



ENTRUST

Entrust nShield and Red Hat OpenShift deliver enhanced security to containers

Integrated solution enables containerized applications to easily and efficiently access cryptographic services

HIGHLIGHTS

- Deliver higher level security for the hybrid cloud with Red Hat OpenShift and Entrust
- Provide secure controlled access to nShield® hardware security module (HSM) services
- Enable security and key management to run transparently
- Allow dynamic, rapid application deployment
- Utilize powerful platform to deploy and orchestrate containers protected by FIPS 140-2 and Common Criteria certified nShield HSMs

The Problem:

Ensuring applications run reliably and securely no matter the user environment

As modern application development and deployment have evolved to meet demands for flexibility and scalability, development teams are increasingly relying on containers and Kubernetes. Kubernetes is an open-source container platform that meets the dynamic needs of today's development teams, helping them to deploy applications that run reliably no matter the user environment. When applications require an enhanced level of protection, developers need the ability to incorporate cryptographic operations. Adequately protecting these cryptographic operations is also vital to ensure the integrity of the applications and data.



Red Hat

Learn more about our HSMs at [entrust.com/HSM](https://www.entrust.com/HSM)



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The Challenge:

Enabling developers using containers to have easy access to cryptographic services

As more critical enterprise applications are developed using containers, ensuring their security is vital. Applications requiring cryptographic capabilities including key generation, digital signing, and data encryption need an easy and efficient way to access robust cryptographic services to facilitate security auditing and regulatory compliance.

The Solution:

Red Hat OpenShift container platform and nShield HSMs

Red Hat OpenShift is a container orchestration cloud platform that includes everything needed for containerized Kubernetes application development and deployment in hybrid cloud environments. OpenShift enables development, test, staging, and production teams to work in a common environment to deliver a write once, run anywhere capability so software can run reliably when moved across computing environments.

Red Hat OpenShift provides:

- Integrated platform including container host, Kubernetes, and application life-cycle management using your choice of infrastructure
- Greater value from operations and development teams throughout the application life-cycle
- More secure, validated container content and services from a wide partner ecosystem

- Faster application development cycles and more frequent software deployments with simpler installations and upgrades, even in air-gapped environments
- Lower IT operations costs and application portability across hybrid cloud and multi-cloud footprints

Red Hat OpenShift integrates with Entrust nShield HSMs and the nShield Container Option Pack to enhance the security of containerized applications that use cryptographic services.

Why use nShield with Red Hat OpenShift?

nShield HSMs are specifically designed to safeguard and manage cryptographic keys and processes within a certified hardware environment to establish a root of trust. nShield HSMs protect critical assets such as payment card details, personal information, applications, and business critical data. Critical keys handled outside the cryptographic boundary of a certified HSM are significantly more vulnerable to attacks that can lead to disclosure of confidential information. nShield HSMs provide a hardened, tamper-resistant environment for performing secure cryptographic processing, key protection, and key management.

nShield Container Option Pack provides a set of scripts to enable the seamless development and deployment of containerized applications or processes underpinned by a high-assurance HSM.



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For DevOps and DevSecOps, nShield Container Option Pack provides the tools and proven architecture to deploy containers at scale as part of a continuous improvement/continuous development (CI/CD) process. When the time from development to deployment is tight, nShield Container Option Pack accelerates the development of container images with cryptography provisioned by an nShield HSM root of trust.

Entrust HSMs

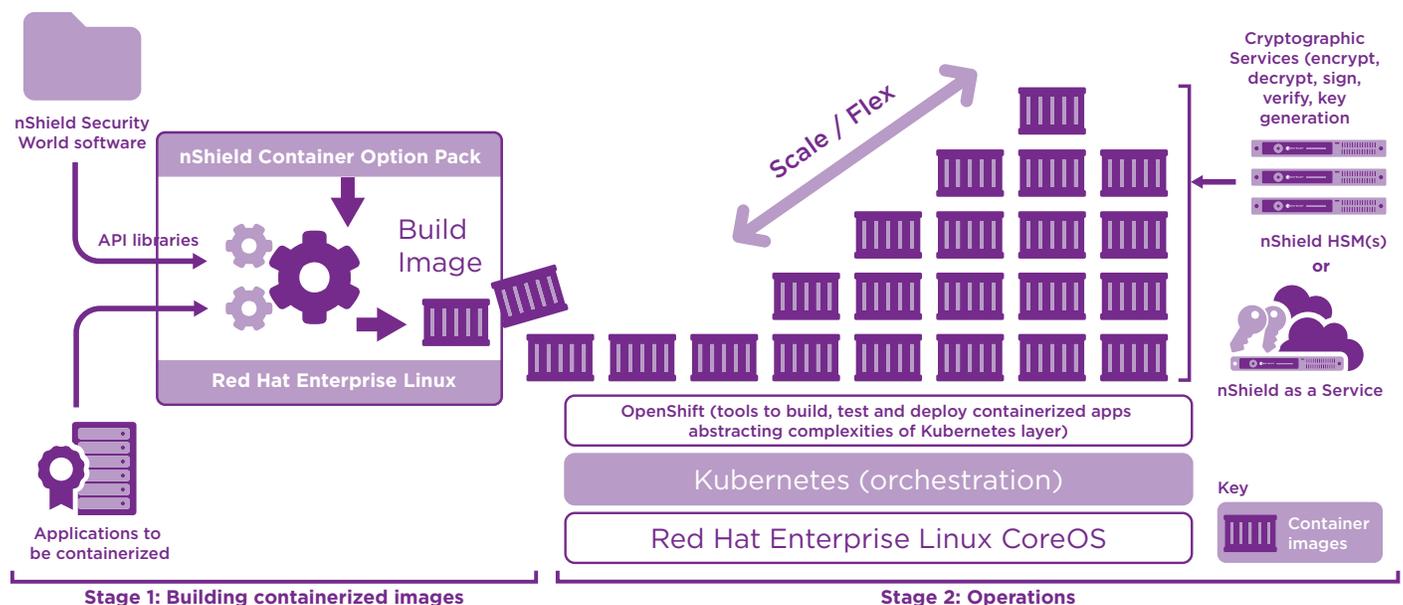
Entrust nShield HSMs are among the highest-performing, most secure and easy-to-integrate HSM solutions available, facilitating regulatory compliance and delivering the highest levels of data and application security for enterprise, financial and government organizations. Our unique Security World key management architecture provides strong, granular controls over access and usage of keys.

Red Hat

Red Hat provides open source solutions for the enterprise. In addition to Red Hat OpenShift, solutions include Red Hat Enterprise Linux, Red Hat Certificate System, and Red Hat OpenStack platform, among a broad range of management and services. nShield HSMs support Red Hat OpenShift container platform, enhancing security and providing a root of trust. [redhat.com](https://www.redhat.com)

Learn more

To find out more about Entrust nShield HSMs visit [entrust.com/HSM](https://www.entrust.com/HSM). To learn more about Entrust's digital security solutions for identities, access, communications, and data visit [entrust.com](https://www.entrust.com)



To find out more about
Entrust nShield HSMs

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ABOUT ENTRUST CORPORATION

Entrust keeps the world moving safely by enabling trusted identities, payments, and data protection. Today more than ever, people demand seamless, secure experiences, whether they're crossing borders, making a purchase, accessing e-government services or logging into corporate networks. Entrust offers an unmatched breadth of digital security and credential issuance solutions at the very heart of all these interactions. With more than 2,500 colleagues, a network of global partners, and customers in over 150 countries, it's no wonder the world's most entrusted organizations trust us.

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