VMWARE vCLOUD AVAILABILITY
for vCloud Director

Solutions Overview

Q. What is VMware vCloud Availability for vCloud Director?

A. VMware vCloud® Availability for vCloud Director® enables vCloud Air™ Network service providers to offer simple, cost-effective cloud-based disaster recovery and migration services that seamlessly support their customers' vSphere® environments.

This solution is designed expressly for VMware service providers to be easy to operate and to integrate with their existing VMware cloud environments. Only service providers in the vCloud Air Network can purchase this solution from VMware; Enterprise customers must consume this offering from a vCloud Air Network service provider who is offering this service from their cloud.

Q. What Disaster Recovery as a Service (DRaaS) use case does VMware vCloud Availability for vCloud Director support?

A. VMware vCloud Availability for vCloud Director supports the replication, failover, and failback of on-premises vSphere VMs to a vCloud Air Network service provider's multi-tenant cloud (running on VMware vCloud Director®).

Packaging & Pricing

Q. For service providers: How is VMware vCloud Availability for vCloud Director packaged and how may it be purchased?

A. vCloud Availability for vCloud Director is available by subscription to service providers in the vCloud Air Network program. Detailed information is available in the vCloud Air Network Program Guide at http://www.vmware.com/partners/service-provider.html.

Q. What is the VM migration feature?

A. Virtual machines that are replicated to the cloud can be failed over and then disconnected from the replication service. This provides a predictable way to synchronize and migrate virtual machines without disruption.

Q. For Enterprise Customers: How is VMware vCloud Availability for vCloud Director packaged and how may it be purchased?

A. Enterprise customers must consume this offering from a vCloud Air Network service provider who is offering this service from their cloud. All prices for these services will be quoted by the vCloud Air Network service provider.

Q. How is migration performed?

A. Protected virtual machines that are being replicated to the cloud can be disconnected from the replication service by the tenant using a 'Disconnect' button on the vCloud Availability Portal hosted on the service provider.

Q. I am a service provider and am not currently enrolled in the vCloud Air Network program – can I purchase this product directly from VMware?

A. You must be enrolled in the vCloud Air Network program in order to purchase vCloud Availability for vCloud Director. To learn more about the vCloud Air Network, please visit http://www.vmware.com/partners/service-provider.html

Q. Is vSphere Replication on the enterprise customer premises required for vCloud Availability for vCloud Director?

A. Yes. The VMware vSphere Replication™ appliance is needed for vCloud Availability for vCloud Director and is the same one that comes included with VMware vSphere Essentials Plus Kit and higher editions of VMware vSphere, VMware vSphere with Operations Management™ editions, and VMware vCloud Suite® editions.

Q. Are there any special or additional licensing costs for VMware vSphere Replication?

A. VMware vSphere Replication is included, without additional cost, in the following versions of vSphere: VMware vSphere Essentials Plus Kit and higher editions of VMware vSphere, VMware vSphere with Operations Management editions, and VMware vCloud Suite editions.

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Minimum Requirements

Q. For service providers: what are the requirements for vCloud Availability for vCloud Director?

A. For system requirements and interoperability, see vCloud Availability for vCloud Director documentation.

Q. For enterprise customers: what are the requirements for vCloud Availability for vCloud Director?

A. For system requirements and interoperability, see vSphere Replication documentation.

Service Deployment

Q. Does vCloud Availability for vCloud Director require an agent to be installed on the ESXi hosts at the primary site?

A. No, vCloud Availability for vCloud Director is agentless.

Q. How are VMs initially replicated to the cloud?

A. There are two models for the initial replication:

- Online replication: VM continues to run while the replication occurs.
- Offline data transfer: VM or workload is copied over to a storage disk and shipped to the vCloud Air Network service provider.

Q. How is the product installed in the provider data center?

A. The vCloud Availability installer is a software appliance that is deployed to an ESX Server. The appliance command line interface provides commands to install all solution components in a variety of vCloud Director deployment configurations.

Q. Is the transmission of replication data secure?

A. Yes, vCloud Availability uses Transport Layer Security to provide secure transmission of replication data between vCloud Availability components in the cloud and between the tenant and the cloud. TLS 1.0, 1.1 and 1.2 are supported, TLS 1.2 recommended.

Disaster Declarations, Failover, Failback

Q. What is the process for declaring a disaster?

A. The process for disaster declaration is specific to the vCloud Air Network service provider.

Q. How is a failback supported with the service?

A. vCloud Availability for vCloud Director performs failback by using reverse replication. By following the same steps used to enable replication to the cloud, you can easily replicate from the cloud to your on-premises data center, then initiate a controlled failover and resume running your workloads on-premises.

Q. Can I failover to more than one previous point in time?

A. Yes. With the multiple point in time feature, you have the ability to failback up to 24 previous replication points. For example, if your RPO is set at 24 hours, you can failback up to 24 days. This is extremely useful if your workload has suffered data corruption and you need to resume running at a previous point of time in the cloud.

Q. Can I automate the failover order of my disaster recovery virtual machines?

A. Yes. By leveraging VMware vRealize® Orchestrator™ you can install a plug-in and create workflows that allow you to automate the full fail over. For example, you could create a simple workflow that would power on virtual machines in a particular order. This is extremely useful if you are protecting multiple tiered application workloads.

Q. What are the network requirements for bandwidth and round trip time (RTT)?

A. There are a number of factors that make it difficult to recommend standard network requirements. Key considerations include:

- The number of virtual machines (VMs) being replicated.
- The state of the VM replications, for example concurrent full sync mode vs. delta mode once the first synchronization has been completed.
- The capacity and latency of on-premises networks. Network bandwidth requirements may also increase if all storage is network-based on both sides, because data operations between host and storage may utilize the same network.

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- The number of cloud proxies deployed and the number of tenants.
- The data change rate of the protected VMs. Change rate is key to network requirements and all RPO calculations. For example, consider a daily data change rate of 10% for the protected VMs. If a protected VM has 1 TB of disk storage, the set of blocks to transfer will be around 100 GB. Change rate will not immediately impact network utilization as vCloud Availability collects the changes on multiple blocks before sending them over the network. Estimations related to the data change rate must be as accurate as possible to guarantee quality of service.

The best guidance is to monitor network performance and RPO violations. If the network bandwidth has some constraints, the RPO will increase but replication will not stop. Networks should be configured and tuned to minimize RPO violations for the given replication workloads.

Q. How can the tenant trigger a failover without access to their data center?

A. The vCloud Availability Portal is hosted on the provider data center and provides tenants with self-service access to manage their protected workloads.

Q. How can a Service Provider manage tenant defined replications?

A. vCloud Availability day 2 operations can be performed using either the vCloud Availability Portal through the Admin View or using command line scripts that support maintenance automation.

Administrators can perform operations such as moving a tenant virtual machine replication to a different vSphere Replication Server, moving replication data to a different storage device and consolidating virtual machine snapshots.

Resources

Q. Where can I learn more about vCloud Availability for vCloud Director?

A. For more information, visit: http://www.vmware.com/products/vcloud-availability.html
Download: http://my.vmware.com/web/vmware/details?productId=595&downloadGroup=VCA4VCD101

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