



Kasten Kubernetes Backup

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Industry Trends

Enterprise Kubernetes Data Protection Challenges

74%

of organizations think traditional and container-based applications can be backed up the same way.*
(they can not!)

85%

of companies have experienced at least 1 ransomware attack in the past year.**

93%

of organizations think multi-cloud support for container backup is important*

75%

of organizations indicate a skill shortage in their Kubernetes backup and recovery teams.*

* ESG Measuring the Current State and Momentum in the Market for K8s Protection

** 2023 Veeam Data Protection Trends Report

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Hybrid Cloud is the Standard

50%

Plan to increase number of current cloud providers¹

97%

Agree their business requires a mix of cloud and on-premises resources¹

88%

Agree hybrid and/or multi-cloud strategy directly drives business results¹

¹ [2022 Microsoft Cloud Survey \(Harris Poll\)](#)

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From Stateless to Stateful



¹ 2021 Data on Kubernetes Report (N=502)

Kasten by Veeam Mission

Kasten's mission is: "To tackle Day 2 data protection challenges on behalf of enterprises so that they can confidently run their applications on Kubernetes"

**Backup &
Restore**



**Disaster
Recovery**



**Application
Mobility**



**Ransomware
Protection**



What makes Kasten K10 unique?

Kubernetes Native

Built for Kubernetes,
with Kubernetes

Rich Ecosystem Support

Any Cloud, any
Kubernetes, any app,
any service



Security Everywhere

Enterprise-grade
Ransomware protection

Ease of Use

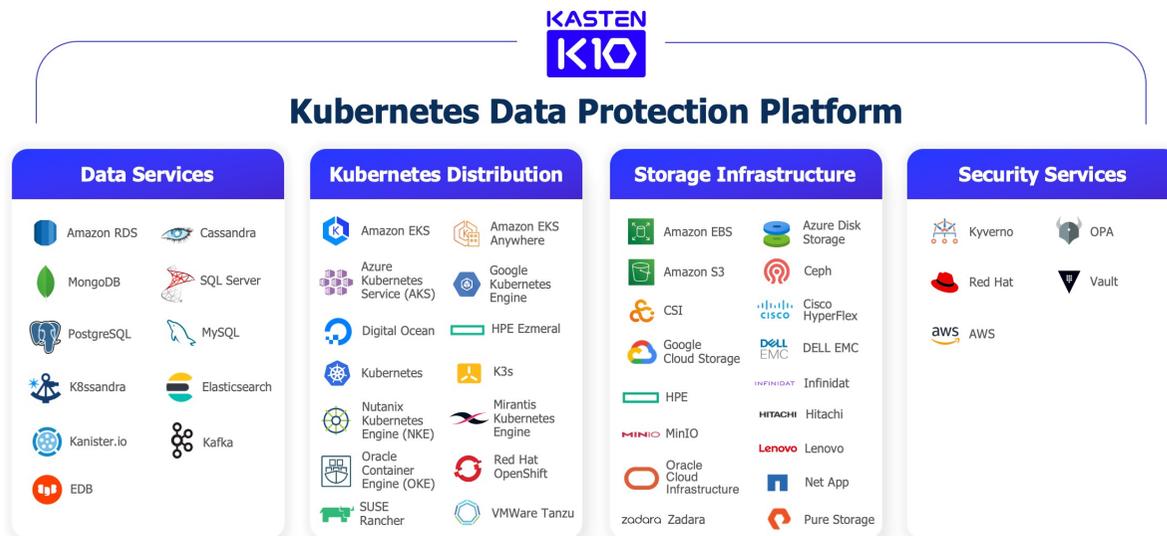
Intuitive user interface,
easy to install and manage

Kasten K10 Core Capabilities



Kasten K10 Core Capabilities

Freedom of Choice

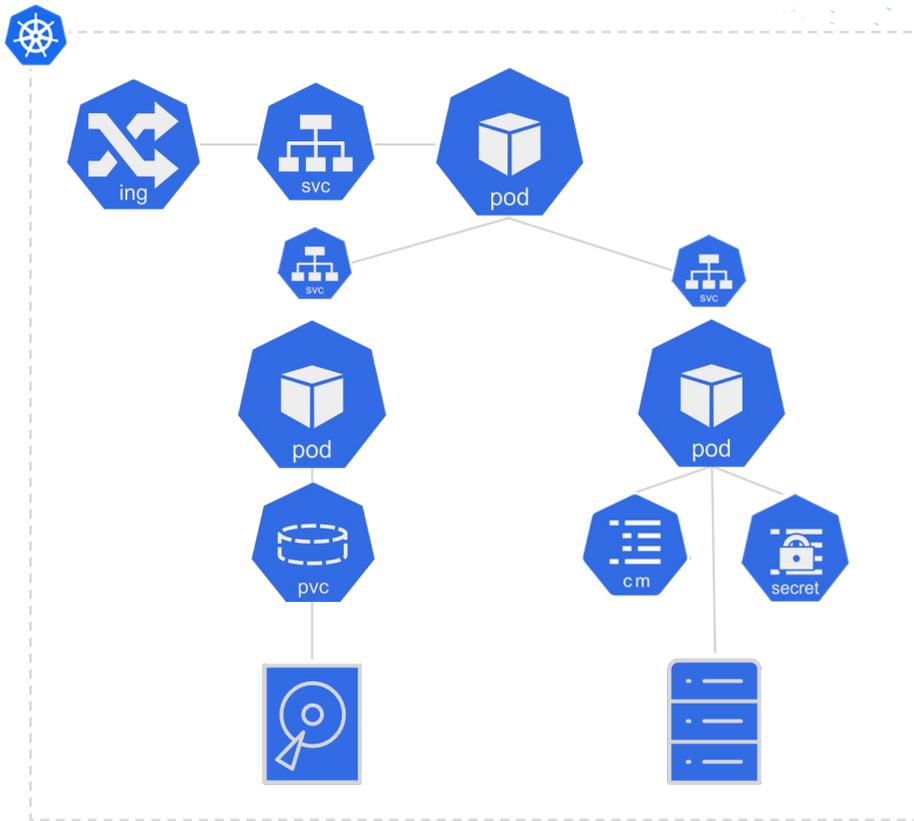


- Broad workload coverage across Cloud, Virtual, Physical, SaaS and Kubernetes environments
- Monitoring and alerts for extended observability
- Backup, recover and migrate from among on-premises and cloud environments

Application Aware Backups

Kasten K10 Core Capabilities

Application Centricity

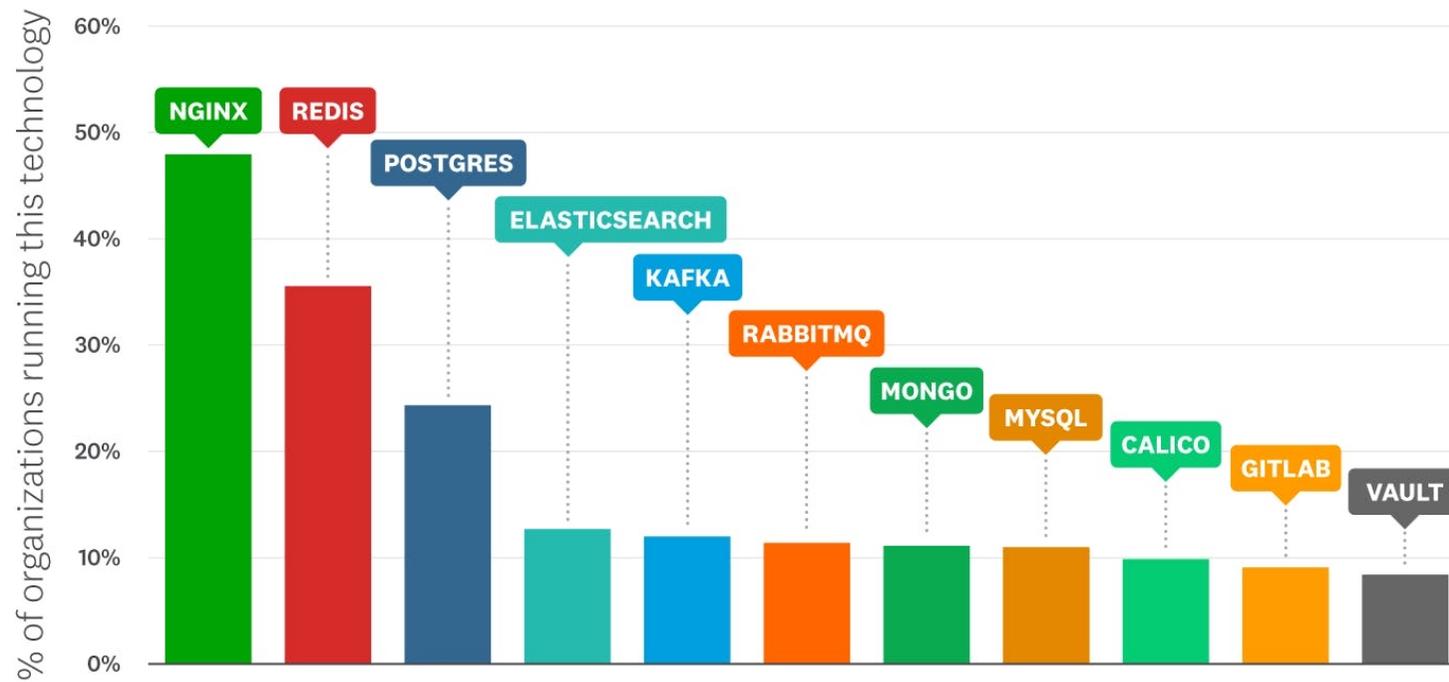


Applications as the Operational Unit

- Perform complete application capture
- Abstract underlying infrastructure
- Perform coordinated operations

Database Adoption Is Leading The Way

Top Technologies Running on Containers



Source: Datadog

Kasten Consistency Spectrum

Options for every workload



Generic Backup

- Traverses live filesystem
- Requires sidecar container
- NOT a snapshot



Crash Consistent

- Storage-level snapshot only



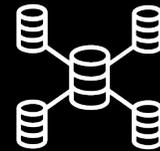
App Consistent

- Freeze data service
- Storage snapshot
- Unfreeze data service



Logical Backup

- Logical dumps via data service-specific tool (e.g., elasticdump)



System Consistent

- Full app capture
- Combination of tools across data and storage layers

But How?!

Introducing Blueprints, powered by Kanister

What is it?

- Kanister is an Open Source framework developed by Kasten
- Controller integrated into Kasten deployment
- Allows domain experts to capture app-specific logic for data management – **Blueprints**
- Allows for shared Blueprints across apps
- Powers Kasten app consistent, logical, and generic backup capabilities
- Want the deep dive?!
<https://docs.kanister.io/>

```
! mongodb-hooks.yaml U •
instruqt-tracks > multitenancy-and-rbac > ! mongodb-hooks.yaml
1  apiVersion: cr.kanister.io/v1alpha1
2  kind: Blueprint
3  metadata:
4    name: mongo-hooks
5  actions:
6    backupPrehook:
7      phases:
8        - func: KubeExecAll
9          name: lockMongo
10         objects:
11           mongoDbSecret:
12             kind: Secret
13             name: '{{ .StatefulSet.Name }}'
14             namespace: '{{ .StatefulSet.Namespace }}'
15         args:
16           namespace: '{{ .StatefulSet.Namespace }}'
17           pods: '{{ range .StatefulSet.Pods }} {{.}}{{end}}'
18           containers: "mongodb"
19           command:
20             - bash
21             - |
22               export MONGODB_ROOT_PASSWORD='{{ index .Phases.lockMongo.Secrets.mongoDbSecret.Data "mongodb-root-password" | toString }}'
23               mongo --authenticationDatabase admin -u root -p "$MONGODB_ROOT_PASSWORD" --eval="db.fsyncLock()"
24         backupPosthook:
25           phases:
26             - func: KubeExecAll
27               name: unlockMongo
28               objects:
29                 mongoDbSecret:
```

Application Mobility

Transforms

Modify manifest data during restore



Transform Sets

Shared transforms for cloning, mobility, and DR



Any Private or
On- Premises
Cloud



Google Cloud Platform



Transforms Library




IBM **Cloud**

Any Private or
On- Premises
Cloud

- Transforms apply to metadata (at restore) to apply proper networking config, deployment replicas, storage class, and other parameters.
- Create your own custom libraries that can be saved and reused to streamline operations and ensure consistency

Kasten K10 V6.5

Fast Paced Innovation



Get Started with Kasten K10 Today

Free up to **5 Nodes**
No Feature Gate...



kasten.io/free-kubernetes

*Subscription terms vary

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