What’s New with VMware vCloud Director 9.1

Feature Overview
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Manage and consume with Confidence

- Enhanced Tenant Portal
- HTML 5 Provider Portal
- Standalone VMRC
- User Interface Extensibility
- Service Integration
- Multi-site Management view
- SR-IOV (Single-Root input/output Virtualization)

FIPS Mode

Open up to Developers

- Python SDK and CLI

Summary

Additional Resources

About the Author
VMware vCloud Director (vCD) is the central Cloud Management and Orchestration platform within the VMware Cloud Provider Platform, enabling Service Providers to orchestrate the provisioning of software defined, modular, and ready for consumption Virtual Data Centers in a matter of minutes.

Version 9.1 of vCD adds features that leverage the features of server virtualization capabilities of VMware vSphere and the Software Defined Data Center (SDDC) functionality to offer Service Providers with a powerful platform for delivering Infrastructure as a Service (IaaS) solutions.
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VMware vCloud Director 9.1 features:

- HTML 5 Tenant and Administration Portal
- User Interface Extensibility
- Orchestration Services
- Python SDK and CLI
- Multi-Site View
- SR-IOV (Single-Root Input/output Virtualization)
- FIPS Mode
- Standalone VMRC

Manage and consume with Confidence

Enhanced Tenant Portal

With the vCloud Director 9.1 release, a new enhanced tenant portal view has been included. This gives consumers of the IaaS cloud offering access to a new dashboard, with vAPP and catalog management capabilities. This enhanced portal provides native OVF/OVA upload and download built-in without the need for browser extensions. The final feature of the enhanced tenant portal is the standalone VMRC for console access, which replaces the current Client Integration plugin, greatly enhancing the tenant/consumer experience of the IaaS offering.
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HTML 5 Provider Portal
VMware vCloud Director 9.1 includes a dedicated HTML 5 provider portal where administrators of the IaaS environment can manage all the system resources and configurations of vCloud Director from an easy to access web portal. In previous versions of vCD, the provider portal was provided using Flex within a web browser. This could become problematic and was not suitable for long term management of a cloud platform. The HTML 5 Provider Portal is easily adoptable due to its consistency with web standards. In this release a new organization management provides further tenant administration capabilities. The FLEX administrator portal is still available for in-depth configuration requirements.

Standalone VMRC
VMware vCloud Director provides the capabilities to access virtual machine consoles from within the tenant and provider portals. This allows the user or the administrator of the service the ability to manage and control the virtual machine guest operating system. In vCloud Director 9.0, the tenant portal supports HTML VM console with built-in support from modern browsers. vCloud Director 9.1 now adds support for standalone VMware Remote Console. Standalone VMRC provides more functions such as broader keyboard input types. This significantly improves access to the Virtual Machine consoles and gives greater flexibility over accessing the Virtual Machines. Please note that vSphere Client Integration Plugin is not supported on HTML5 tenant portal.

User Interface Extensibility
VMware vCloud Director 9.1 includes the capability to allow a Cloud Provider to extend the Tenant Portal with third party plugins with a pluggable framework. As an example, this allows a service provider to build into the IaaS offering the ability to create tickets on demand from consumers using the offering. UI extensibility SDK and documentation will be published so that ISVs, cloud providers or system integrators can integrate third party UIs into vCloud Director. In the screen shot below you can see an example how a ticketing system developed in-house by the cloud provider can be incorporated into the single pane of glass with the vCloud Director tenant portal.
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Service Integration

With the release of vCloud Director 9.1 Service Integration empowers administrators to quickly allow administrators to create workflows using vRealize Orchestrator which can then be easily published within vCloud Director. When workflows are designed the designer can create any parameters that are needed to run the workflow and vCloud Director will natively render these to the service consumer. This can be a simple input box for data input or complex scenarios like presenting a list of virtual machines.

To easily integrate the vRealize Orchestrator workflows into vCloud Director, it is simply a matter of registering the external vRO server, by using the new HTML 5 provider portal.

Once the vRO server is registered it is then possible to create Service Categories. Service Categories allow
an administrator the ability to group workflows depend upon particular service requirements.

The administrator can import workflows from vRO through the import option. An administrator simply clicks the import workflow button, selects the vRO instance, and then chooses all the workflows they would like to import.
Once imported, these workflows can then be presented to the consumer through the new user interface.

**Multi-site Management view**

VMware vCloud Director 9.1 provides the ability to manage multiple vCloud Director sites through a single aggregate view.
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This Single Pain of Glass view provides a view of the entire cloud environment, with intuitive navigation across sites as well as virtual data centers. Built into this view is a new enhanced search allowing for service providers to easily find objects and resources, providing improved cloud resource navigation, and giving a quick glimpse into the state of the cloud environment.

SR-IOV (Single-Root input/output Virtualization)

In virtualization, single root input/output virtualization or SR-IOV is a specification that allows the isolation of the PCI Express resources for manageability and performance reasons. With the release of vCloud Director 9.1 any SR-IOV enabled workload is fully supported. The configuration is done per virtual machine from within vCenter itself, but vCloud Director will not affect the workload configuration.
FIPS Mode

vCloud Director 9.1 supports FIPS mode when using NSX 6.3.2 or later, to provide FIPS 140-2 compliant networking functions. vCloud Director 9.1 exposes the FIPS mode of NSX edge service gateways to tenants. Cloud provider has system wide control to provide FIPS mode function. Once that's enabled per vCD instance, provider administrator can create an edge service gateway with FIPS mode which restricts cypher suites used for IPsec VPN and SSL VPN to those compliant with FIPS.
VMware vCloud Director 9.1 new features provide greater focus on the devops requirements of a service provider. A service provider can now rapidly deploy IT services with SDK and programmatic interfaces, attracting tenant programmers to build custom experiences for users, while retaining control and preserve compliance with an open and consistent environment.

Python SDK and CLI
VMware vCloud Director 9.1 now includes SDK facilitates automation with Python. The vCloud Director Command Line Interface (CLI) allows system administrators and tenants to perform operations from the command line with full support for the Service Provider administrators and the tenant operations from consumers of the IaaS offering. The following URLs can be used to retrieve sample scripts and examples:

- Python SDK [https://vmware.github.io/pyvcloud/](https://vmware.github.io/pyvcloud/)
- vCloud Director CLI [https://vmware.github.io/vcd-cli/](https://vmware.github.io/vcd-cli/)

The new vcd-cli allows systems administrators and tenants to perform operations from the command line.
with full support for service provider and tenant operations. This provides simplified vCD integration, while offering operational convenience through automation. An Open source SDK and CLI have been designed to quickly incorporate contributions and fixes from VMware and other third-party vendors.

Summary

VMware vCloud Director 9.1 adds new features and functionality to enable service providers to more quickly deliver differentiated, enterprise-class cloud solutions. vCloud Director 9.1 is integrated with vSphere 6.5 for a robust IaaS platform, it enables tenant users to deploy their own virtual data centers using organizational templates customized to their needs, and it optimizes tenant resource allocation with easily configured throttling limits.

Additional Resources

For more information about the VMware vCloud Director software solution, visit the product pages at http://www.vmware.com/products/vcloud-director/overview.html.

Access the documentation for vCloud Director software at https://www.vmware.com/support/pubs/vcd_sp_pubs.html.


To purchase the vCloud Director software solution or to find out how you can join the VMware Cloud Provider Program, visit https://www.vmware.com/partners/service-provider/.

About the Author

David Hill is a Senior Staff Technical Marketing Architect at VMware in the Cloud Provider Business Unit. At VMware David has produced a number of vCloud based reference architectures, including the vCloud Architecture Toolkit and vCloud Monitoring Architecture. He is currently working on developing cloud solutions for customers moving to the cloud and has been the lead architect on current feature releases including Data Protection and Storage Tiers. He holds multiple VMware certifications and has been awarded vExpert status for the past seven years running.

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