kasten
by Veeam

CLOUD-NATIVE DATA MANAGEMENT

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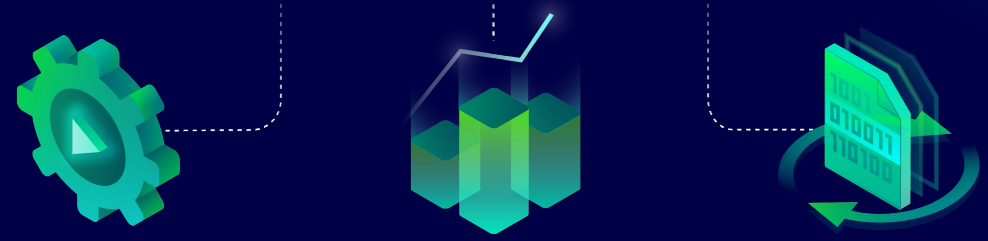
Today, customer needs extend beyond just backup

Backup and Recovery

Hybrid Cloud Acceleration

Ransomware and Data Security

Modern Data Protection
Data Center | Edge | Cloud



Disaster Recovery Orchestration

Monitoring and Analytics

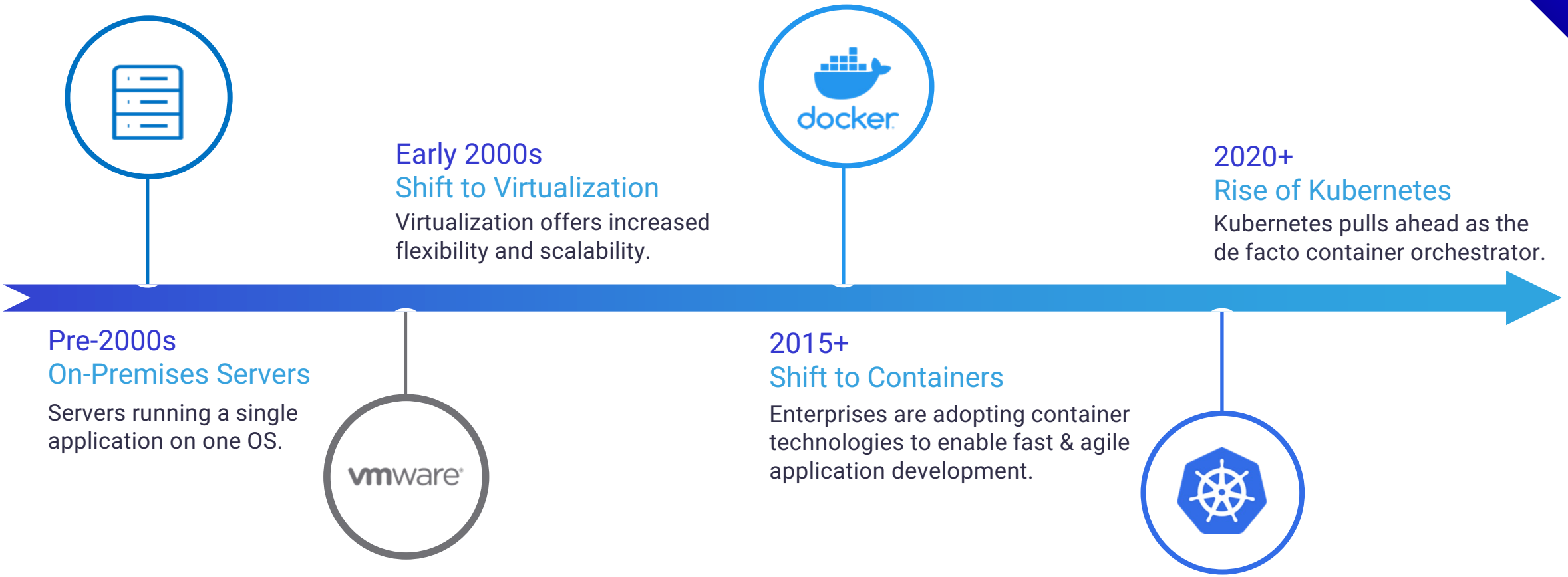
Data Reuse

Veeam helps customers unify their backup

The State of Kubernetes

Kubernetes: Fastest Growing Infrastructure Software

Becoming the Leading Enterprise Application Platform



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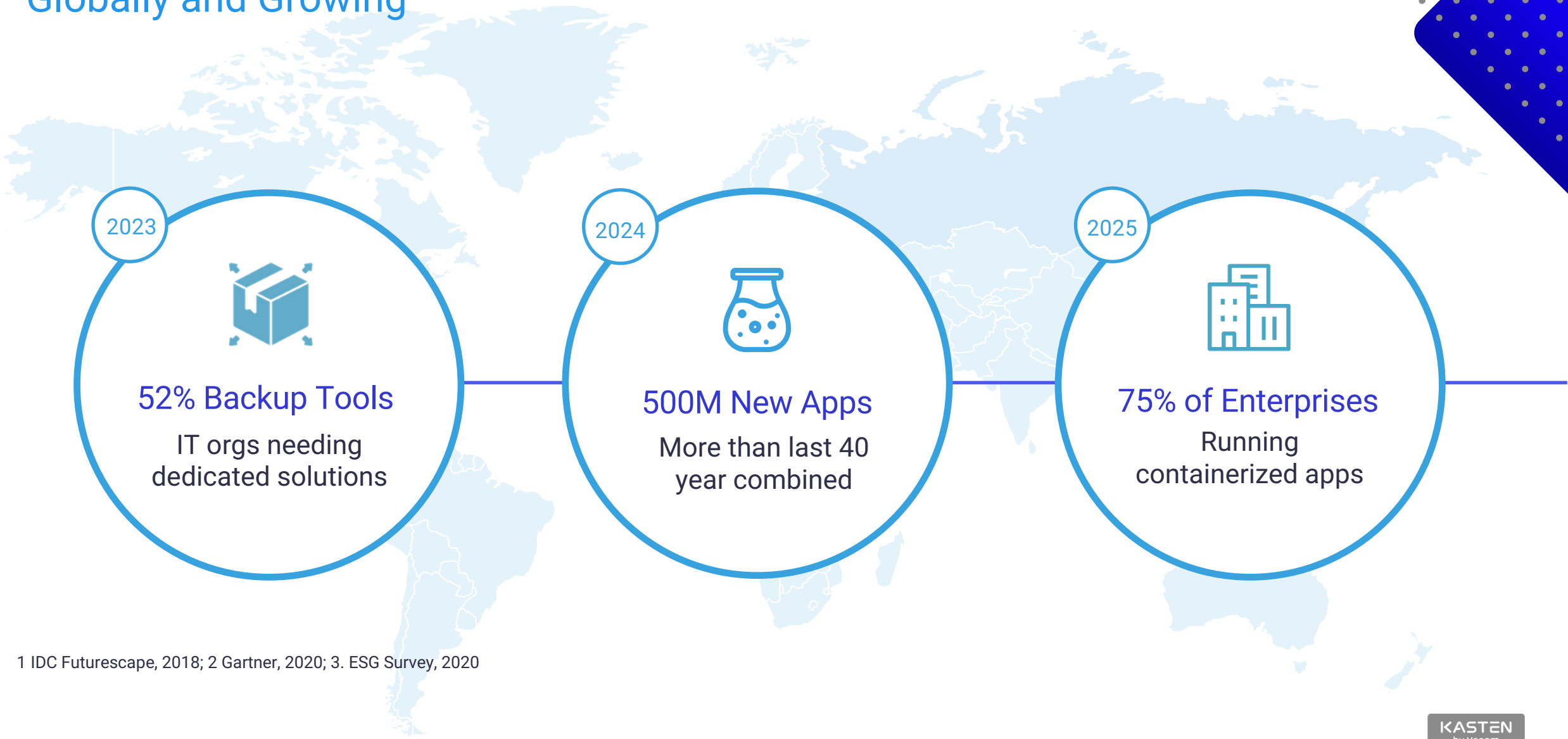
Kubernetes Powers Cloud Native

Globally and Growing



1 IDC Futurescape, 2018; 2 Gartner, 2020; 3. ESG Survey, 2020

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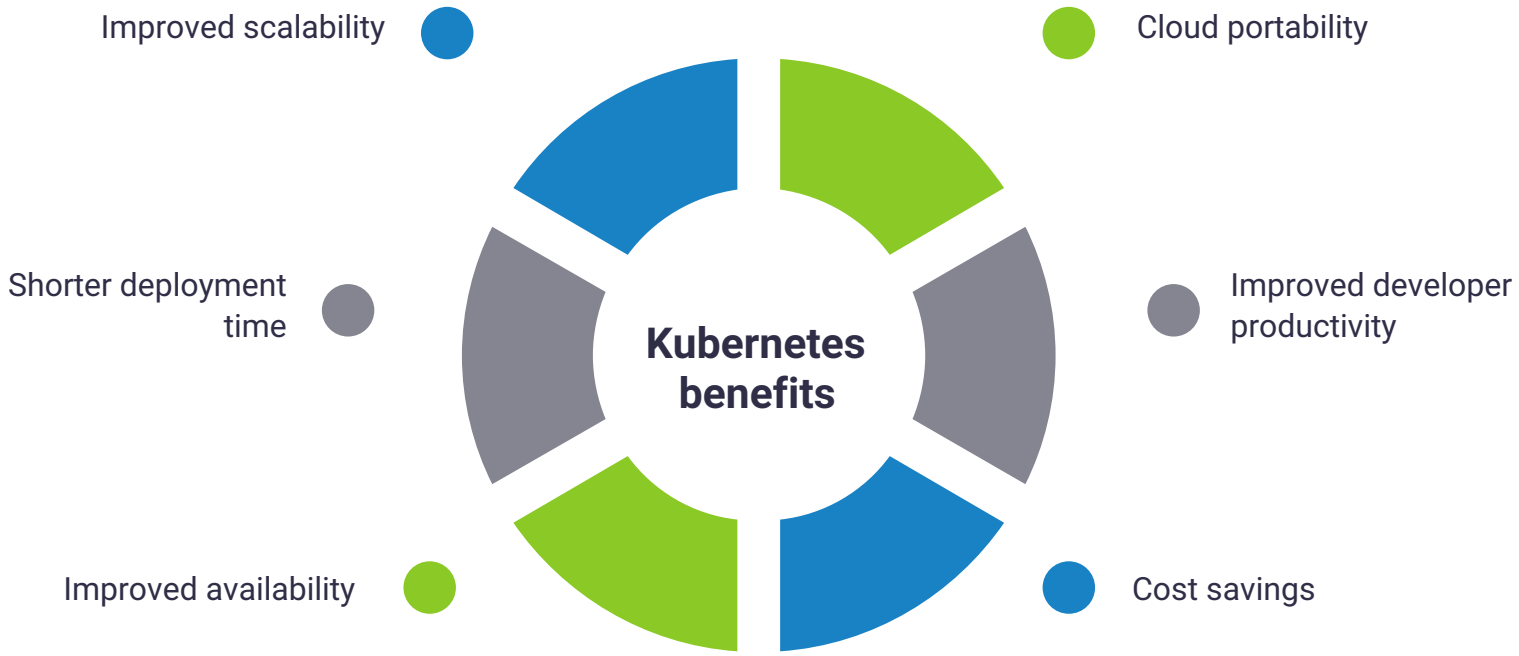
Kubernetes - multiple benefits

but enterprises looking for help



CNCF survey, 2020

Enterprise Needs

- New **DevOps** ecosystem and self-service
- **Skills**
  Simplicity key to scale operations
- **Data Protection**
  Kubernetes-native backup & DR

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Introducing:

Kasten by Veeam

Cloud-Native Data Management

Kasten by Veeam

Organization

Organization	• Kasten by Veeam • Veeam Kubernetes Business Unit
Team	• Globally distributed team of Kubernetes and Cloud Native experts
Product	• Kasten K10 by Veeam, #1 Kubernetes Backup • Portfolio of open source projects, including Kanister, Kubestr and Kopia
Target Markets	• Cloud Native Enterprise • Public Cloud & On Premises
Customers Profiles	• DevOps • IT Ops • Cloud Ops

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commitment to the ecosystem

Kasten is a Platinum CNCF Member and on the CNCF Governing Board

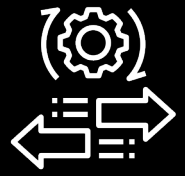
At CNCF, we represent our customers at the strategic level and in the storage and data protection working groups

Portfolio of open-source projects:

https://kanister.io/ https://kopia.io/ https://kubestr.io/

Kubernetes Backup and Mobility Made Easy

Backup & Recovery



Application Mobility

Disaster Recovery

Multi & Hybrid Cloud

Polyglot Persistence

Multi-Tenancy RBAC

Built for Kubernetes

Purpose-built for Kubernetes using cloud-native architectural principles.

Ease of Use

State-of-the-art management interface; cloud-native API, easy install, extensible.

End-to-End Security

Support for RBAC, OIDC, Token Auth, IAM, and industry-standard encryption

Rich Ecosystem

Extensive support across the entire application stack. Select the best tools or infrastructure.

Use Case

Backup & Recovery

- Restore to a known good state of your application following outage
- Repair badly misconfigured applications
- Provide robust backup to protect non replicated databases
- Reproduce environment states for audit compliance

Multitenancy

RBAC

Polyglot Persistence

Scale & Performance

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Use Case

Disaster Recovery

- Restore all application components via granular restore capability
- Use policy driven automation to manage how backups are securely replicated to off-site storage
- Enable near-zero RTO for Kubernetes workloads

Cross A Z and Region

Multi and Hybrid Cloud

Storage Transforms

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Use Case

Application Mobility

- Enable cross-cloud portability & migration of applications between K8s clusters
- Keep some applications and environments on premises while running others in a cloud provider
- Migrate between public and private K8s deployments efficiently
- Provide planning and understanding of K8s upgrades by migrating applications predictably to an upgraded cluster

Cluster Upgrades

Application Transforms

Test/Dev Cluster

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Product Details

Traditional Infra-centric data management approach

scale poorly and leave organizations exposed

Persistent Volume

Piece of storage provisioned by an administrator or dynamically provisioned using Storage Classes

Persistent Volume Claim

PersistentVolumeClaim (PVC) is a request for storage by a user

Pod

Pods are the smallest deployable units of computing that you can create and manage in Kubernetes

Services

Service is an abstraction which defines a logical set of Pods and a policy by which to access them

Config Map

API object used to store non-confidential data in key-value pairs

Secret

Object that contains a small amount of sensitive data such as a password, a token, or a key

Ingress

API object that manages external access to the services in a cluster, typically HTTP

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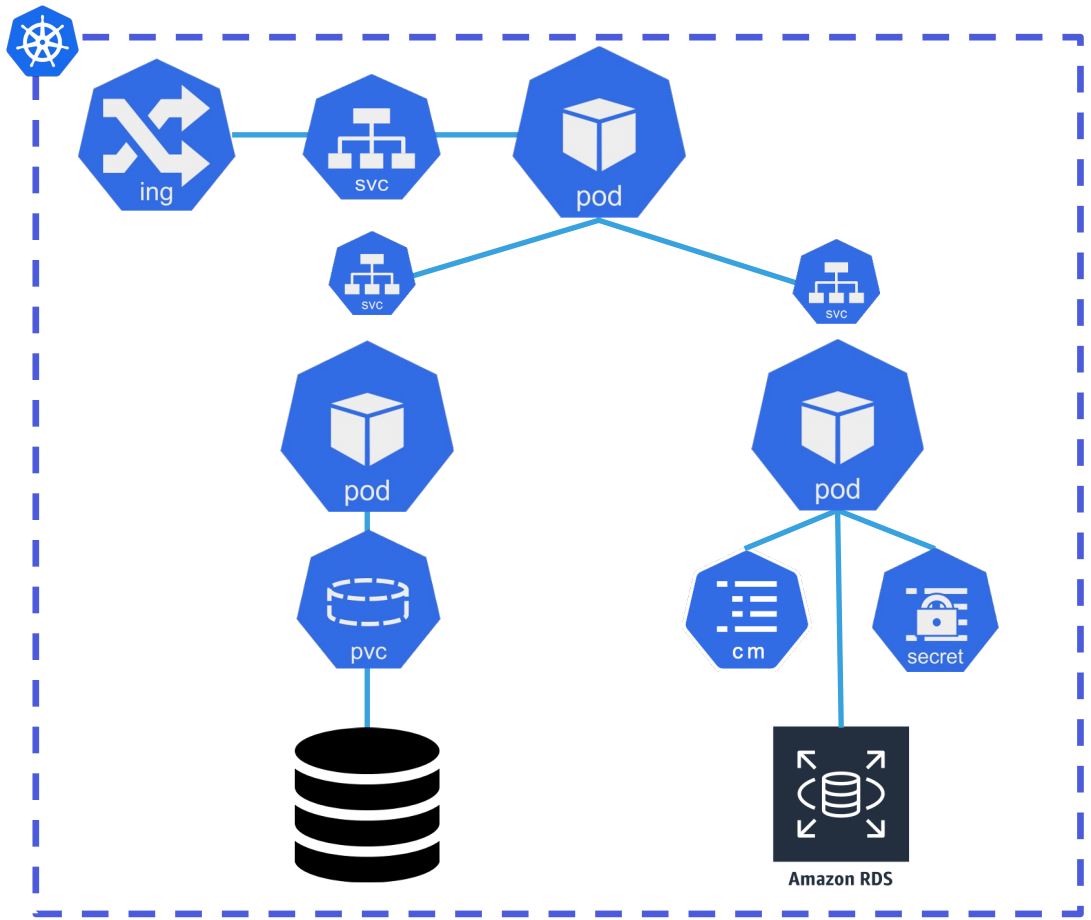
Traditional Infra-centric data management approach

scale poorly and leave organizations exposed



My infrastructure will take care of it

- ✓ Data-store snapshots
- ✗ Limited stack options
- ✗ Weak consistency
- ✗ Complex restore procedure

Let me put together a “quick” script

- ✓ Tailored to application
- ✗ More complex than expected
- ✗ Often tied to infrastructure
- ✗ Difficult to maintain

My storage system does backups & migration

- ✗ No fault isolation
- ✗ Lowest common denominator
- ✗ 2X management complexity
- ✗ Performance cost for overlays

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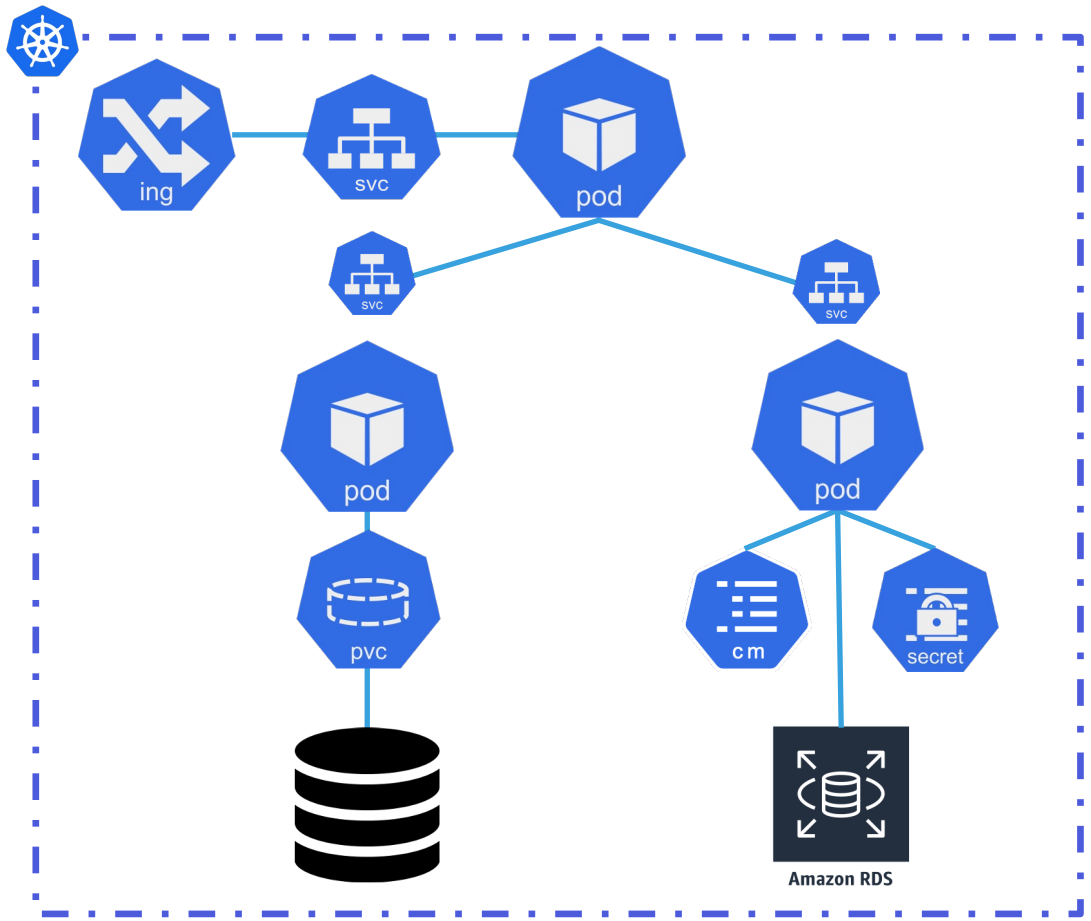
focus on complete application resources and persistent state



Applications as the operational unit

Perform complete application capture

Consistent data and application resources capture

Abstract underlying infrastructure

Seamless support for storage and data services

Perform coordinated operations

Proper sequencing of resource and data operations

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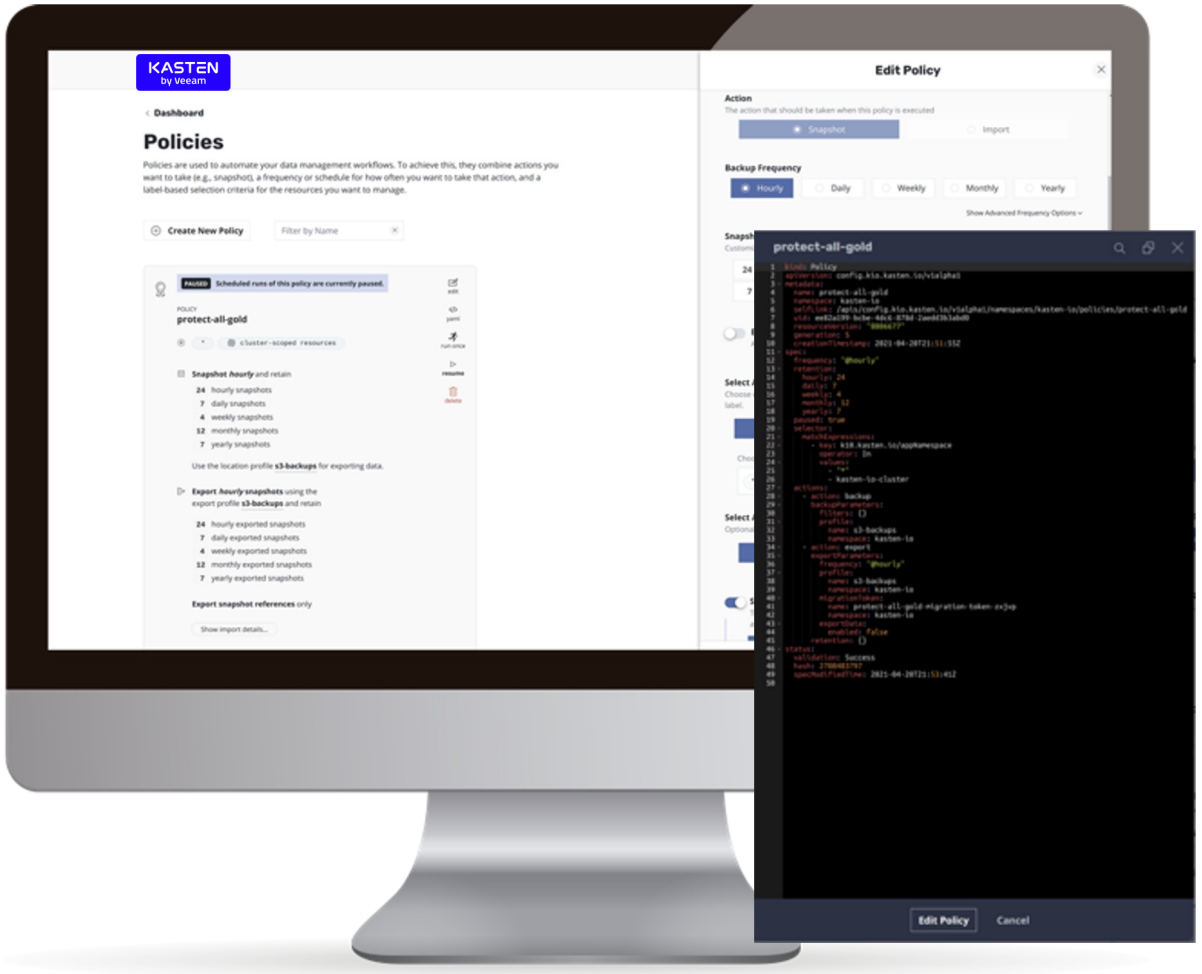
How Kasten by Veeam works

Policy Driven Data Management



Automated Policies

- Set up custom and default policies to meet your data management needs
- Policies provide automated enforcement to help meet your SLAs

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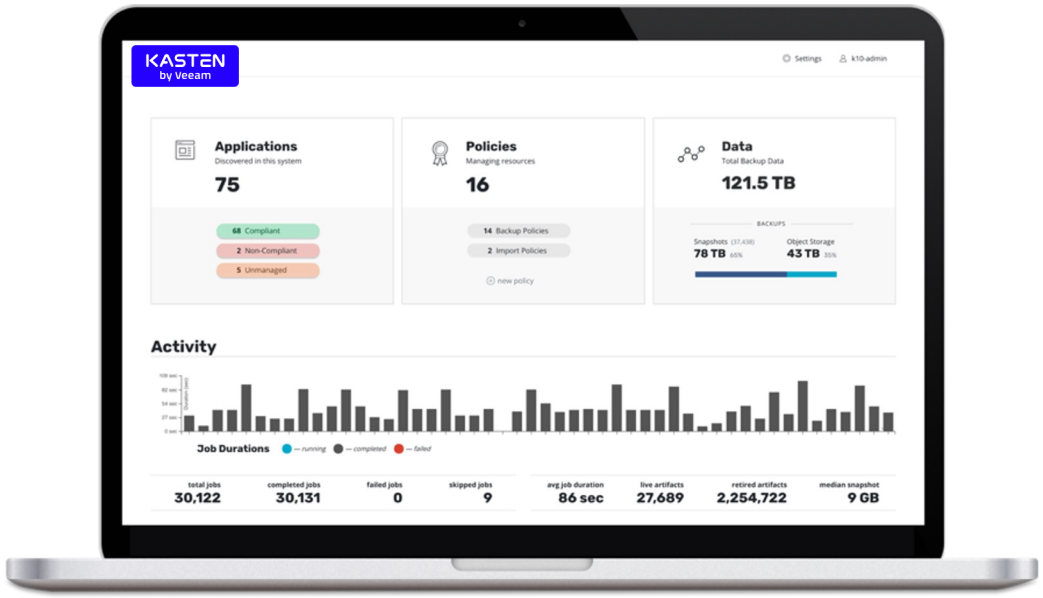
How Kasten by Veeam works

Observability



Intuitive UI, Feature Rich Dashboard

- Know the up-to-date protection status of all your applications
- Easy to determine if any corrective action is required
- Out-of-the-box dashboards, metrics and alerts

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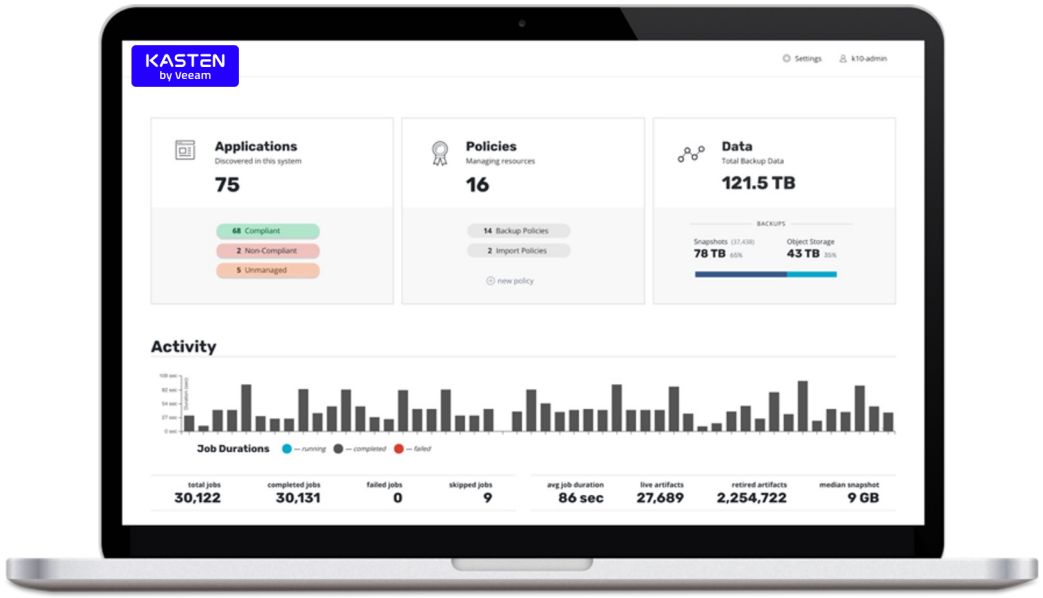
How Kasten by Veeam works

Enhanced Extensibility



Minimize time for new deployments, easily select best tools for the task

- Easily integrates tools of choice in operational Kubernetes environments
- Complete support across environments, including data services, monitoring and alert

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Kanister framework

extensibility for data management workflows

KANISTER

Open-Source Framework

Developer Focused

Application-specific
data operation blueprints

Distributed
eventually
consistent
systems

Complex custom
applications

- **Application-specific data management recipes**
  Capture workflows as Kubernetes CRs
- **Data capture and manipulation primitives**
  Block, file, and object store building blocks
- **Workflow orchestration functions**
  Kubernetes execution and resource manipulation
- **Extend existing or author own blueprints**
  Collection of blueprints for common services




mongoDB

MySQL

PostgreSQL


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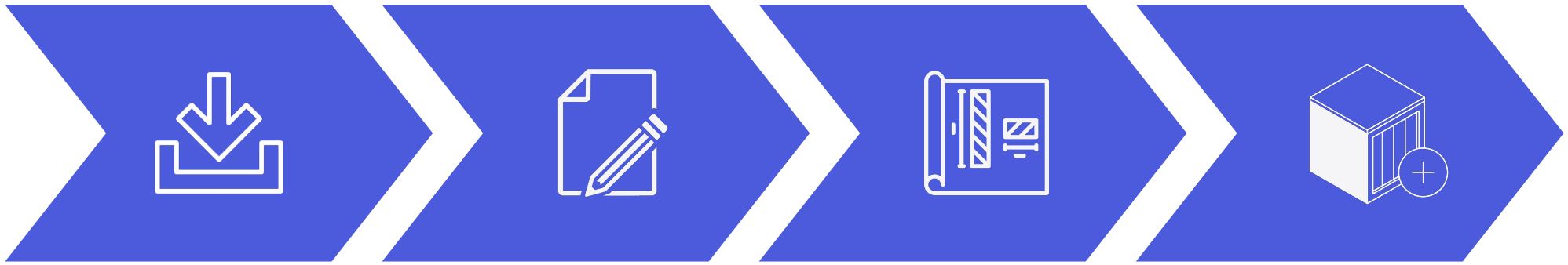
Kasten by Veeam + Kanister adoption spectrum

zero touch to deep integration

Default operations | **Enhanced workflows & application-specific operations**



install-only

No developer or application changes required. Easy incremental rollout.

annotations

Minimal deployment changes. Add annotations to spec for tighter integration.

blueprint

Author or extend custom “recipes” for custom application and data workflows.

sidecar

Add sidecar container to application. No core changes but enables additional functionality.

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K10 Multi-Cluster Dashboard

- 2 Clusters
- 42 Policies
- 128 Applications
- 0 Non-Compliant Applications

K10 Global Resources

Create and distribute policies and profiles to multiple clusters and manage multi-cluster permissions.

- 16 RBAC Entries
- 2 Global Profiles
- 2 Global Policies
- 1 Distribution

Data Usage

Total Across Clusters	Snapshot	Object
45.9 TiB	**41.6 TiB**	**4.3 TiB**

Recent Activity

1 hour | 1 day | 1 week

Actions	Failed Actions
54	**6**

Clusters

A-Z | Filter by Name | 2 clusters | Completed Successfully | Add Clusters

CLUSTER	APPLICATIONS	POLICIES	ACTIONS • 1D
primary **primary-aro** dist.kio.kasten.io/cluster-type:primary	115 (0 / 0 / 115)	27	21 / 6 / 0
secondary-eks dist.kio.kasten.io/cluster-type:secondary	13 (0 / 0 / 13)	18	27 / 0 / 0

Applications
Discovered in this system

115

- 0 Compliant
- 0 Non-Compliant
- 115 Unmanaged

Policies
Managing resources

26

- 25 Backup Policies
- 0 Import Policies
- 1 System Policy

Usage & Reports
Total Backup Data

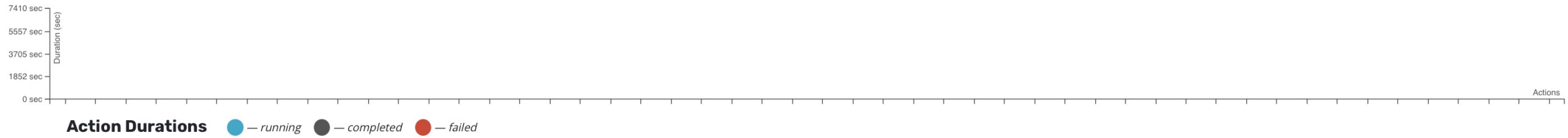
46.6 TiB

BACKUPS

Snapshots (431) **42 TiB** 91%

Object Storage **4 TiB** 9%

Activity



total actions	completed actions	failed actions	skipped actions	avg duration	live artifacts	retired artifacts
86,405	77,022	8,156	1,199	195sec	356,329	4,317,172

Actions

Filter

Page 1

COMPLETED
Policy Run
run-bcxmtfq4rq

POLICY
k10-disaster-recovery-policy

ACTIONS
1 1

APPLICATIONS
1 Application

START
Today, 12:57pm

DURATION
5 mins, 52 secs

COMPLETED

POLICY

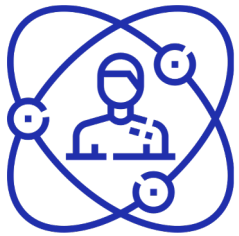
ACTIONS

APPLICATIONS

START

Kasten by Veeam – User Experience

"Everything should be made as simple as possible, but not simpler." – Albert Einstein



1. INSTALL ON ANY PLATFORM WITH HELM OR AN OPERATOR
2. CONFIGURE LOCATION PROFILE(S) AND ENABLE K10 DISASTER RECOVERY
3. CREATE A POLICY AND PROTECT ANY KUBERNETES BASED APPLICATION
4. EXPORT TO AN OBJECTSTORE WITH OBJECT LOCK AND IMMUTABILITY ENABLED
5. TRANSFORM AND IMPORT INTO A DIFFERENT PLATFORM, DISTRIBUTION OR VERSION

EVERYTHING DONE VIA THE
K10 DASHBOARD, THROUGH THE **K10 API** OR THE **KUBECTL**

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Customer Case Studies

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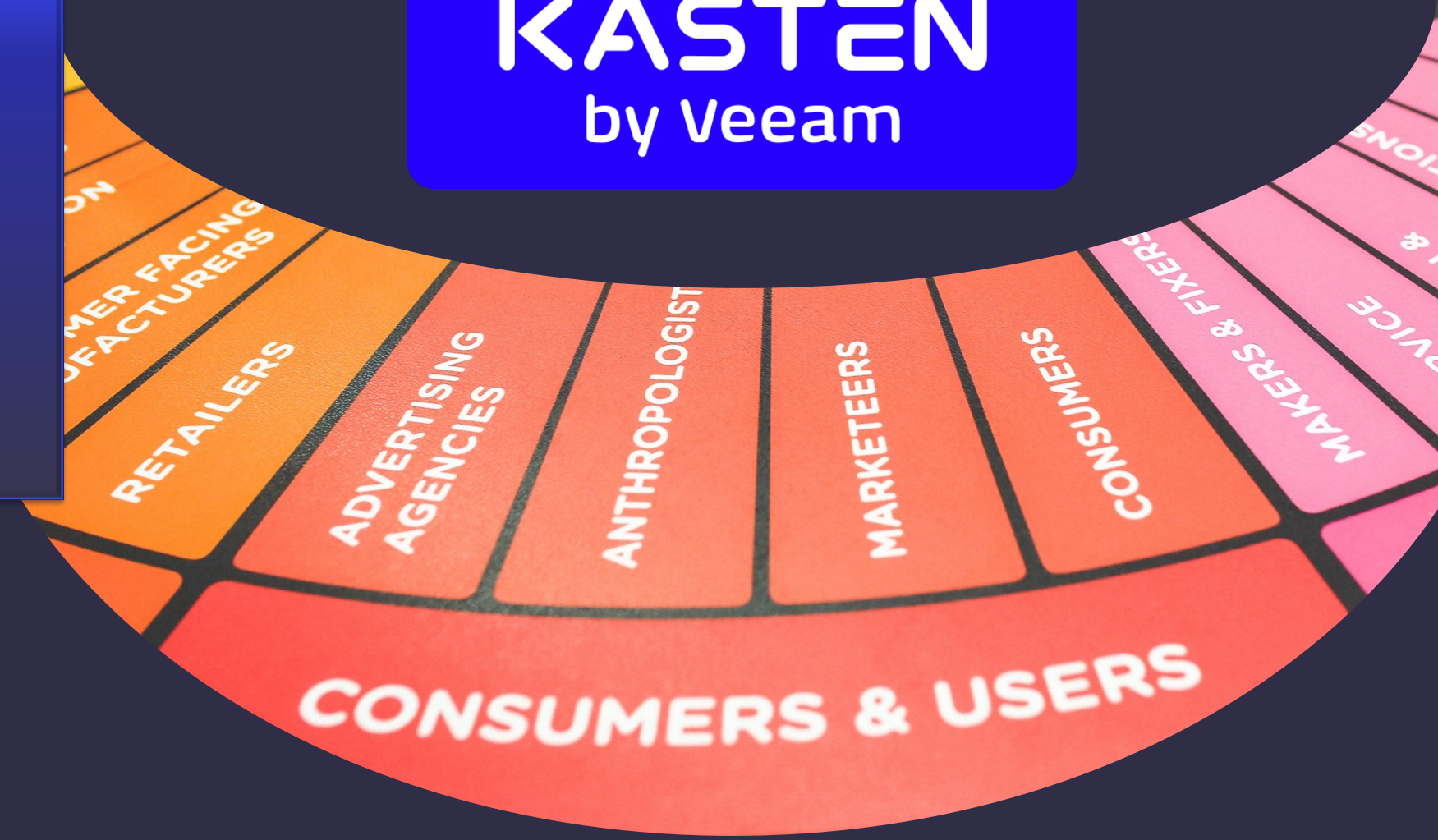


Kasten by Veeam for kubernetes data management battle hardened for day 2 scale

RED HAT OPENSHIFT · aws · ceph · AWS EBS

54 nodes, 216 CPUs, 1.7 TB RAM
173 Applications/Projects
Multi-Vendor Storage: 415 Volumes, Multi-TB

Number	Component (subset)
2,126	Pods (1,380 workloads)
3,166	Secrets
1,411	Services
3,483	Image Information
768	Service Accounts
915	Configuration
3,484	Role Bindings
5,137	Other Components
18,393	Total (average 112/app)

sopra steria

Top 3 French IT Firm

DEVOPS RUN

700 dev:2 ops ratio
100% transparent to developers

USE CASE DIVERSITY

Backup and Disaster Recovery
Application Mobility (e.g., large OpenShift 3.x to 4.x migration)

APPLICATION DIVERSITY

COBOL · php · GO · Java · PostgreSQL · elastic · MySQL · HIVE · redis · etcd · mongoDB · ORACLE · cassandra

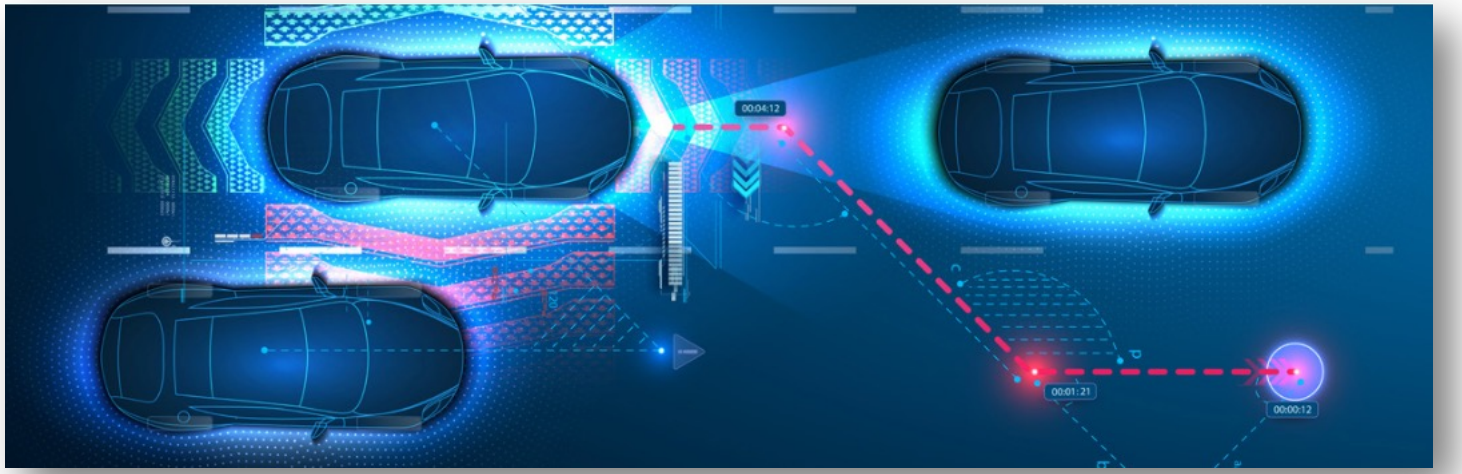
KASTEN by Veeam

Zenseact - Streamlining Backup Management

Accelerating Self-Driving Innovation with Kasten By Veeam

Challenges

- Need to innovate rapidly to keep pace with competitors
- Moving from VMs to containers while minimizing risk of data loss
- Required self-service capabilities to accelerate development cycles



Results

- Saves 150 hours per month of development time through automation
- Reduces risk of data loss with policy-driven backups
- Supports innovation by enabling rapid iterations

"Of all the enterprise solutions we considered, Kasten by Veeam was the **most capable**. Of all the offerings on the market today, it's the **most stable**, **simple to use** and **reliable** option. Kasten by Veeam **includes many features** out of the box that we would have had to build ourselves, if we had chosen another option."

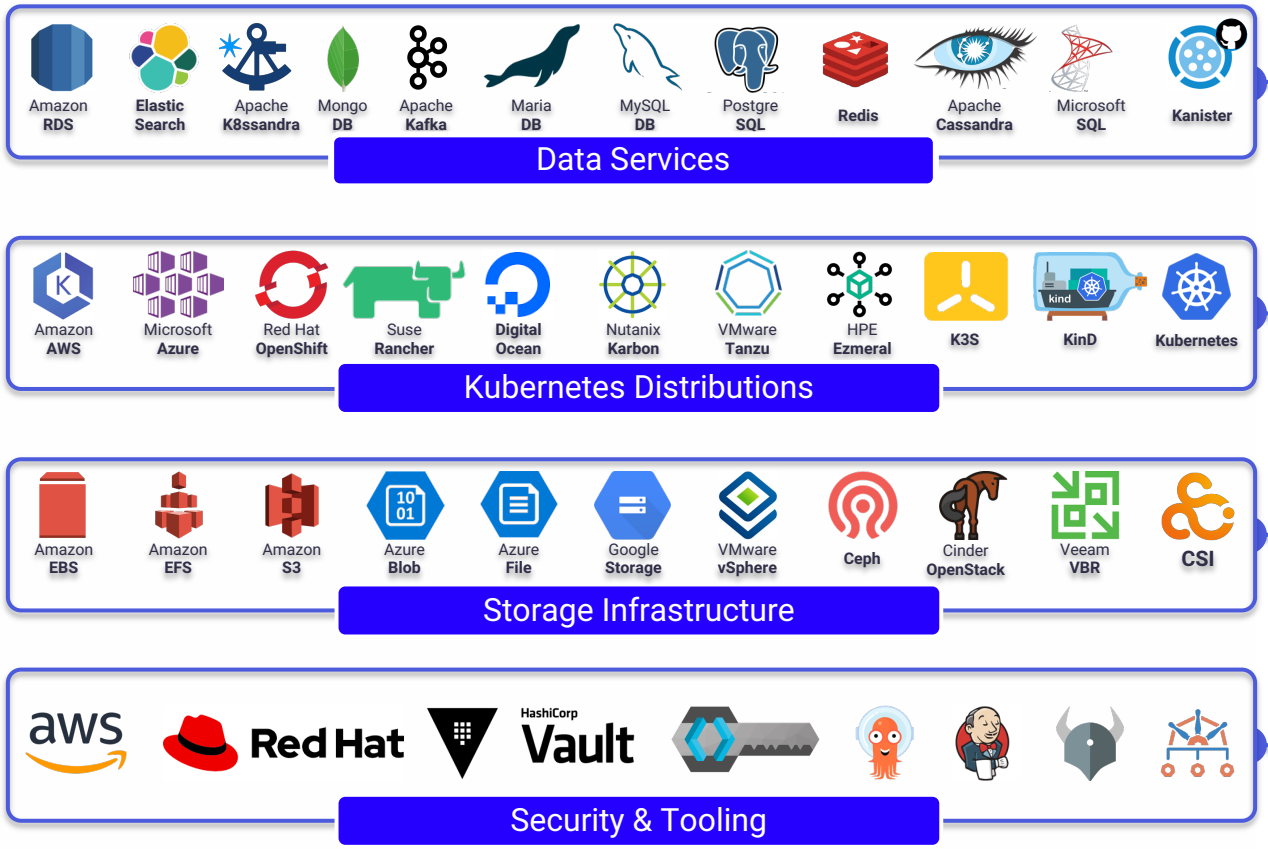
Johan Jansson, Scrum Master and Service Owner, Zenseact

zenseact
Make it real.

KASTEN by Veeam

How Kasten by Veeam Works

Freedom of Choice



KASTEN K10

Kubernetes Data Management Platform

Ecosystem Focus

- Constructed using Cloud Native architectural principles following a desired state model with declarative control.
- Extensive support for ecosystem components across the entire application stack.
- Quick to deploy and easy to use via a state-of-the-art management interface or a Cloud Native API.
- Application-centric approach and deep integrations with relational and NoSQL databases, Kubernetes distributions, and all clouds provides teams the freedom of choice without sacrificing operational simplicity.

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Kasten by Veeam – licensing

Kasten by Veeam – Licensing Model

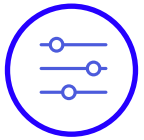
	Free Kasten K10	Enterprise Trial	Enterprise
License	Free	Free	Subscription-based
License Duration	Perpetual	30 days	Subscription-based
Maximum Nodes	5	50	Unlimited
Data Protection Assessment	-	✓	✓
Kasten Assisted Deployment	-	✓	✓
Customer Support	-	✓	✓
Backup and Restore	✓	✓	✓
Disaster Recovery	✓	✓	✓
Application Mobility	✓	✓	✓
Kubernetes Distributions	✓	✓	✓
Storage	✓	✓	✓
Public Cloud Operation	✓	✓	✓
On-prem Operation	✓	✓	✓
Enterprise Security	✓	✓	✓
Ransomware Protection	✓	✓	✓
Data Features	✓	✓	✓
Metadata Features	✓	✓	✓
Backup, DR, Mobility Features	✓	✓	✓
Operations Support Features	INSTALL	TRY	BUY

Node-based

Pricing based on number of worker nodes.

Predictable Pricing

No per-TB, per-socket, or feature pricing.



Flexible Model

Auto-scaling/metering support if needed.

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Try Kasten by Veeam for Free!

kasten.io/try-kasten-k10

Kubernetes Training
https://kubecampus.io


Thank You
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