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vCloud Automation Center Overview

VMware vCloud® Automation Center™ (formerly DynamicOps Cloud Automation Center) enables you to rapidly deploy and provision business-relevant cloud services across private and public clouds, physical infrastructure, hypervisors and public cloud providers. Acting as a service governor, it provides a cross-cloud “storefront” for infrastructure-as-a-service (IaaS), platform-as-a-service (PaaS) and desktop-as-a-service (DaaS) deployments. It empowers organizations to enforce business and IT policies throughout the service life cycle, helping them to transform virtualized environments into software-defined cloud datacenters.

Key features of vCloud Automation Center 5.1 help accelerate the delivery of business-relevant cloud services:

- **Personalized self-service** – Embraces the consumerization of IT by empowering users to request and manage their compute resources within established operational policies.
- **Unified cloud management** – Seamlessly spans multivendor private and public cloud technologies.
- **User-centric, business-aware governance** – Allows policy granularity that enables IT to deliver business-relevant cloud services to meet the diverse needs of the groups it supports.
- **Intelligent resource management** – Helps ensure higher utilization through placement, prevention and reclamation of resources across virtual and physical servers.
- **Extensible by design** – Offers a full spectrum of extensibility options that empower IT personnel to enable, adapt and extend their cloud to work within their existing IT infrastructure and processes.

VMware vCloud Automation Center contains the following new capabilities that empower IT to rapidly deploy scalable multi-vendor cloud services.

**VMware vSphere 5.1 Support**

vCloud Automation Center provisions and manages the complete life cycle of VMware vSphere® virtual machines from vSphere 3.5 through vSphere 5.1.
VMware vCloud Director Integration

Combined with VMware vCloud Director®, vCloud Automation Center can be used to deliver a comprehensive multiplatform hybrid cloud.

- vCloud Director simplifies infrastructure provisioning and management by allocating shared compute resources into virtual datacenters with preconfigured software-defined services.
- vCloud Automation Center acts as a service governor, enabling policy-based provisioning across VMware-based private and public clouds, physical infrastructure, multiple hypervisors and multivendor public cloud providers.

New in This Release
- Provisions vCloud Director vApps into preconfigured virtual datacenters
- Supports cloning of vApps from the vApp catalog
- Works with private as well as public-based vClouds provided by more than 150 VMware partners

Benefits
- Leverages the virtual datacenter and software-defined networking and storage services of vCloud Director
- Improves the self-service experience for users and expands user-centric governance
- Enables users to access VMware clouds and other cloud services through a single self-service portal

Figure 2. vCloud Automation Center Leverages the vCloud Software-Defined Virtual Datacenters
vCenter Orchestrator Integration

The vCloud Automation Center visual workflow designer allows administrators to adapt the standard process automation to rapidly integrate with existing tools, technologies and processes. From an activity library, administrators can add activities at various machine state transitions. These activities can be used to automate tasks—for example, retrieving information from an external database, generating a work-order ticket, running a script on the machine as it is being provisioned, updating a database, and several other tasks associated with automated delivery of cloud services. In addition, administrators can add new commands to the machine menu to enable ongoing management activities not supported by off-the-shelf automation.

New in This Release

• The vCloud Automation Center visual workflow designer provides a new activity (Invoke VCO Workflow) that can be inserted into the workflow stubs within the existing process automation.
• Users can then browse, filter and select plug-ins from the VMware vCenter™ Orchestrator™ activity library. In addition to the plug-ins provided by VMware, partner plug-ins are available on the VMware Solution Exchange, and users can quickly create custom plug-ins by using the vCenter Orchestrator Plug-in Software Development Kit.
• After selecting the vCenter Orchestrator plug-in, the user is prompted to define the appropriate input and output parameters.
What's New in VMware vCloud Automation Center 5.1

Benefits

- Significantly expands the vCloud Automation Center activity library
- Improves the ability to rapidly integrate with third-party deployment and management technologies as well as proprietary systems

Multimachine Service Management

A multimachine service is a compound service composed of multiple machines but provisioned and managed as a single entity. The most common example is a multitier application consisting of Web, application and database servers all interacting to deliver a common service or application. Although this is the most typical example, a multimachine service can consist of any combination of virtual, physical or public cloud machines that need to be provisioned and managed as a single entity.

Using the vCloud Automation Center self-service portal, users can request a service from a list of available cloud services that they are authorized to use. These services can be individual compute resources or multimachine services (see Figure 5). During the request process, the user can request a variable number of machines of each type or adjust the CPU, memory and storage resources within the minimum/maximum thresholds defined by the administrator. As part of the provisioning of a multimachine service, each machine is configured as well as the interaction among the machines.

Once a multimachine service has been provisioned, users and administrators can

- Manage it as a single entity (i.e., power on/off, reboot)
- Dynamically adjust resources (i.e., power on/off individual machines according to demand)
- Manage individual machines (i.e., delete or reconfigure individual machines)
Multimachine Service Policies
A multimachine service blueprint contains the policies that govern which component machines will be used to construct the compound service and that control how the service will be managed throughout its life. Administrators can define the component machines, minimum/maximum thresholds, startup/shutdown order, and the scripts or workflows that will be used to configure the interaction among component machines. The blueprint also defines which ongoing management functions can be performed against the multimachine service and who is allowed to perform them.

Benefits
• Streamlined provisioning and ongoing management of multimachine services
• Ability to dynamically adjust multimachine resources as needed to meet changing demand
• Ability to control which ongoing management functions can be performed and who is allowed to perform them
Reconfiguration of Existing Machines

The Reconfigure VM functionality of vCloud Automation Center allows an authorized user to adjust the CPU, memory, storage or network resources of an existing virtual machine. Users can make adjustments within the minimum, maximum and approval thresholds defined in the machine’s blueprint. The blueprint also defines which machines can be reconfigured, who is allowed to perform the task, how many resources can be consumed and at what service level they will be allocated from.

A user with virtual machine reconfiguration privileges can perform the following operations:

**CPU**
- Increase or decrease virtual CPU allocation.

**Memory**
- Increase or decrease memory allocation.

**Storage**
- Add or remove disks (cannot remove primary disk).
- Increase disk capacity.

**Network**
- Add or remove networks.

**Benefits**
- Self-service management of existing machines or multimachine services
- Policy-enforced governance to eliminate overprovisioning and optimize resource utilization

![Figure 7: Virtual Machine Reconfiguration Options](image-url)
Simplified Storage Management

In a machine's blueprint, vCloud Automation Center has always allowed the administrator to define how the storage will be configured into one or more volumes using custom properties. With this release, the process has been simplified through volume properties added directly in the blueprint. These policies describe how the overall storage allocated to a machine will be configured into individual disks during the initial provisioning process. An authorized user can make additional modifications later, using the Reconfigure VM functionality previously described.

New in This Release

• The volume information in the machine blueprint (see Figure 8) describes how one or more disks will be configured.
• The storage reservation policy describes the service level that the user will receive.

Figure 8. Volume Configuration Build Information

Benefits

• Simplified configuration of multiple disks and storage paths
• Ability to specify storage service levels for each disk configured
• Ability to specify the maximum number of volumes a user can configure as well as maximum capacity and approval thresholds

Additional Information

For more information, please visit the vCloud Automation Center product page.

To purchase VMware products, call 877-4VMWARE (outside North America, +1-650-427-5000), visit http://www.vmware.com/products or search online for an authorized reseller. For detailed product specifications and system requirements, refer to the VMware vCloud Automation Center installation and configuration guide.