



**ENTRUST**



## NetApp ONTAP Integration with Entrust KeyControl and nShield HSMs

This solution delivers lifecycle management of keys protecting on-premises and cloud-based encrypted workloads, with a FIPS-and Common Criteria-certified high assurance option.

### HIGHLIGHTS

- Delivers simplicity and flexibility of the cloud to the data center
- Brings capabilities of enterprise data center to the public cloud
- Combines new level of security with powerful data management
- Provides proven storage efficiency and leading cloud integration
- Facilitates auditing for compliance with data security regulations

### The Problem:

**Widespread use of encrypted workloads across on-premises and cloud-based deployments has led to the proliferation of cryptographic keys whose lifecycles need to be managed across the organization.**

To meet growing business needs and reliably support increasing number of business applications, IT departments have moved to hybrid (on-premises and cloud-based) deployments to gain speed, agility, and cost advantages. The first step for many organizations has been to ensure the protection of the data that supports these applications, no matter where it lives.

As organizations prepare for continued growth, they look to future-proof operations and lower data storage costs through expanding use of multi-cloud deployments. However, as multi-cloud data deployments become more commonplace, organizations struggle to control their critical cryptographic keys that underpin the security of their applications and data.

# Entrust and NetApp ONTAP Integrated Solution

## The Challenge:

**Keeping data safe and complying with security regulations outside the traditional security boundary.**

High-profile data breaches and the need for compliance have propelled the use of encryption, which in turn has led to a proliferation of cryptographic keys used to protect volumes of sensitive data, not only within the enterprise's security boundary, but across multi-cloud environments.

While growing use of encryption is a welcomed security practice, associated keys unfortunately often have no clear ownership or scalable management policy, and the issue is impaired by the scarcity of skilled personnel needed to manage the process. Robust security and compliance with government regulations and industry standards requires a comprehensive approach to cryptographic key lifecycle management and automated policy enforcement.

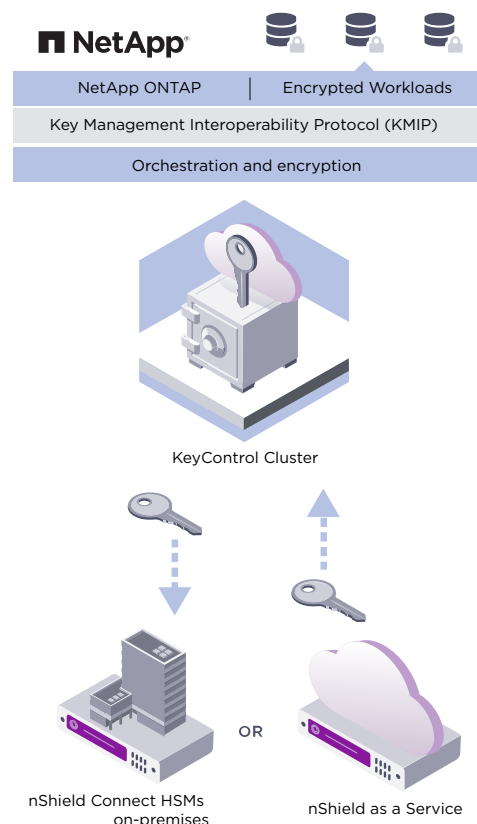
## The Solution:

**NetApp ONTAP data storage and volume encryption solution integrated with Entrust KeyControl (formerly HyTrust) key management software and optional Entrust nShield® hardware security module (HSM).**

NetApp ONTAP delivers powerful data encryption across a wide range of storage mediums, including on-premises flash and disk-based storage, as well as cloud-based models using hardware and software-defined storage. The solution unifies data management across deployment models, optimizing essential data services across the organization, helping protect against unauthorized data access and ransomware attacks.

NetApp ONTAP integrates with Entrust KeyControl key management software to manage encryption keys across the various deployed environments. Using the Key Management Interoperability Protocol (KMIP) open standard, Entrust KeyControl establishes and enforces key use policies and manages the lifecycle of keys used by ONTAP to protect encrypted data in storage. With the added option to integrate Entrust nShield HSMs, the solution delivers high assurance security with a FIPS 140-2 and Common Criteria EAL4+ certified root of trust for key generation.

Entrust nShield HSMs offer FIPS 140-2 Level 3 and Common Criteria EAL4+ protection for the keys that protect privileged account credentials. This provides an added layer of security protecting both access credentials and the doors they open to privileged accounts and the sensitive data they hold.



NetApp ONTAP integrates with Entrust KeyControl to manage the lifecycle of keys protecting encrypted workloads, on premises and across multi-cloud environments. Option to add Entrust nShield HSMs delivers high assurance key generation.

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



# Entrust and NetApp ONTAP Integrated Solution

## A Closer Look:

### Why use Entrust KeyControl with NetApp ONTAP?

KeyControl manages encryption keys across virtual machines and encrypted data stores, and can scale to support thousands of encrypted workloads in large deployments. Up to four key managers can be added to a cluster to increase availability and resiliency in high volume key request environments.

- Integration of Entrust KeyControl with NetApp ONTAP:
- Interfaces with the endpoint encrypted workloads using the KMIP open standard
- Enforces key use policies, separating security functions from administrative tasks

### Why add Entrust nShield HSMs to the solution?

The option to add a certified nShield HSM enables the combined solution to provide a hardened, tamper-resistant environment for robust cryptographic key generation. Using HSMs as part of an enterprise encryption and key management strategy is considered a best practice among cybersecurity professionals.

Addition of nShield HSMs to integrated solution:

- Provides a tamper resistant environment for generating high entropy keys
- Delivers certified root of trust to facilitate auditing and regulatory compliance

## About Entrust Keycontrol with nShield HSMs

Entrust KeyControl is a scalable and feature-rich KMIP server that simplifies key management for encrypted workloads. KeyControl can be upgraded to Entrust DataControl to enable multi-cloud workload encryption and policy-based key management. The solution ensures the enforcement of key use policies, even when moving across private and public cloud platforms. KeyControl can integrate with Entrust nShield HSMs (on-premises or as a service) to enable high assurance lifecycle management of keys. nShield HSMs deliver the highest levels of data and application security for enterprise, financial, and government organizations. Learn more at [entrust.com/HSM](https://entrust.com/HSM)

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## About NetApp

In a world full of generalists, NetApp is a specialist. The company is focused on one thing, helping businesses get the most out of their data. NetApp brings the enterprise-grade data services that companies rely on into the cloud, and the simple flexibility of cloud into the data center. NetApp industry-leading solutions work across diverse customer environments and the world's biggest public clouds. As a cloud-led, data-centric software company, NetApp can help build unique data fabrics, simplify and connect clouds, and securely deliver the right data, services, and applications to the right people - anytime, anywhere. Learn more at [netapp.com](https://netapp.com)

To find out more about  
Entrust nShield HSMs

**HSMinfo@entrust.com**

**entrust.com/HSM**

## 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.

Learn more at  
**entrust.com**



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