Protect Cloud With Cloud: Comprehensive SaaS Data Protection for VMware Cloud on AWS

Druva delivers seamless VMware data protection for on-premises and cloud instances

Overview

On-demand cloud compute and storage services have grown steadily as companies continue to migrate to a cloud-first approach[1]. The drive to achieve cost savings, functionality enhancements, and data center modernization has fueled cloud adoption. As companies look to increase agility, efficiency, and improve data center operations, they are selectively migrating legacy workloads to the cloud. Maintaining some workloads in an on-premises environment, and others in a mix of private or third-party, plus public cloud services, has created the operating model known as hybrid cloud. A hybrid cloud approach typically involves a connection from the on-premises data center to a public cloud, and often includes other assets such as edge devices or other clouds.

Adopting hybrid cloud affords enterprises the ability to deploy workloads in private IT environments or the public cloud, and migrate data between the two to optimize storage based on needs or cost. By removing silos and leveraging a new seamless integration between on-premises and cloud infrastructures, or between cloud instances (multi-cloud), enterprises effectively reduce risk, minimize overall IT and cloud costs, accelerate cloud migration, and better meet peaks in demand for compute and storage[2].

Cloud services are designed to abstract underlying infrastructure, which is helpful when writing new applications. But for traditional applications residing on-premises, infrastructure does matter. As a result, customers have discovered several challenges to implementing hybrid cloud:

- **Virtual machine format/compatibility** — Frequently, the hypervisor in use on-premises may not be the same as the hypervisor offered in the cloud. These differences need to be resolved before any migration occurs — and this resolution frequently goes beyond simple format conversion. On-premises applications are tuned in terms of performance, application certifications, subsystems integration, and management tools. These changes even extend to application availability and backups. These systems may require extensive time and monetary investment to update so they can be usable in a public cloud. Conversely, a cloud-native application offers flexibility and scalability, allowing companies to pay on an as-needed basis and effectively reduce or increase compute usage based on the company's needs.

- **Networking** — Hybrid cloud presents logical challenges around IP addressing, DNS, and subnets, making seamless connectivity difficult.

- **Storage** — Application configuration requirements such as storage types (file, block, object), persistence, and performance also introduce portability problems.

- **Supporting tools** — Different environments use different management stacks optimized for each environment.

- **Skills** — Enterprise IT is highly segmented by skill set and cloud is no exception. Binding on-premises and off-premises into a hybrid cloud presents challenges for teams as knowledge of on-premises and cloud systems and services reside on separate teams. In addition, 85 percent of companies reported skills shortages for cloud-related disciplines, presenting further barriers to a successful cloud transformation[3].

- **Operational differences** — The service orientation of cloud creates vastly different operational processes compared to on-premises data centers. These differences often lead to an inability to leverage established on-premises governance, security, and operational practices while taking advantage of cloud-scale agility.

- **Security** — Security does more than simply protect the enterprise. It also can be a source of insight and control. Security tools and processes are often different for on-premises and public clouds, which can complicate achieving a unified, consistent security strategy for hybrid cloud.

- **Data protection** — Organizations of all sizes are wrestling with how to use the cloud to evolve their business and application models without putting data at risk. IT is expanding its use of hybrid clouds, public clouds, and edge devices. As data spreads across these various mediums, it is becoming increasingly important to find an ideal solution to keep this data resilient and easily recoverable.

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[1] ESG Research Report, Data Infrastructure Trends: Accelerating IT Operations in the Era of the Distributed Cloud, November 2021.
[2] VMware, What is Hybrid Cloud?, 2022.
[3] 451 Research, part of S&P Global Market Intelligence, Voice of the Enterprise (VotE): Cloud, Hosting & Managed Services, Organizational Dynamics 2020.

A seamless hybrid cloud can only be achieved when there is consistency on both sides, solving many of the challenges listed above. Using the same infrastructure at the lowest layers of any hybrid cloud allows companies to:

- **Ensure operational consistency** — Using the same infrastructure allows the reuse of operational models and processes.

- **Maximize usage of existing skill sets and tools** — Using the same tools, skills, and processes allow a single team to manage the full hybrid environment.

- **Ensure consistency in how IT controls, manages, and secures these environments** — Using the same infrastructure elements, such as the hypervisor, means that workloads can easily move to the cloud while retaining optimizations, integrated technologies, and certifications on existing on-premises applications.

- **Ensure the delivery of enterprise-class SLA consistently across these environments** — The more closely the underlying stacks align, the easier it is for public clouds to function as an extension of the enterprise data center.

- **Delivering application compatibility across these environments** — When the underlying stacks are in sync, hybrid applications are able to span the data center and public clouds.

VMware Cloud on AWS

VMware Cloud on AWS is a premier cloud offering that delivers a consistent platform using VMware components already in a large majority of data centers. It delivers the best software-defined data center (SDDC) experience running on the highest performing infrastructure in the cloud. Delivering seamless application portability, it eliminates the need for complex application conversions or application refactoring, alternative machine formats, or the need to re-architect applications.

Jointly developed by AWS and VMware, VMware Cloud on AWS is a highly scalable, secure, and innovative hybrid cloud service that provides seamless migration of vSphere-based workloads to AWS Cloud where they run on next-generation Amazon Elastic Compute Cloud (Amazon EC2) bare metal infrastructure.

VMware Cloud on AWS allows customers to leverage predictable, high-performance compute, storage, and networking delivered by vSphere, vSAN, and NSX running on the next-generation Nitro system-based Amazon EC2 elastic, bare-metal infrastructure. Customers can extend the value of their existing enterprise applications with high-bandwidth, low-latency access to native AWS services.

With VMware Cloud on AWS, enterprises can:

- Expand their data center footprint and capacity into AWS Cloud.

- Create a seamless hybrid cloud built on consistent infrastructure.

- Leverage operational consistencies by managing on-premises and cloud environments with the same management toolset.

- Spin up an SDDC in under two hours on average and scale host capacity in only a few minutes.

- Extend existing security policies to the cloud.

- Run containerized workloads with fully managed Kubernetes services.

- Reduce overall operational complexity and cost.

VMware Cloud is an integrated cloud solution that enables customers to:

- Reduce operational overhead and get to the cloud faster by leveraging existing skills, tools, and processes familiar to IT personnel.

- Align costs to business needs with flexible consumption options and investment protection.

- Get a single inventory view of both on-premises and VMware Cloud on AWS resources using vCenter Server technology.

The architecture is shown in Figure 1 below.
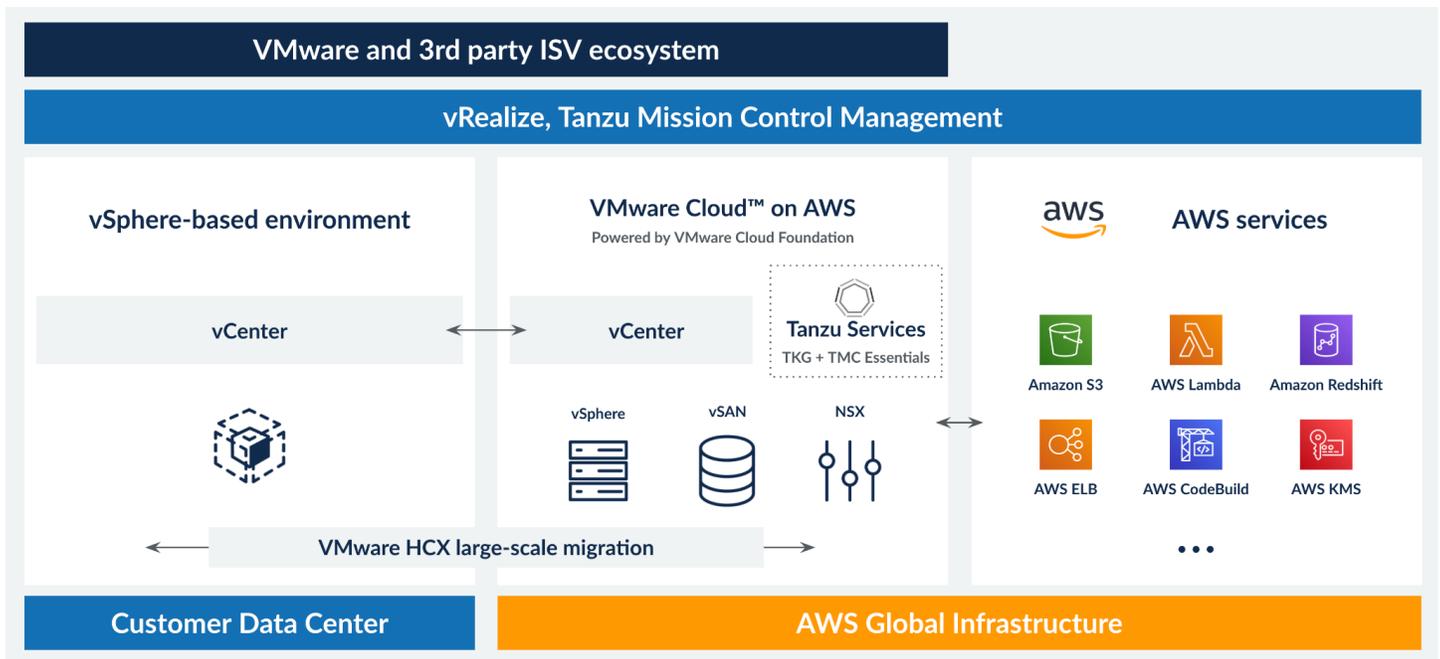
Figure 1: VMware Cloud on AWS architecture

Use cases for VMware on AWS

- **Accelerate and simplify data center migration** — Rapidly and easily migrate vSphere-based workloads to the cloud. Reduce the risk and cost of cloud migration compared to alternatives that require conversions or re-architecture. Leverage familiar VMware tools and skill sets to accelerate cloud migrations. Once in the cloud, leverage VMware and AWS services to modernize applications at a pace comfortable to the business.

- **Consistently extend data center to the cloud** — VMware Cloud on AWS is ideal for new projects or expanding to new geographies. Easily extend your footprint into the cloud and get VMware-consistent, enterprise-grade environments in the AWS Cloud in a fast and cost-effective way.

- **Next-generation apps** — Modernize existing enterprise apps with AWS Cloud capabilities and services, and integrate modern application tools and frameworks to develop next-generation apps. Utilize cloud-scale infrastructure and services to extend the value of existing enterprise applications, build new applications using native AWS services while leveraging existing infrastructure, and build hybrid applications to span data center, cloud, and edge.

VMware Cloud on AWS enables users to capitalize on key benefits of cloud on-demand services and consumption-based pricing while retaining familiar infrastructure and IT processes. While VMware Cloud on AWS can help organizations begin their cloud journey, the next step is choosing a cloud-native data protection solution that covers these business-critical workloads. The ideal solution should scale with the organization as it moves to the hybrid cloud, and ultimately run all new workloads in VMware Cloud on AWS.

Why use the Druva Data Resiliency Cloud with VMware Cloud on AWS?

The Druva Data Resiliency Cloud protects all VMware workloads, whether they run on-premises or on VMware Cloud on AWS.

As your use of cloud services evolves, Druva enables you to back up virtual machines in your on-premises data center as well as those on VMware Cloud on AWS. All VMs are backed up to a single and secure data pool, maximizing savings and providing centralized visibility for your entire hybrid VMware infrastructure.

As you adopt VMware Cloud on AWS as an extended data center, you only need to deploy a single component from Druva to start discovering and protecting this data. This agentless proxy integrates with vCenter, and includes built-in automation and orchestration. Enhanced security is provided with Druva's AWS PrivateLink integration. This secures communication between your VMware Cloud on AWS instance and the Druva Cloud, and ensures data isn't exposed to the public internet.
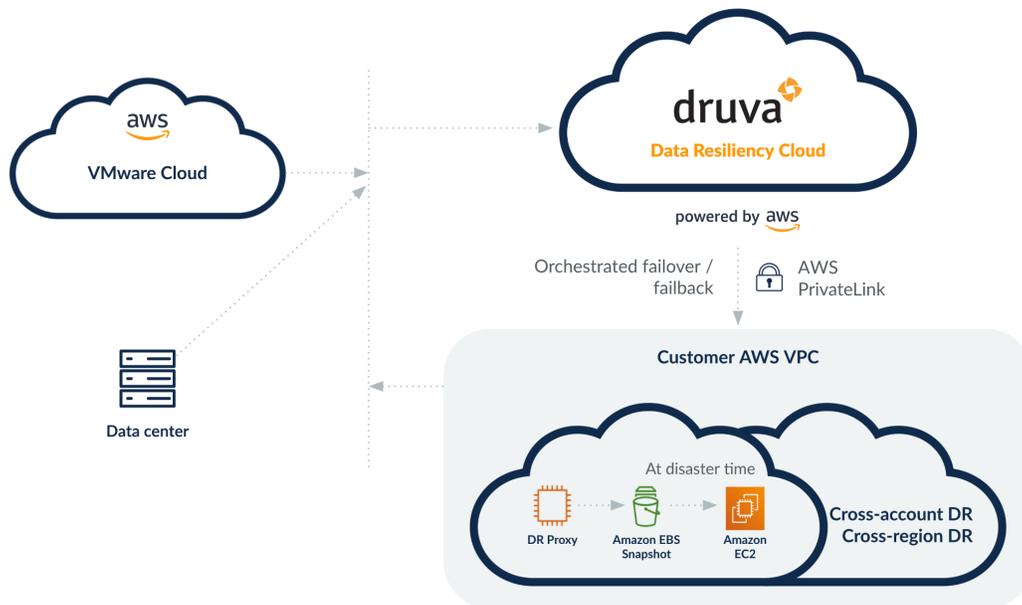

Figure 2: Druva cloud-native architecture for VMware hybrid cloud data protection

Integration between VMware Cloud and Druva delivers fast, seamless backups to help enterprise customers manage their hybrid cloud environment while delivering the following benefits:

- **Centralized management** — Druva delivers a comprehensive point of view across on-premises and cloud backups, as well as virtual machine restores, and manages all data protection services across multiple geographies and environments. Global deduplication eliminates the need to deploy separate instances of Druva for each environment.

- **Cloud-native solution** — Built on AWS, Druva was the first SaaS solution certified for VMware Cloud and remains the leading SaaS data protection solution that is simple, secure, and scalable across all AWS regions. Leveraging a 100% SaaS architecture and microservices built into AWS, Druva delivers a scale-out service to advance an organization's cyber, data, and operational resilience with defined SLAs and without any hardware, software, or associated complexity.

- **DRaaS, workload mobility, and test/dev** — Druva provides IT with powerful and flexible options for VM recovery that allow them to respond to both ransomware and disaster recovery events using highly scalable cloud-based failover, with an RTO of minutes, or local instant recovery of VMs using Druva CloudCache and VMware vMotion. Meet workload mobility and test/dev needs with cloud recovery into alternate storage regions or orchestrated failback of VMs from a customer's virtual private cloud (VPC).

- **No hardware requirements** — Druva eliminates the need to purchase new hardware or software, maintain it or complete upgrades/patches.

- **Global reach and scale** — Druva puts enterprise-level scale at your fingertips. In minutes, optimize resources based on the need to reduce cost.

The Druva Data Resiliency Cloud

The data landscape is continuously evolving. While it changes, IT organizations also face the challenge of bringing the simplicity, scalability, and security of the public cloud to enterprise data protection. The Druva Data Resiliency Cloud helps organizations advance their cyber, data, and operational resilience without any additional hardware, software, or associated complexity.

The Druva Data Resiliency Cloud is a 100% SaaS data protection solution that protects and manages enterprise backup data across data center, cloud, and endpoint workloads. Built on AWS and delivered as-a-service, it is infinitely scalable and available on-demand to meet your business needs.

Purpose-built cloud architecture provides centralized management and a consolidated view of data across multiple locations and clouds. This improves cyber resiliency, streamlines governance, and delivers critical data insights to expedite decision-making.

Thousands of customers protect their data in the Druva Data Resiliency Cloud. It enables them to increase their cyber resiliency without additional overhead, reduce TCO, and improve resilience with reliable backup performance and clear SLAs. Unified management of backup data allows customers to embrace radically simple, secure, and cost-efficient data protection, enabling backup, recovery, archival, and cloud disaster recovery.

Meet your needs with the Druva Data Resiliency Cloud

Eliminate complexity with a simpler solution

- Intuitive interface, customer experience, and the ability to deploy in as little as 15 minutes.
- No backup storage target to install, tune, or maintain.
- Manage all data workloads through a single pane of glass.

Reduce TCO up to 50%

- No additional hardware, software, or other infrastructure required.
- Eliminate offsite requirements for DR and compliance.
- Simple, consumption-based business model means no hidden costs — no hosting costs or charges for recovery.
- Single-click, easy-to-use cloud archiving to cold storage offers extensive cost savings.

Scale on-demand and accelerate backup performance

- Built on AWS, compute resources can be expanded dynamically to meet all backup window demands.
- Infinitely scalable and built in the cloud so new capacity can be added on the fly without changing backup settings.
- Hundreds of petabytes under management, and over 2.5 billion backups performed each year.

Designed for security first

- Zero-trust security model and highest certifications available (e.g., HIPAA, SOC-2, FIPS).
- Isolated data model separates metadata and customer data to provide failsafe security.
- Data at rest is encrypted with AES 256-bit encryption. Session-based encryption keys are unique and completely controlled by the customer. Druva never has access to customer data.
- Druva is AWS PrivateLink certified and ensures data is never exposed to the public internet.

Optimize backup performance with global, source-side deduplication

- Global, source-side deduplication across all data sources, both on-premises or in the cloud, brings greater storage cost-efficiency to reduce costs and optimize existing storage. It provides higher storage utilization and helps eliminate deduplication appliances and software.
- Source-side deduplication improves performance by sending smaller data chunks over the network.
- Ever-incremental backups further extend efficiencies by ensuring only new or modified copies of the data are deduped.
- Infinite hashtable capacity accelerates backup recovery.

Flexible recovery and workload mobility

- Recover back to the same VMware Cloud SDDC.
- Recover to a different SDDC in VMware Cloud.
- Recover to an on-premises SDDC.
- Recover to an on-premises SDDC in a VMware Cloud SDDC.

Druva was designed with the core tenet of customer efficiency, helping customers protect their data and gain visibility, even in a hybrid environment.

Summary

Druva delivers a single solution for the protection of data centers and cloud environments. Druva is 100% SaaS and enables you to back up both VMware environments in the data center, and VMware Cloud on AWS, to a single data pool. This provides full visibility and access to your entire infrastructure from a single management console. This functionality is crucial for organizations looking to make the transition to cloud, as it not only covers all VMware workloads but simplifies the movement to hybrid cloud with the ability to run new workloads in VMware Cloud on AWS.

Druva helps enable this migration to VMware Cloud on AWS by minimizing, or in some cases completely eliminating, on-premises backup infrastructure. It improves backup and recovery SLAs, reduces cost with up to 50% better TCO versus legacy solutions, and simplifies compliance and security monitoring. Druva is a VMware Ready partner, so you can be sure you're using a validated solution for your data protection needs.

Next steps

Learn more on the VMware page of the Druva site and experience the power and simplicity of cloud-based data protection for yourself with a free trial of our award-winning platform.

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VMWARE vSAN

vmware® READY
VMWARE CLOUD

vmware® PARTNER
ADVANCED TECHNOLOGY ALLIANCE
PUBLIC CLOUD

vmware® PARTNER
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DATA CENTER

aws marketplace

Find Druva in AWS Marketplace

Get started
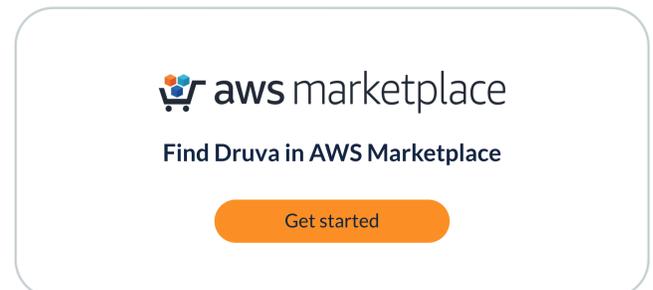
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Druva enables cyber, data and operational resilience for every organization with the Data Resiliency Cloud, the industry's first and only at-scale SaaS solution. Customers can radically simplify data protection, streamline data governance, and gain data visibility and insights as they accelerate cloud adoption. Druva pioneered a SaaS-based approach to eliminate complex infrastructure and related management costs, and deliver data resilience via a single platform spanning multiple geographies and clouds. Druva is trusted by thousands of enterprises, including 60 of the Fortune 500 to make data more resilient and accelerate their journey to cloud. Visit druva.com and follow us on LinkedIn, Twitter and Facebook.