

Veeam Kasten Use Case

Modern Virtualization with Veeam Kasten

Business Challenge

Many organizations are adopting containerized environments for faster application deployment and exploring alternatives to traditional platforms like VMware for greater flexibility and cost-efficiency. This shift requires optimizing existing virtualized infrastructure while embracing new cloud-native architectures. IT teams must manage hybrid environments, integrate legacy systems, and ensure data protection. Balancing these priorities is key to driving innovation, maximizing resources, and future-proofing IT in a rapidly evolving landscape.

Enter Modern Virtualization

In the brave new world of modern virtualization, where VMs run alongside containerized applications on Kubernetes, customers need to protect all of their virtualized application data effectively from day 1 while continuing to innovate for the future. Modern Virtualization (MV) brings VMs onto Kubernetes platforms (e.g., Red Hat OpenShift Virtualization and SUSE Virtualization) to run side-by-side with containers, all managed through a single control plane. Companies are pursuing modern virtualization to reduce licensing risk and cost, unify operations, harden security, and modernize applications without risking operational continuity and data vulnerability. Risks that come with this transition into the new world of virtualization include: migration and downtime, tool fragmentation across environments, gaps in ransomware protection, compliance and security complexity.

Veeam Kasten's Value Proposition

To help address data protection in modern virtualization, Veeam Kasten delivers unified, Kubernetes-native data protection for both containerized applications and KubeVirt-based VMs. It provides consistent, policy driven backup, DR, application mobility, and immutability across on-premises, cloud, and edge environments.

Future-proof VM and Container Resilience

Unified VM and Container Protection

- Secure both Kubernetes apps and KubeVirt virtual machines (VMs) with unified policies.
- Reduce risk and ensure consistency with application aware backups.
- Simplify protection as you modernize applications.

Disaster Recovery and Cross Cluster Mobility

- Rapidly recover or migrate apps from on-premises, to the edge, to clouds.
- Streamline test/dev, upgrades, and disaster recovery (DR) with minimal manual effort.
- Ensure business continuity across dynamic and complex environments.

Ransomware Resilience and Immutability

- Protect backups from ransomware threats with Object Lock immutability
- Enforce security using least privilege access and audited workflows.
- Confidently restore even after cyber incidents.

Automation and Agile Day 2 Operations

- Accelerate deployments with operator-based install and Helm/GitOps.
- Reduce operational overhead via multi-cluster management.
- Ensure secure operations using RBAC/OIDC and FIPS.

Ecosystem Depth and Flexibility

- Integrate CSI-based native storage with on-premises and cloud storage.
- Ensure comprehensive database protection using Kanister Blueprints.
- Support a diverse technology stack for true modernization.

Unleashing Innovation: Veeam Kasten and Leading Platforms

Platform	Joint Solution/Integration	Universal Veeam Kasten Value Delivered
Red Hat OpenShift	Certified Veeam Kasten Operator with deep integration into OpenShift Virtualization, OpenShift Virtualization Engine, and Red Hat's security ecosystem. Available across on-premises deployments and in managed cloud services (e.g., ROSA on AWS and ARO on Azure).	<p>Unified data protection: One solution to safeguard both VMs and containers with consistent, policy-driven backup and recovery.</p> <p>Resilient business continuity: Enterprise-grade backup, DR, and ransomware protection keep critical apps available during outages or modernization projects.</p> <p>Compliance and security confidence: Immutability, encryption, and role-based access control (RBAC) simplify audits and strengthen cyber resilience.</p> <p>Hybrid and multi-cloud freedom: Protect and move workloads seamlessly across on-premises, cloud, and edge environments without lock-in.</p>
SUSE Virtualization	Native integration to protect containerized workloads and VMs managed by SUSE Virtualization, tightly coupled with Kubernetes for unified control.	<p>Modernize at your pace: Run and protect legacy VMs and new containers side-by-side while modernizing applications over time.</p> <p>Operational efficiency: Automation, GitOps/CI-CD integration, and centralized management reduce overhead and empower teams.</p> <p>Data mobility everywhere: Simplifies workload migration, cloning, and failover across environments to accelerate innovation.</p>

Modern Virtualization Use Case Scenarios

Workloads Migration Across Clouds

As organizations move from VMware to modern application platforms, a key use case is refactoring or re-platforming legacy VM-based workloads into containerized, microservices-based architectures. Instead of running monolithic apps in VMs, Kubernetes allows these apps to be broken into manageable, scalable containers. This modernizes the tech stack, reduces overhead, and enables features like auto-scaling and rolling updates. Modern application platforms can help bridge this gap by running VMs and containers side by side during the transition period.

Heightened Developer Agility

Traditional VMware environments are infrastructure-heavy and require manual provisioning and slow deployment cycles. Kubernetes flips that model by offering self-service, API-driven platforms that empower DevOps teams. Developers can spin up services, run CI/CD pipelines, and manage infrastructure as code by using tools like Helm, GitOps, or ArgoCD. This significantly reduces friction and accelerates release velocity compared to VM-based environments where changes often go through slower, ticket-based workflows.

Hybrid and Multi-Cloud Portability

Kubernetes was built with portability in mind, making it ideal for organizations looking to evolve from VMware's typically on-premises, vendor-tied infrastructure and embrace hybrid or multi-cloud strategies. Moving to modern application platforms allows workloads to run consistently across AWS, Azure, Google Cloud, or on-premises data centers. In contrast, VMware environments often require proprietary tooling and licensing models that limit this flexibility. Kubernetes' declarative configurations and infrastructure-as-code approaches mean apps can be easily redeployed or scaled across environments. This is much harder with traditional VM infrastructure.

Cost and Resource Optimization

VMs often come with higher resource overhead, and each one needs its own OS, drivers, and memory allocation. This leads to underutilized compute. Containers, orchestrated by Kubernetes, are far more lightweight and can share the same OS kernel, making them ideal for high-density workloads. Migrating from VMware to Kubernetes can therefore lead to significant cost savings, both in terms of hardware utilization and licensing fees. Especially as VMware licensing costs rise post-Broadcom acquisition, Kubernetes offers an open-source alternative that scales more economically.

Veeam Kasten — Powerful Features, Simplified Management

Feature	How It Works	Value Gained
Native File-Level Recovery	<p>Instantly select and remotely access individual files from PersistentVolumeClaims at any Veeam Kasten restore point with no need to restore entire volumes or VMs.</p> <p>Secure access is provided via SFTP for fast file retrieval from any location.</p>	<p>Minimize downtime and operational overhead: Enable rapid, targeted file restores to save time and resources. Empower teams to meet strict recovery service level agreements (SLAs) and increase confidence in data resiliency.</p>
Automated VM Protection Policies	<p>Easily apply custom backup and recovery policies to individual or groups of KubeVirt VMs.</p> <p>Built-in automation detects all dependent resources. No manual configuration or labeling needed.</p>	<p>Simplify compliance and decrease risk: Ensure every VM gets the right protection by reducing manual errors and policy gaps. Accelerate adoption of modern virtualization platforms without increasing complexity.</p>
Streamlined VM-Centric Restores	<p>Restore specific VMs by selecting only the resources you need, with Kasten automatically identifying all dependencies.</p> <p>Eliminate manual selection and guesswork for fast, reliable recovery.</p>	<p>Accelerate recovery, reduce complexity: Restores are simple and efficient, freeing up IT resources and ensuring critical VMs are back online quickly.</p> <p>Enhance operational agility in dynamic environments.</p>
Optional VM MAC Restore	<p>Ensure continuous system connectivity by retaining the original address of KubeVirt VM network adapters upon restore</p> <p>Avoid network conflicts, to ensure connectivity after restore.</p>	<p>Improve system resilience: Ensure seamless continuity and network consistency.</p> <p>Minimize downtime and avoid critical data loss.</p>
VM Dashboard	<p>Simplify VM data protection on Kubernetes by providing clear, cluster wide visibility into KubeVirt VM protection status</p> <p>Increases response capabilities of admin teams into KubeVirt status and easy decoding of Kubernetes concepts they are not familiar with.</p>	<p>Gain deep visual insights into Kubernetes VMs: Decrease response times for operations teams.</p> <p>Lessen the complexity of managing and maintaining KubeVirt environments.</p>

Veeam Kasten for Kubernetes Data Protection Platform

Veeam Kasten is a Kubernetes-native data protection platform that provides enterprise operations teams with an easy to use, scalable, and secure system for backup and restore, DR, and application mobility of Kubernetes applications. With Veeam Kasten, teams achieve Kubernetes-native resilience against ransomware attacks.

Veeam Kasten offers an application-centric approach and deep integrations with relational and NoSQL databases, Kubernetes distributions and APIs, and cloud platforms.

This provides teams with the freedom to choose any infrastructure they want while achieving maximum operational simplicity. Policy-driven and extensible, Veeam Kasten also includes features such as full-spectrum consistency, database integrations, automatic application discovery, multi-cloud mobility, and a powerful web-based user interface.

Kubernetes Data Protection Use Cases: Summary

Veeam deeply understands Kubernetes and its unique challenges when it comes to backup, restore, DR, application mobility, ransomware protection, and modern virtualization. Veeam Kasten helps enterprises successfully run applications on Kubernetes with confidence.

Achieve Unified Data Resilience with Veeam Kasten



Backup and Restore

Confidently and efficiently protect your Kubernetes applications, VMs, and their business-critical data.



Disaster Recovery

Easily manage how backups are replicated offsite to meet business and regulatory requirements.



Application Mobility

Effectively move and protect data where it is needed, without vendor lock-in.



Ransomware Protection

Secure your data against risks with proactive threat detection, encryption, and immutability.



Modern Virtualization

Seamlessly protect VMs and containers together on Kubernetes..



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