CloudCasa's Cross-Cluster Recovery a Game-Changer for Large Pharmaceutical Company

Complex Kubernetes Environment Highlights Shortcomings of Velero

Industry

Pharmaceutical

Challenge

- Managing Kubernetes snapshots and Amazon EKS snapshots for multiple clusters with no snapshot catalog.
- Difficulty using CLI-based user-interface. Vulnerable to user-error.
- Inconsistent behavior when migrating Kubernetes data from one cluster to another.

Solution

Software-as-a-Service offering, CloudCasa, for Kubernetes and Amazon EKS backup, recovery and cluster migration

Business Benefits

- Built-in snapshot catalog makes managing snapshots for multiple Kubernetes and EKS clusters simple and efficient.
- User-friendly, web-based, SaaS solution makes administration straightforward and removes manual, error-prone processes.
- Cross-Cluster restore provides reliable and efficient migration from one EKS cluster to another.

Hitting the Limits of Open Source Backup

Until recently, Kubernetes, and containerization as a whole, has been considered by most to be the "shiny new toy" for developers and DevOps engineers. Kubernetes has been rapidly adopted by these users, mainly to run stateless workloads. However, as more organizations turn to Kubernetes for its efficiency, scalability, and code portability through containerization, their workloads are becoming stateful with persistent data. Once application data and infrastructure as code needs to be persisted, it needs to be backed up and recovered, both in dev/test and production.

One such early adopter of Kubernetes for production use-cases is a multi-billion-dollar pharmaceutical company. This particular organization has a fast-growing Kubernetes environment, consisting of over 50 Amazon EKS clusters.

Within these clusters, are several EBS volumes of about 1TB in size, containing data for critical eCommerce applications. Ensuring that this data is not lost due to user error, ransomware attack or a disaster recovery (DR) is incredibly important. With that in mind, the Kubernetes team at this organization utilized Velero, an open-sourced backup and recovery tool for Kubernetes.

However, several problems arose when using Velero for Kubernetes snapshots. First, with such a large Kubernetes environment, managing snapshot policies for multiple clusters became a full-time job. Second, since the tool is CLI-based and lacks a catalog for the backup data, Velero is not easy to use and presents risk of user-error. Finally, if data needed to be migrated to another cluster, whether that be for DR purposes or for other reasons like application migration or separating staging and production accounts, this process was very cumbersome and error prone.

With that in mind, this organization began to look for a multi-cluster data protection alternative to Velero and they found CloudCasa.
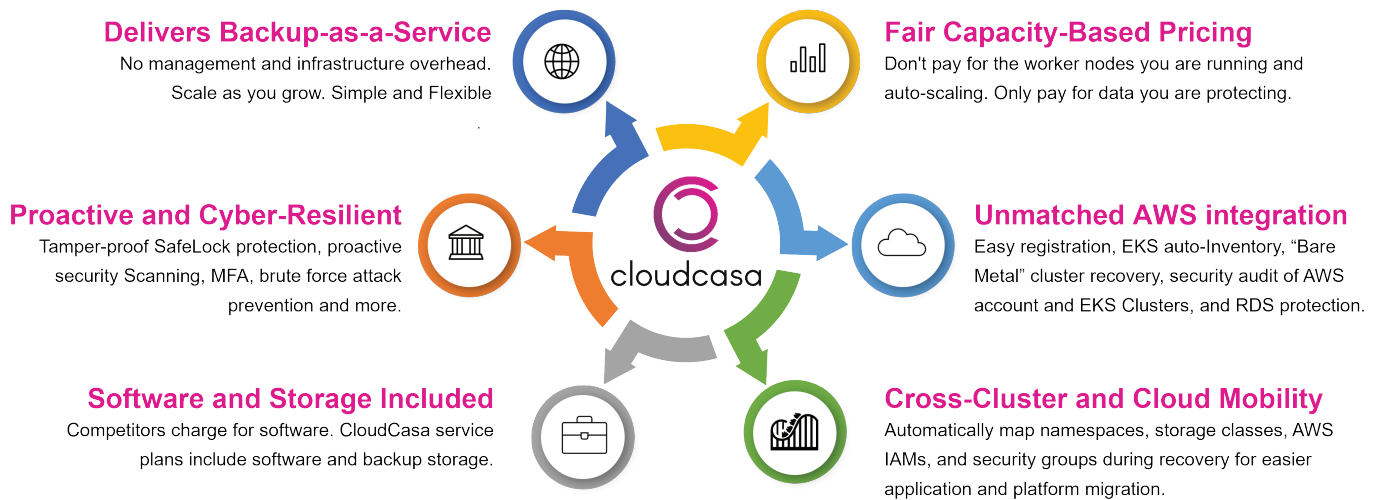
Identifying the Solution

CloudCasa by Catalogic is an award winning backup service for protecting Kubernetes workloads, cloud databases, and cloud native applications, that is free to start using. As a SaaS solution, CloudCasa is cyber-resilient by design while removing the complexity of adding and managing the traditional backup infrastructure that is required for Velero. By simply registering their Kubernetes clusters in the CloudCasa portal, users can perform, schedule, and manage CSI and EBS persistent volume snapshots for free.

Backup data can be securely moved and stored in either CloudCasa's managed object storage or in their own S3 buckets, as part of a paid service plan. Administrators can easily set global policies that span their multi-cluster, multi-account cloud environment from a single UI.

In addition to being application aware, CloudCasa is also cloud platform aware. Cloud-Casa integrated with this organization's AWS accounts to auto-discover and protect their Amazon EKS Clusters. So not only does CloudCasa protect their Kubernetes persistent volumes, it also automatically protects their cluster resource data and EKS specific configuration data as well.

> "*Application migration support requires users to use backup and restore workflows to migrate applications or data services between environments. This latest version of CloudCasa supports lift-and-shift migrations, application transformation, and cloud migration use cases. CloudCasa enables heterogeneous restores between different storage classes, allowing the mapping of different storage classes within the CSI and EBS realm, and enabling DR-to-the-cloud migration scenarios.*"
> – Enrico Signoretti
> Research Product Manager, GigaOm

Delivers Backup-as-a-Service
No management and infrastructure overhead. Scale as you grow. Simple and Flexible

Fair Capacity-Based Pricing
Don't pay for the worker nodes you are running and auto-scaling. Only pay for data you are protecting.

Proactive and Cyber-Resilient
Tamper-proof SafeLock protection, proactive security Scanning, MFA, brute force attack prevention and more.

Unmatched AWS integration
Easy registration, EKS auto-Inventory, "Bare Metal" cluster recovery, security audit of AWS account and EKS Clusters, and RDS protection.

Software and Storage Included
Competitors charge for software. CloudCasa service plans include software and backup storage.

Cross-Cluster and Cloud Mobility
Automatically map namespaces, storage classes, AWS IAMs, and security groups during recovery for easier application and platform migration.

Unique Enterprise Benefits

From a recovery perspective, backup data from Kubernetes and EKS can be used to restore everything from the cluster itself, to specific namespaces, and even individual resources like cronjobs or secrets. In the case of this pharmaceutical company, the biggest benefit was CloudCasa's ability to perform cross-cluster recovery with that data. This allows them to take information backed-up from one AWS EKS cluster and restore that data into a different cluster altogether. More specifically, they could take snapshots of data that existed in their "Prod" AWS account and migrate that data using cross-cluster restores into their "Dev" AWS account, which could then be used for dev ops testing, etc.

Another benefit of using CloudCasa to protect AWS EKS clusters is its ability to create EKS clusters on the fly, during a restore. With Bare Metal Cluster Recovery, there is no need to have a standby cluster always running, simply waiting for a recovery to happen. CloudCasa will simply create a new EKS clusters using the configuration from the old, eliminating the manual work needed to transition to a standby cluster, as well as the cost that is needed to keep one running.

Turning Shortcomings into Strengths

Before utilizing CloudCasa, this pharmaceutical company had three major concerns associated with their use of Velero. Not only was the tool not user-friendly, but it also required a lot of administration to manage those snapshots, especially when multiple EKS cluster were involved. It also had limitations when it came to data migration and DevOps workloads. CloudCasa, with its ability to store backup data in the cloud, manage backup policies from a user-friendly UI, and perform cross-cluster recovery, provides major benefits where there used to be weaknesses.

To learn more about CloudCasa or to sign up for the free service plan (no credit card required), visit CloudCasa.io. Please feel free to get in touch with any comments or feedback on CloudCasa and what your requirements for cloud-native and cross-cloud backup are.

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