XCrypt Kubernetes Encryption

Transparent, high performance encryption for Kubernetes environments

XCrypt Kubernetes Encryption is a first-of-its-kind, software-only solution that encrypts data at-rest across your Kubernetes environment. It provides a transparent, high performance layer of security that will not only protect one of your most important assets no matter where it resides, but also help your organization efficiently transition from DevOps to DevSecOps.

The challenges of transitioning to DevSecOps

DevOps tactics are drastically changing the way that IT organizations increase efficiencies and drive innovation. But as this transformation continues, IT leaders are finding that integrating security into new technologies being used – like container software and Kubernetes – is not keeping pace with continuous delivery software development. Traditional approaches to security and manual controls are often perceived as an impediment to speed, and many organizations push forward without the appropriate levels of security to get to market faster, only to experience delays in application releases due to security concerns.

However, this is changing as the DevSecOps trend gains momentum. Organizations are looking for ways to embed security throughout their DevOps pipelines so developers can work how they need to without compromising their overall security posture. One of the critical components of a transition to DevSecOps is data protection, but it becomes increasingly difficult in environments with thousands of containers being orchestrated and managed by Kubernetes.

Kubernetes creates even more complexity

With containers becoming so prevalent, it's easy to see why a management platform like Kubernetes is said to be "taking over the world." Although Kubernetes is great for managing and orchestrating containers, it does not provide native data protection capabilities. Zettaset XCrypt Kubernetes provides a granular approach to encryption for even the most complex Kubernetes environments. It creates a transparent, high performance layer of security that won't slow you down, while also enabling a simple and elegant transformation to DevSecOps.

Kubernetes protects your "secrets." XCrypt protects your data.

XCrypt Kubernetes Encryption provides a software-only solution for simply and efficiently encrypting data-at-rest in any Kubernetes environment.
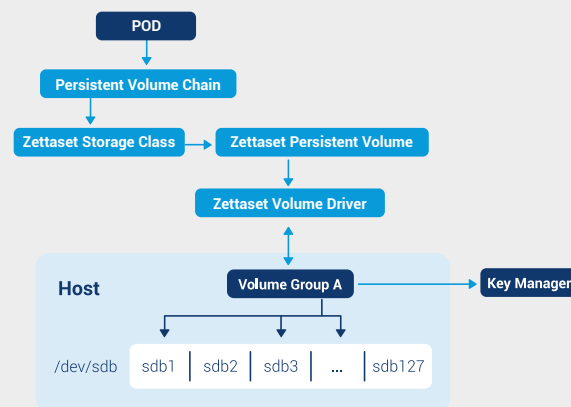
1. Admin configures a storage profile using Zettaset's encrypted volume storage class.

2. Developer (POD) makes persistent volume claim (PVC) using encrypted volume storage profile.

3. Zettaset's volume driver requests a volume from the host.

4. Zettaset's volume manager constructs a volume from various partitions on the device and creates a dedicated volume group.

5. The volume manager communicates with the key manager to create a key and encrypt the volume.

6. Using storage classes supports dynamic provisioning. In normal Kubernetes volumes, one container can fill up a partition that other containers are using, wedging them all.

Use cases include:

- Transitioning from DevOps to SecDevOps

- Ensuring data protection in Kubernetes environments without performance impact

- Achieving compliance in highly-regulated industries like healthcare and finance

Protect your data, not just your "secrets" with XCrypt Kubernetes Encryption

Kubernetes Secrets enable you to store and manage sensitive information such as passwords, tokens, and keys that might otherwise be put in a Pod specification or an image. But what about your data? Kubernetes environments are like the wild west when it comes to data storage and access – which means that data protection must be approached in a fundamentally different manner. With so many systems and network topology that's constantly changing, you need more than manual controls or legacy storage encryption to protect data from all the new attack vectors that are created in highly distributed container environments.

XCrypt Kubernetes Encryption was specifically built to protect one of your most important assets – your data – in today's complex and demanding Kubernetes environments. As a software-only solution, it provides a transparent layer of security to every component of your DevOps pipeline to simplify data protection and enable an elegant transformation to DevSecOps.

- Software-only for incredibly simple deployments
- Negligible impact on performance
- Container storage and data separation
- Part of an enterprise-grade approach to security

- Direct integration with Kubernetes
- Encryption key per each container volume
- Automated encryption policy management
- Secure erase of volumes rather than partitions

About Zettaset

A software-defined encryption vendor that provides security products for the most important and prevalent DevOps tools deployed.

Zettaset provides software-defined encryption solutions that protect against data theft and can be transparently deployed across all physical and virtual environments. Its products are designed for medium to large enterprises that deal with sensitive information that would expose them, financially and reputationally, in the event of a breach. Unlike traditional solutions that are appliance-based, Zettaset is a cost-effective, software-only solution that is easy to deploy, does not impact performance, and scales with your business from on premise to the cloud.

Zettaset

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