THALES

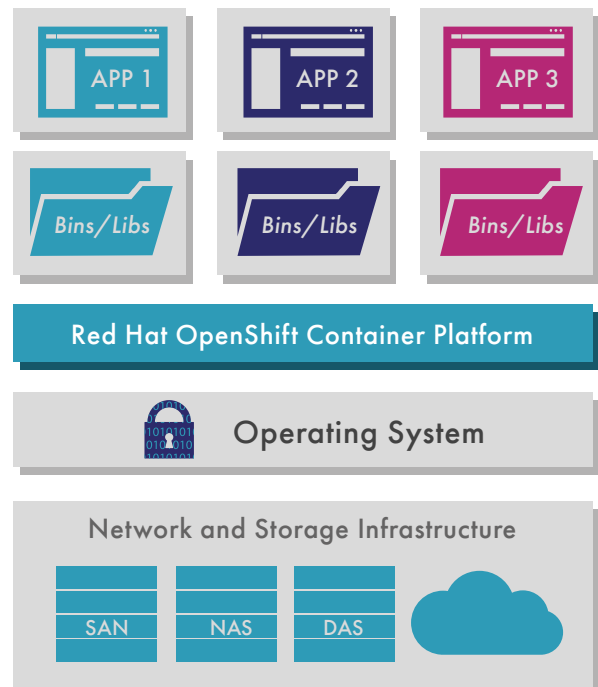# Red Hat and Thales use transparent encryption to protect containers

In-depth transparent data encryption enables safe and secure deployment of OpenShift Containers

- Deploy containers with enhanced security without affecting usability
- Install seamlessly in multi-tenant, cloud, and on-premises environments
- Protect all sensitive data at rest in storage or accessed from containers
- Use transparent encryption, without changing containers or applications
- Benefit from policy-based encryption, access controls, and audit logging

The problem: deploying container technology and protecting sensitive data with confidence

Container technology continues to see rapid adoption. A recent study by 451 Research showed that 40% of enterprises worldwide are already using containers in production, with 18% deploying in mission critical applications. When asked in the same survey to identify the number one IT security control that would allow them to increase deployment of production applications to containers, their top answer was encryption.

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APP 1	APP 2	APP 3
Bins/Libs	Bins/Libs	Bins/Libs

Red Hat OpenShift Container Platform

Operating System

Network and Storage Infrastructure

SAN	NAS	DAS

Red Hat OpenShift Container Platform employs CipherTrust Transparent Encryption from Thales to manage encryption keys used to secure sensitive data and credentials used to control privileged access.

The challenge: deploying production applications in containers while complying with regulations

While there are many advantages to the adoption of container technology, there are special considerations when deploying containerized applications that use highly sensitive data. Compliance with government and industry data security regulations require implementation of robust data security technologies that can affect operational performance. In-depth transparent encryption enables organizations to deploy production applications that use sensitive and closely regulated information in containers without impacting performance, and ensuring compliance with HIPAA, PCI DSS, and GDPR, as well as, the control of privileged users and insiders.

The solution: non-disruptive transparent encryption

Red Hat® OpenShift Container Platform offers an enterprise-ready container platform based on Kubernetes, Red Hat Enterprise Linux, and the integrated Docker container runtime. By combining these open source technologies, Red Hat, as a leading contributor to both the Docker and Kubernetes projects, helps customers to more quickly roll out new services with the support of a stable, reliable and more secure enterprise container solution powered by the world's leading enterprise Linux platform.

When combined with CipherTrust Transparent Encryption from Thales, the solution affords added layers of security, managing the encryption keys used to secure sensitive data at rest, and the credentials used to control privileged users and insiders. Engineered to run in the Red Hat OpenShift platform environment, CipherTrust Transparent Encryption enables customers to use new container technology with confidence.

The joint solutions deliver maximum security, offering enhanced data protection using robust AES-based encryption. Security controls employing granular access, time, data type, and data location also protect sensitive data, and real-time alerting provides additional security from unauthorized access to protected data.

Why use CipherTrust Transparent Encryption with OpenShift?

CipherTrust Transparent Encryption protects data with file and volume level at-rest encryption, controls access, and provides data access audit logging – without having to re-engineer applications, databases, or infrastructures. CipherTrust Transparent Encryption:

- Enables high performance through the use of native hardware encryption
- Protects against privileged escalation by OS root users
- Minimizes encryption impact on service level agreements and need for additional computer resources through the use of a distributed agent-based deployment model
- Centrally manages security and encryption policies, as well as aggregate logging and reporting

CipherTrust Transparent Encryption, together with the CipherTrust Manager from Thales, provide policy and encryption key management to deliver scalability, flexibility, and efficiency.

The combination of OpenShift with CipherTrust Transparent Encryption and CipherTrust Manager delivers a comprehensive solution to mitigate the risk of increasingly sophisticated advanced persistent threats. With software installed on servers or on virtual machines to enforce data security and compliance policies, deployment of CipherTrust Transparent Encryption is simple, scalable, and fast.

About Thales

The people you rely on to protect your privacy rely on Thales to protect their data. When it comes to data security, organizations are faced with an increasing number of decisive moments. Whether the moment is building an encryption strategy, moving to the cloud, or meeting compliance mandates, you can rely on Thales to secure your digital transformation.

Decisive technology for decisive moments.

Red Hat

Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to deliver reliable and high-performing cloud, Linux, middleware, storage and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.

For more detailed technical specifications, please visit cpl.thalesgroup.com or www.redhat.com

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