside North America) or email sales@vmware.com.
When emailing, please include the state, country, and company name from which you are inquiring.

Providing Feedback

VMware appreciates your feedback on the material included in this guide, and in particular, would be grateful for any guidance on the following topics:

How useful was the information in this guide?

What other specific topics would you like to see covered?

Please send your feedback to vcloudpowered@vmware.com. Thank you for your help in making this guide a valuable resource.

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