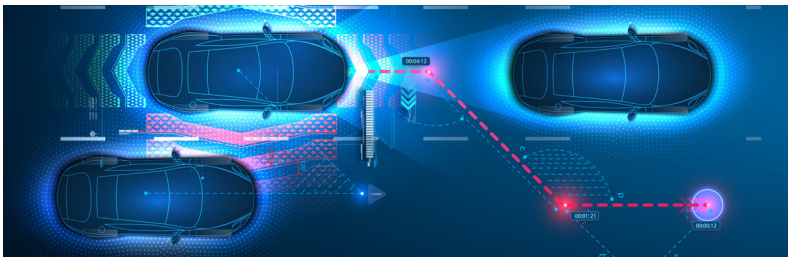
Zenseact Streamlines Backup Management, Accelerates Self-Driving Innovation with Kasten K10 by Veeam



Industry: Automotive

Use Case: Backup and Disaster Recovery

Company

zenseact

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

Background: Bringing Zen to Drivers Everywhere

Headquartered in Gothenburg, Sweden, **Zenseact** creates innovative automotive software for self-driving solutions that enable end customers to feel so safe and relaxed that they reach a "zen" state of mind. The company originates from Volvo Cars and Zenuity, and develops software, tools and methodology from a safety-first mindset. Zenseact's trusted Advanced Driver Assistance Systems (ADAS) and next-generation Autonomous Drive (AD) features for consumer vehicles have already been hardened across more than 11 car brand deployments, including Volvo Cars. With an office in Shanghai, China and an international team of employees from 55 countries, Zenseact's goal is to make safe and intelligent mobility real for everyone, everywhere.

"We are passionate about life and safety," said Johan Jansson, Scrum Master and Service Owner at Zenseact. "Our purpose is to protect life on the road by providing a software platform for innovative and safe self-driving features that will change our societies forever."

To fulfill this purpose, Zenseact is working with Volvo Cars to create an unsupervised autonomous vehicle solution for consumer vehicles. According to Jansson, self-driving cars will reduce fatal car accidents by more than 85%, saving more than 50,000 lives.

Challenge:
The Move from VMs to Containers Required an Effective Backup and Recovery Solution

The autonomous driving sector is a fast-growing industry – and extremely competitive. "To ensure we stay at the forefront of the sector, we cannot afford delays," Jansson said. "Moving fast is central to the Zenseact mission, so we're always looking for ways to do things more efficiently."

To retain its position at the leading edge and continue to innovate at a rapid pace, Zenseact decided to move its development environment from virtual machines (VMs) to containers. According to Jansson, VMs require frequent updates and patches, which takes time, and dynamic resource allocation made possible by containers is key for increasing development and delivery speeds. "With containers, we can reduce overhead and free up time and resources for development and innovation," he said. "For example, developers can change quickly and easily between development, staging and production environments, which accelerates cycle time and, ultimately, software releases. Containers are also a better approach to managing workload spikes, because they scale horizontally, when needed."

Jansson's team settled upon Kubernetes for container orchestration. But in this data-intensive environment, efficient and reliable backup processes that enable a speedy recovery are critical. To reduce the risk of downtime or data loss and keep development schedules on-track, Zenseact needed an effective data and application backup and recovery solution. After evaluating five different offerings, they selected Kasten K10 by Veeam, a cloud native backup and recovery solution for Kubernetes data and applications.

> "Of all the enterprise solutions we considered, Kasten K10 was the most capable. Of all the offerings on the market today, it's the most stable, simple to use and reliable option. Kasten K10 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

Kasten K10 Maximizes Freedom of Choice

Purpose-built for Kubernetes, Kasten K10 is a cloud native data management platform for Day 2 operations. It provides enterprise DevOps teams with an easy to use, scalable and secure system for backup/restore, disaster recovery and application mobility for Kubernetes applications. Kasten K10 integrates with relational and NoSQL databases, all major Kubernetes distributions, and runs in any cloud to maximize freedom of choice.

Key Characteristics of Kasten K10 include:

Application Centricity: Applications are the operational unit for Kasten K10. It automatically scans the environment, discovering all applications and associated artifacts to protect, as well as any changes to the environment. It provides built-in compliance monitoring to update protection status of all applications. Finally, it abstracts underlying infrastructure and performs coordinated operations.

Policy-Driven Management: Automated policies are a key Kasten K10 differentiator, enabling users to set up. Set up custom and default policies to meet their data management needs. Policies provide automated enforcement to help meet your SLA's.

Observability: An Intuitive UI, and feature-rich dashboard enable users to quickly understand the up-to-date protection status of your applications, and easily determine if any corrective action is necessary. Out-of-the-box dashboards, metrics and alerts provide deep insights into the environment.

Enhanced Extensibility: Kasten K10 minimizes time for new deployments by enabling developers to select the best tools available for a task. Kasten K10 easily integrates tools of choice in operational Kubernetes environments, such as external data services, and monitoring and alerting tools.

> "The Kasten K10 interface is extremely simple and easy to use, and we were able to get up and running quickly without any issues."
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> **Johan Jansson**, Scrum Master and Service Owner, Zenseact

Managing a High-Performance, High-Volume Environment

Zenseact's complex IT environment consists of two data centers and a separate HPC system to support high-performance computing. There are 30-40 applications running on service clusters. The infrastructure team is currently onboarding CI/CD applications such as Gerrit, Artifactory, Zuul, Jenkins, GoCD, Bazel, Buildbard and Elasticsearch, and will continue to do so throughout 2022, adding CI/CD and deep-learning workloads. The CI/CD systems are running on 400 VMs of various sizes, and there are close to 1,000 VMs supporting various use cases, some of which have microservice application setups.

While most of the workloads are running in VMs, the number of use cases for Kasten K10 is growing, as the company shifts toward a containerized environment.

"We plan to be finished moving CI/CD applications and workloads from VMs platform to containers in 2022," Jansson said. "By the end of 2023, we'll have multiple clusters on multiple environments, where developers can easily deploy between them, and we'll apply OpenShift as a container runtime standard on a company-wide level, so that at least 50% of our VMs will be converted into containers running on OpenShift."

Currently, Kasten K10 is deployed across roughly 60 nodes, with about 1.5 petabytes of NVME-based storage. Zenseact uses Red Hat OpenShift Container Storage, along with Dell Isilon S3 shares to store the backups, and a bare metal cluster for OpenShift.

Reliable Backup for Multiple Use Cases

Jansson said the team will leverage Kasten K10 in a number of use cases, including backing up application data and OpenShift-specific configurations, projects such as service and routes configurations, Persistent Volumes and deployments. The following features of Kasten K10 are particularly useful to Jansson's team:

For Admins:

- The ability to view and monitor all backups, and track success rates and retention policies
- Full access to the RBAC cluster and backup and restore features
- The ability to create cluster-wide backup and retention policies and control backup iterations
- The ability to send alerts when a backup fails through OpenShift Alertmanager to external monitoring tools and Slack channels

For Developers:

- A clear overview of backup jobs
- The ability to select from predefined backup and retention policies and control backup iterations
- The ability to restore persistent volumes and projects as new, unique projects
- The ability to receive alerts of failed backup jobs through OpenShift Alertmanager via external monitoring tools and Slack channels

> "Kasten K10 empowers our developers with the freedom to perform any infrastructure task in an intuitive and safe way. They can decide for themselves if data is critical and how often to create backups. Our team is lean, so it's important that we have smart automations. Standardizing on customizations and providing self-service through automation saves us a lot of time and accelerates development."
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> **Johan Jansson**, Scrum Master and Service Owner, Zenseact

Results: 150 Hours Per Month Saved on Backup Management

Today, Zenseact's 500 developers use Kasten K10 to automatically perform backups when they set up a new project. By combining Kasten K10 with Red Hat Ansible Tower, the team can leverage self-service features to select from predefined backup policies that are applied automatically, simplifying management and execution of backups. Restoring data is fast and easy, as well.

All in all, Jansson estimates Kasten K10 has saved the team about 150 hours per month on backup management, which can be reinvested in innovation. "It's so much faster and easier for our developers to back up their work because they can manage it directly, without risk," he said. "By saving time, we're accelerating time-to-market, and policy automation cuts the risk of data loss without delaying the development process."

Jansson said that Kasten K10 supports Zenseact's strategic transition to containerized workloads as it's evolving to support the team's changing needs. "We've seen our input integrated into upcoming functionality, and it's great to be part of making the product better for all customers," he said.

> "With Kasten K10 by Veeam, the IT team is no longer a bottleneck when it comes to backups. The time we're saving will contribute to shorter time-to-market, and policy automation will cut the risk of a data-loss incident delaying our product development process."
>
> **Johan Jansson**, Scrum Master and Service Owner, Zenseact

Kasten by Veeam® is the leader in Kubernetes backup and disaster recovery. Kasten K10 is a Cloud Native data management platform that overcomes Day 2 challenges by providing enterprise DevOps teams with backup/restore, disaster recovery and application mobility for Kubernetes applications. Kasten K10 features unparalleled operational simplicity and integrates with relational as well as NoSQL databases, and all major Kubernetes distributions, and runs in any cloud, maximizing user freedom of choice. Our customers are confident that their Kubernetes applications and data are protected and always available with the most easy-to-use, reliable and powerful Cloud Native data management platform in the industry. Kasten is an independent Kubernetes Business Unit within Veeam. For more information, visit **www.kasten.io** or follow **@kastenhq** on Twitter.