

IDC PERSPECTIVE

VMware Cloud Management Portfolio Assessment: SaaS Pivot Targets Converged Cloud, VM, and Kubernetes Control

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EXECUTIVE SNAPSHOT

FIGURE 1

Executive Snapshot: VMware Cloud Management Portfolio Assessment

This IDC Perspective provides enterprise cloud management buyers with an overview of VMware's cloud management portfolio and strategy. VMware is proactively investing in acquisitions and organic development of cloud management technologies and SaaS solutions to provide robust and consistent automation, analytics, and optimization across connected private cloud, hybrid cloud, and multicloud infrastructure running both traditional VM and modern cloud-native workloads.

Key Takeaways

- VMware's cloud management portfolio has been rapidly expanding to address the multifaceted needs of ITOps, CloudOps, DevOps, security, and LOB personas while pivoting to a cloud-first SaaS delivery model.
- With the release of vRealize V8, VMware offers consistent VM and container-based cloud configuration, automation, and analytics across on-premises subscriptions and on-demand SaaS services.
- The recently launched VMware Tanzu brand includes an expanding portfolio of vendor-agnostic container and Kubernetes policy management, observability, and application catalog services. Tanzu solutions are available standalone or integrated with the VMware Cloud Foundation.

Recommended Actions

- VMware customers should recognize that the company's cloud management capabilities extend well beyond VM configuration and provisioning to address containers and cloud-native workload observability, governance, and cost management for on-premises and public cloud environments.
- Enterprises that are seeking to simplify and streamline cloud and container management across diverse public and private cloud platforms should consider how VMware's road map may help manage infrastructure evolution and migration to cloud-native workloads while minimizing disruption to existing mission-critical applications.
- Customers should dig into VMware road maps for converged VM and container functionality to assess how licenses, support, and upgrades will be impacted as more capabilities are delivered via SaaS.

Source: IDC, July 2020

SITUATION OVERVIEW

VMware was ranked number 1 by revenue in IDC's cloud system and service management market share assessments for a number of years. The bulk of the company's revenue in this market has historically been concentrated on supporting private cloud configuration, provisioning, and operations using products for virtual infrastructure management offered under the vCenter Server, vRealize Operations, vRealize Log Insight, and vRealize Automation brands. Historically, these products were sold as part of the vRealize Suite and the vCloud Suite for virtualized systems and clouds. The company acquired SaaS-delivered CloudHealth for multicloud governance and cost management in 2018. VMware has partnered with most major public cloud infrastructure providers to ensure that the VMware cloud management portfolio can be seamlessly extended across VMware instances running on public cloud infrastructure.

In 2020, VMware has launched a number of products and completed several acquisitions designed to further address the emerging cloud management needs of hybrid VM and container-based architectures running across on-premises and public cloud infrastructure. The company has particularly prioritized organic development and acquisitions focused on increasing integration across on-premises VM and cloud-native management products and SaaS-based management services. Specifically:

- VMware Cloud Foundation (VCF) introduced options to combine VM and cloud-native container architectures and management tools.
- Launch of several vendor-agnostic cloud-native container and Kubernetes management offerings was part of the new Tanzu brand portfolio.
- The recent acquisition of the True Visibility Suite team and products from Blue Medora enables enhanced self-driving, AI-powered predictive analytics for operations management across applications and infrastructure as part of vRealize Operations.

Product road maps centered on VCF for Kubernetes point to a future where customers will have the option to manage VMs and containers in a highly unified manner if desired. VMware is proactively investing in SaaS-based delivery for all products across the vRealize, CloudHealth by VMware, and Tanzu brands while also increasing the level of integration among these solutions to better assist enterprises in their adoption of cloud-native applications and multicloud architectures.

For enterprise IT buyers, VMware's work to create a unified cloud management portfolio across on-premises and multiple public clouds platforms emphasizes ongoing support for traditional VM workloads paired with vendor-agnostic management of modern cloud-native applications and container infrastructure. The company's goal is to provide customers with the flexibility and choices needed to evolve computing and application architectures at a rate and pace that make sense for their specific organizational priorities.

This IDC document provides an executive overview of VMware's evolving cloud management portfolio, spanning both VM and cloud-native container infrastructure and applications running on premises and in multiple public clouds. It also provides a point of view on factors technology buyers should consider when evaluating future investments in VMware cloud management solutions.

VMware Cloud Management Modernizes with SaaS

The most mature portions of the VMware cloud management portfolio are built on a core set of vRealize offerings targeted at the management, monitoring, and optimization of VMware's vSphere

infrastructure deployed on premises and in public clouds. Originally focused on VM management, the most recent releases of vRealize 8 included SaaS-delivered options that offered full parity with on-premises editions and added significant container and Kubernetes management support.

SaaS-delivered CloudHealth by VMware is also part of the company's cloud management business unit. CloudHealth has always been SaaS delivered. Since it was acquired, the CloudHealth team has become a core element of the VMware Cloud Management business unit and helped infuse a SaaS-first approach across the team.

The SaaS-based offerings will be the focal point for vRealize innovation, and new functionality will be delivered to SaaS platforms first. VMware remains committed to full-feature consistency across both on-premises and SaaS delivery choices. vCenter Server remains a dedicated software solution. The major functionality provided by these core cloud management offerings is summarized in Table 1.

TABLE 1

VMware Cloud Management Portfolio of Products

Product	Functionality	Delivery Model
vCenter Server	This product provides consistent, centralized automation and configuration management for VMware vSphere virtualized infrastructure across on-premises and public cloud infrastructure. It is deployed on premises and is specific to VMware environments.	On-premises software
vRealize Automation	This product is an infrastructure automation platform for self-service multicloud provisioning and role-based policy access control across VM and container-based clouds including on-premises resources and public clouds. It supports vSphere-based private and hybrid clouds on premises and across AWS, Azure, and GCP. APIs are available to support infrastructure as code and CI/CD integrations for DevOps teams. It supports management of Tanzu Kubernetes Grid (TKG) clusters and namespaces and allows Kubernetes resources to be requested and managed from Tanzu Mission Control (TMC).	On-premises software or SaaS
vRealize Operations	This product involves AI-powered self-driving operations for ongoing VM and container monitoring, analytics, capacity and cost management, and performance optimization. APIs are available to support infrastructure as code. It supports vSphere-based private and hybrid clouds as well as monitoring of AWS, Azure, and GCP services.	On-premises software or SaaS
vRealize True Visibility Suite	vRealize True Visibility Suite (acquired from BlueMedora in July 2020) extends vRealize Operations using management packs to enable unified monitoring, discovery, analytics, and troubleshooting across physical devices, applications, databases, middleware, containers, and clouds.	Integrated with vRealize Operations on-premises software or SaaS
vRealize Log Insight	This product involves collection, search, aggregation, and analysis of unstructured log and machine data. It integrates with vRealize Operations. It is available as an on-premises or SaaS-delivered solution. It supports vSphere-based private and hybrid clouds, as well as native AWS, Azure, and GCP.	On-premises software or SaaS

Source: IDC, July 2020

Currently, the vRealize and CloudHealth SaaS platforms are loosely coupled. vRealize Operations is able to integrate with CloudHealth to pull public cloud costing data into vRealize Operations in order to combine it with native vRealize Operations hybrid cloud costing capabilities and reporting. IDC expects VMware will be working more closely to integrate these products over time to provide customers with a more consistent and comprehensive view of cloud cost and governance.

Since it was acquired, CloudHealth has been extending beyond public cloud cost management to add policy-based governance, the ability to maintain desired state, and more in-depth tagging and usage monitoring. Over time, these types of multicloud cost optimization, governance, and compliance automation capabilities would be a natural fit with vRealize configuration automation, self-service, and capacity optimization functionality. IDC expects VMware will work to consolidate the back-end CloudHealth and vRealize SaaS platforms while simultaneously expanding beyond infrastructure control to provide enhanced application-aware optimizations.

The shift to a SaaS-first delivery model for the full vRealize portfolio will allow VMware to more quickly innovate functionality across the entire cloud management portfolio and to continue to expand visibility across multicloud and hybrid infrastructure. Already, VMware is working to make its cloud management and reporting capabilities more relevant to a broader range of personas, beyond its core VM and cloud admin community. The True Visibility Suite acquisition is a good example of how the company is ramping up analytics and automation specifically to support LOB, DevOps, and security personas in addition to its traditional base of users.

In parallel with these updates to the cloud management portfolio, VMware is also rolling out a new set of vendor-agnostic management solutions for containers and Kubernetes-based cloud-native environments, including multicluster support. These were recently introduced as part of the VMware Tanzu brand. Much of the initial Tanzu branded cloud-native portfolio is based on acquired technologies. Cloud-native management offerings are almost exclusively SaaS delivered. Over time, IDC expects VMware will continue to work to converge the Tanzu, CloudHealth, and vRealize SaaS back-end data lakes, analytics algorithms, query tools, and automation strategies to enable a more cohesive and unified approach to coordinated VM and cloud-native management activities.

VMware Tanzu Application Modernization Management Portfolio Targets Cloud-Native Workloads and Kubernetes Infrastructure

The recently announced VMware Tanzu portfolio adds a new focus for VMware, targeted at managing cloud-native applications and container-based infrastructure orchestrated by Kubernetes. The Tanzu portfolio offers customers a vendor-agnostic, SaaS-enabled portfolio of tools specifically focused on optimizing cloud-native infrastructure and applications.

The Tanzu portfolio is largely built on technology acquired by VMware over the past three years. These acquisitions include:

- **Heptio** contributed to the open Kubernetes ecosystem providing products and expertise to help organizations deploy and operationalize Kubernetes.
- **Pivotal** provided a purpose-built cloud-native platform offering developer services for Spring Boot, .Net, and Node.js running on the open source Cloud Foundry container platform. The company had been in the process of migrating to Kubernetes at the time of acquisition.

- **Bitnami** provides prepackaged open source applications and a curated developer of building blocks of multiple clouds and formats.
- **Wavefront** enables streaming analytics and enterprise cloud-native observability as a service.

These acquired technologies have been married with organic VMware-developed efforts focused on integrated vSphere and Kubernetes infrastructure platforms and management. By tightly integrating Kubernetes and vSphere in a unified platform and management control plane, VMware will be able to offer customers the choice of whether to manage cloud resources via traditional VMware-centric workflows and tools or with the cloud-native infrastructure as code approaches favored by DevOps teams. Two recently announced infrastructure platforms provide customers with choices as to how they can deploy Kubernetes and cloud-native resources. Specifically:

- **VMware Cloud Foundation (VCF) 4, powered by vSphere 7 with Kubernetes** (formerly code-named Project Pacific), provided integrated Kubernetes with vSphere infrastructure and management.
- **Tanzu Kubernetes Grid (TKG)** is the brand for the core Kubernetes technology being embedded in vSphere 7 and is also available on a standalone basis. Enterprise PKS, the Kubernetes product developed in conjunction with Pivotal, will receive continued investment. PKS customers will receive entitlements to Tanzu Kubernetes Grid if they wish to migrate.

As part of the Tanzu portfolio, VMware also launched or rebranded several other container and multicloud management solutions as summarized in Table 2. These are generally available as independent but complementary products.

TABLE 2

VMware Application Modernization Management Portfolio of Products

Product	Functionality	Delivery Model
Tanzu Mission Control	New, organically developed solution to automate configuration policies, security, and access controls across multiple Kubernetes clusters, including multicloud deployments; vendor agnostic	SaaS only
Tanzu Observability by Wavefront	Full stack observability of application, Kubernetes, and multicloud infrastructure metrics, traces, histograms, and span logs; optimized for high-velocity data ingestion, correlation, anomaly detection, and alerting; vendor agnostic	SaaS only
Tanzu Application Catalog	Curated catalog of production-ready open source software from the Bitnami collection; tested and validated container images and Helm charts built on secure OS and delivered to a private registry; vendor agnostic	SaaS only

Source: IDC, July 2020

With a direct focus on enabling consistent, automated management of multiple Kubernetes clusters at scale, Tanzu Mission Control is a particularly important element of the portfolio that highlights operational challenges created by large-scale use of cloud-native Kubernetes clusters and containers workloads running side by side with traditional VM resources.

Kubernetes enables rapid scaling and orchestration of containers within a single container cluster. However, it does not address the work related to provisioning, configuring, scaling, and securing the underlying bare metal or VM infrastructure that supports those clusters. Many customers have been using vRealize and vSphere to manage the infrastructure underlying individual Kubernetes clusters. Some have turned to on-premises or public PaaS services or serverless offerings but have found the management of those resources does not always integrate easily with existing VM-oriented management strategies. They also find it difficult to maintain consistent security and access control policies across multiple public clouds and on premises or hosted private clouds. The result is that each cluster is often inefficiently managed as an independent unit.

Tanzu Mission Control allows VMware customers to move beyond cluster by cluster administration using policy-based controls to provision Tanzu Kubernetes Grid consistently across multiple public clouds as well as on-premises infrastructure. It is also able to discover and group resources together to consistently apply policies for upgrade, delete, backup, and restore. The Tanzu road map calls for ongoing strengthening of integrations across Tanzu-branded offerings.

ADVICE FOR THE TECHNOLOGY BUYER

IDC's research shows that the majority of enterprises worldwide expect to rely on hybrid and multicloud mixes of connected on-premises and public cloud resources for the foreseeable future. Enterprise cloud management decision makers recognize they will need to support a mix of VMs and containers running traditional and cloud-native workloads across these heterogeneous environments. In many cases, autonomous DevOps teams will need to coordinate closely with central CloudOps and ITops teams to ensure consistent end-to-end application performance across modern and legacy applications deployed on a hybrid mix of IT and clouds.

Enterprise technology buyers need to evaluate cloud management priorities in the context of expected application and workload evolutions, not just in terms of raw cloud infrastructure cost and performance. Cloud-native applications will drive rapid changes in capacity and end-user demand and will require coordinated end-to-end management and governance across VM and Kubernetes-based infrastructure.

Recently published IDC's *CloudPulse BuyerView Survey*, 1Q20, of over 2,000 cloud buyers worldwide found that:

- 64% of cloud buyers believe it is important to have a shared cross-cloud management control plane.
- Over 70% believe they are overspending on cloud.
- Among enterprise-scale organizations with more than 1,000 employees, 35% prioritize the ability to create more standardized IT environments and 32% believe it is important to have consistent multicloud visibility and operations.

These organizations recognize the value of having consistent policies, automation, governance, and observability across diverse cloud resources and application architectures. Technology buyers that are evaluating VMware's cloud management portfolio should consider how well the VMware approach will evolve with their plans for implementing cloud-native applications in parallel with continued use of more traditional workloads and infrastructure architectures. Buyers should also consider how their staff will adapt to new operating models and evaluate management solutions based on how well they will help staff leverage existing tools and skills even as operational models are modernized.

The rollout of the VMware Tanzu portfolio marks an important point in the evolution of VMware's cloud management portfolio and its ability to support cloud-native applications on a number of dimensions including:

- Introduction of a platform and road map for delivering consistent, converged VM and container workload and infrastructure management across on-premises and public cloud resources offers established options for transitioning operational models and staff skills to cloud-native architectures at a pace that works for the specific organization.
- The ability to quickly develop and release new cloud management functionality via a shared SaaS platform can speed innovation and allow customers to access capabilities on demand for any location. This is particularly important for organizations that are forced to support remote work during uncertain times.
- Create a platform to support more application-aware management, automation, and governance over the longer term by taking advantage of technology acquired from Pivotal, Bitnami, and Wavefront to create a more application-aware multicloud control plane.

In a cloud-native environment, where containers are ephemeral and scale rapidly based on application performance and business KPIs, it will be important for VMware to have visibility into application health, resource utilization, and security. The pivot to SaaS provides VMware with the opportunity to rapidly expand cloud management functionality while offering customers more flexibility in the way they try, buy, and consume management solutions. Buyers should be sure to understand how a SaaS-first strategy will impact licensing, discounts, support, training, and upgrade life cycles.

Enterprise technology buyers need to consider how current economic conditions and business uncertainties will impact their digital transformation strategies and IT infrastructure and operations budgets. Many enterprise IT buyers will need to balance the drive to adopt agile, cloud-native application architectures with the demands for cost control, security, and support for traditional, mission critical workloads. Creating smooth transition plans built on technologies that can evolve at the right pace for the business will be critical.

LEARN MORE

Related Research

- *Cloud Pulse 1Q20: Executive Summary* (IDC #US46652920, July 2020)
- *Worldwide Cloud System and Service Management Software Market Shares, 2019: SaaS and ITOM Drive Growth* (IDC #US45083420, May 2020)
- *VMware Launches VMware Cloud Foundation with Tanzu, Expands Tanzu Portfolio, and Updates Cloud Management* (IDC #ICUS45082119, March 2020)
- *IDC MaturityScape: Multicloud Management 2.0* (IDC #US44895319, February 2020)

Synopsis

This IDC Perspective provides an executive overview of VMware's evolving cloud management portfolio, covering products and services offered under the vRealize, CloudHealth by VMware, and Tanzu brands. These solutions focus on a range of cloud management use cases specific to VM and cloud-native workloads running on premises and in multiple public clouds. The document also provides a point of view on factors technology buyers should consider when evaluating future investments in VMware cloud management solutions.

"VMware's work to create a unified cloud management portfolio to consistently support VMs and containers, whether they are deployed on-premises or across multicloud platforms, paves the way for customers to evolve their computing and application architectures at a rate and pace that make sense for their specific organizational priorities," explains Mary Johnston Turner, IDC's research vice president for Cloud Management. "Given the current worldwide economic downturn, many VMware customers are likely to value the ability to gradually evolve internal skills and processes while using the same people and management platforms to control existing applications side by side with next-generation cloud-native resources."

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