vRealize Automation Cloud and VMware Cloud on AWS

Modern self-service hybrid cloud with DevOps

VMWARE vREALIZE AUTOMATION CLOUD AND VMWARE CLOUD ON AWS

Solution overview

Rapidly implement a self-service hybrid cloud infrastructure to increase productivity and flexibility with governance.

VMware vRealize® Automation Cloud™ is a modern infrastructure automation platform with powerful IaaS capabilities and automation, infrastructure as code (IaC), and DevOps for infrastructure.

vRealize Automation Cloud enables VMware Cloud™ on AWS customers to leverage consistent self-service automation capabilities for their hybrid cloud environment with enhanced portability and automated infrastructure resource delivery consistent with DevOps principles.

When deployed with VMware Cloud on AWS, vRealize Automation Cloud provides a powerful IaC platform, allowing cloud admins to flexibly automate their hybrid cloud infrastructure environments.

As organizations continue to invest in private clouds and selectively embrace the public cloud for a portion of their business needs, they increasingly realize the advantages of implementing hybrid cloud environments. A hybrid cloud environment combines existing private and public clouds into an infrastructure solution. This provides well-known public cloud benefits, such as near-infinite scalability and consumption-based, pay-as-you-go services, as well as a new level of agility and deployment flexibility.

A study by ESG[1] reveals that 93 percent of organizations surveyed are interested in or committed to a hybrid cloud strategy. Another study by Taneja Group[2] specifies that organizations adopting a hybrid cloud model recognize the increasing need for cloud automation to achieve key use cases, such as:

- Managing VM- and container-based workloads using an integrated self-service consumption layer
- Transforming data centers to self-service hybrid clouds
- Enabling consistent cloud automation with governance
- Enabling infrastructure delivery with DevOps principles

While modernizing infrastructure and applications to run in their hybrid cloud environment, organizations are also looking for an infrastructure automation solution that spans across said environment and addresses the automation needs of their current infrastructure and applications. VMware vRealize Automation Cloud, a software-as-a-service offering for VMware Cloud on AWS, helps customers on this journey.

Organizations can start immediately with vRealize Automation Cloud. Deployed on AWS Global Infrastructure and utilizing DevOps principles, vRealize Automation Cloud delivers a powerful IaC platform and infrastructure pipelining capabilities to enable self-service provisioning and delivery of hybrid cloud infrastructure resources.

Deploying vRealize Automation Cloud with VMware Cloud on AWS provides a highly flexible yet simple hybrid automation solution, with self-service APIs, governance and policy configuration, connected workflows and collaboration, good lifecycle management, and capacity and usage trend monitoring. It delivers scalability, speed, flexibility and reliability through DevOps-for-infrastructure capabilities. With vRealize Automation Cloud and VMware Cloud on AWS, customers can seamlessly consume IaaS, PaaS, FaaS and deliver VMware-based infrastructure environments across private and hybrid clouds.

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1. ESG. "*Hybrid Cloud Trends*." June 2019.
2. Taneja Group. "*Cloud Automation as a Service: Now Ready for Prime Time*." August 2019.

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KEY BENEFITS

Portability – Leverage a unified self-service provisioning and catalog layer with seamless workload portability across private and hybrid cloud infrastructure.

Flexibility – Enable automated infrastructure provisioning by providing a self-service catalog and pipelining infrastructure for cloud admins and manage it with governance policies for better insight and control.

Choice – Build designs from scratch using a rich set of building blocks (cloud-agnostic provisioning, AWS infrastructure as a service, AWS services), or request designs and images from third-party platforms via the self-service catalog.

Agility – Enable a fast response to business needs with accelerated development and delivery of complex workload topologies with IaC.

Consistency – Apply the same self-service catalog, content and policies in vRealize Automation Cloud across private and hybrid cloud environments. Provide centralized and streamlined operations with unified visibility and management across the hybrid cloud environment.

Ease of use – Utilize the vRealize Automation Cloud add-on tile on the VMware Cloud on AWS console to streamline customer onboarding.

Key challenges

- Customers need more self-service application and infrastructure provisioning capabilities to better manage complex and diverse hybrid cloud environments in a consistent manner.

- Customers want to easily and seamlessly integrate automation platforms with existing cloud infrastructure environments without disruptions to existing business processes and operations.

- To overcome the limitations of traditional IT infrastructure and application platforms, customers need more consistent solutions to automate processes and workstreams that can work across private and hybrid cloud environments.

- Customers need to better automate their IT infrastructure and incorporate existing, established governance policies and management tools to manage VM- and container-based workloads across private and hybrid clouds.

- To prevent skill shortage in teams tasked with automating the IT resources in their existing data center and cloud environments, customers need a consistent cloud infrastructure that's easy to learn and leverages existing skillsets.

Solution description

VMware vRealize Automation Cloud is a modern infrastructure automation platform that enables rapid implementation of powerful self-service hybrid cloud environments. With vRealize Automation Cloud, customers can increase agility, productivity and efficiency through self-service automation by reducing the complexity of their IT environment, streamlining IT processes and delivering DevOps-for-infrastructure capabilities. It enables automated workload provisioning by setting up a self-service infrastructure for developers and managing it with governance policies for better insight and control. It also delivers IaC-based automation for VMware Cloud on AWS.

vRealize Automation Cloud blueprints are written declaratively in YAML and describe the desired end states of VMs, networks, load balancers and other infrastructure components that are satisfied by various cloud accounts and integrations. Through GitLab and GitHub integrations, vRealize Automation Cloud blueprints can enable source control management, with versioning synchronized between blueprints and the source control system.

With vRealize Automation Cloud, VMware Cloud on AWS customers can leverage self-service automation and DevOps-for-infrastructure capabilities for their hybrid cloud environment with enhanced flexibility and automated infrastructure resource delivery that utilizes DevOps principles. Users can add a self-service consumption layer to their infrastructure cloud resources, access a unified catalog, and deliver increased governance and control for specific users to help them be more productive, effective and contribute to lines of business. vRealize Automation Cloud provides the ability to easily balance the existing traditional system landscape with the emerging cloud footprint, and promotes business agility, business efficiency and risk mitigation.
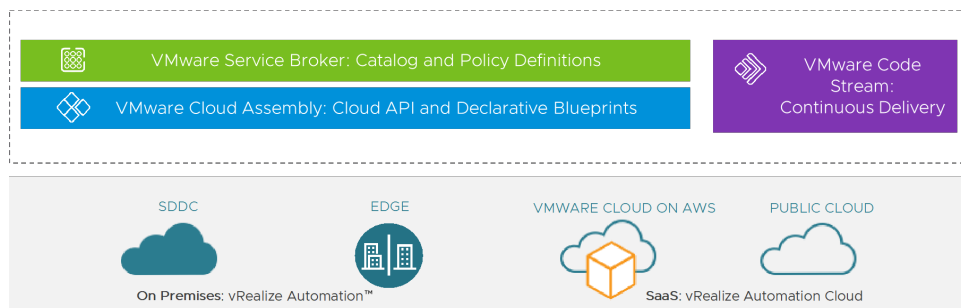
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FIGURE 1: The VMware vRealize Automation platform.

Key capabilities

Self-service catalog – Take advantage of the self-service capabilities available in the vRealize Automation Cloud catalog portal via VMware Service Broker™. Via the out-of-the-box integration with VMware Cloud on AWS, publish content to the self-service catalog, and use project-based policies, governance and costing to manage resource access and utilization centrally. VMware Service Broker has the ability to bring together VMware Cloud on AWS machine blueprints, AWS native services and AWS CloudFormation Template (CFT) sourced items. There are various content sources for VMware Service Broker, such as VMware Code Stream™ pipelines, AWS CFTs, VMware Cloud Assembly™ blueprints, vRealize Orchestrator™ workflows, and Action Based Extensibility (ABX) actions.

Consumption of the software-defined data center – Utilize the out-of-the-box VMware Cloud on AWS cloud account as an endpoint within vRealize Automation Cloud to quickly and easily set up catalog items. With a single click, users can automatically apply the appropriate security groups and storage policies and proceed to deploying the VM. VMware Cloud on AWS uses VMware vSphere®, VMware NSX® and VMware vSAN™ as the underlying software-defined data center (SDDC) infrastructure, and vRealize Automation Cloud automates these constructs similarly to how it is done for on-premises SDDC environments.

Infrastructure as code – Build IaaS blueprints using IaC via the YAML editor or graphical interface, and source control with GitLab and GitHub integration. The vRealize Automation Cloud blueprint visual designer is a low-code graphical interface approach to building blueprints, catering to users ramping up their IaC skills. vRealize Automation Cloud offers VMware Cloud on AWS customers the benefit of using both methods to effortlessly drag and drop objects in the blueprint canvas, and then configure them with the YAML editor.

DevOps for infrastructure – Speed up applications and infrastructure delivery. vRealize Automation Cloud allows infrastructure and app pipelines in the VMware Code Stream service to be presented as items in the service catalog. Users can leverage the easy-to-use self-service content request process in the service catalog to launch pipelines. DevOps for infrastructure is at the heart of how vRealize Automation Cloud helps customers transform their infrastructure. For VMware Cloud on AWS customers, vRealize Automation Cloud provides a modern and integrated infrastructure DevOps automation solution across private hybrid cloud environments.