



# Entrust KeyControl for VMware Data Encryption

Secure and easy key management for  
VM and vSAN encryption



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# Key management for vSphere and vSAN encryption

Entrust KeyControl streamlines the adoption of VMware vSphere® and vSAN™ encryption through easy and secure key management services. Entrust KeyControl has been designed for enterprise-grade performance.

## A pre-integrated, always-on key management server (KMS)

Entrust KeyControl delivers encryption keys as a KMIP server to the requesting VMware KMIP client. Because keys can be issued, revoked, and re-issued – sometimes frequently – the architecture has been built to withstand the demands of enterprise deployments.

- Easy and pre-integrated KMS for vSphere and vSAN
- GUI Admin for easy logging and monitoring
- Built-in automatic active-active clustering ensuring always-on KMS to address high availability and disaster recovery use cases

The screenshot displays the Entrust KeyControl web interface. At the top, there is a navigation bar with icons for Dashboard, Security, Cluster, Cloud, Audit Log, Alerts, KMP, and Settings. The main content area is titled 'Objects' and shows a table of keys. The table has columns for State, Initial Date, Last Change Date, Object Type, Identifier, and Description. Below the table, there is a detailed view of a specific key with fields for UUID, Description, Cryptographic Usage Mask, Key Format Type, Cryptographic Algorithm, and Cryptographic Length.

State	Initial Date	Last Change Date	Object Type	Identifier	Description
InActive	8/8/2017, 2:59:24 PM	8/8/2017, 2:59:24 PM	SymmetricKey		File Server 01
Active	8/8/2017, 11:14:36 AM	8/8/2017, 11:14:36 AM	SymmetricKey		DB server 01
Active	8/8/2017, 2:59:24 PM	8/8/2017, 2:59:27 PM	SymmetricKey		Web Server 01
Active	8/8/2017, 11:14:03 AM	8/8/2017, 11:14:03 AM	SymmetricKey		Web Server 02
Active	8/8/2017, 11:14:24 AM	8/8/2017, 11:14:24 AM	SymmetricKey		Web Server 03

UUID: d70d4aaa-7c84-11e7-b562-005056b77085  
Description: File Server 01  
Cryptographic Usage Mask: Decrypt Encrypt  
Key Format Type: Raw  
Cryptographic Algorithm: AES  
Cryptographic Length: 256

## KeyControl

Entrust is the only VMware-certified KMIP vendor that VMware has invested in – ensuring a smooth customer experience. Entrust KeyControl delivers encryption keys as a KMIP server to the requesting vCenter KMIP client – delivered as an OVA that installs fast and is quickly configured in VMware vCenter®.

### KeyControl includes:

- VMware-approved key management services
- FIPS 140-2 Level 1 validation
- Security hardened software appliance (delivered as an OVA)
- Built-in active-active clustering for DR and HA
- Admin GUI with RESTful APIs for DevOps integration
- Upgradeable to support a wider range of use cases



“...combined with this new [Entrust] offering of key management and VMware’s encryption, together... will make life so much easier for IT while meeting all of the security requirements.”

— Mike Foley, Senior Tech Marketing Architect vSphere Security, VMware

# VMware-ready for enterprise deployment

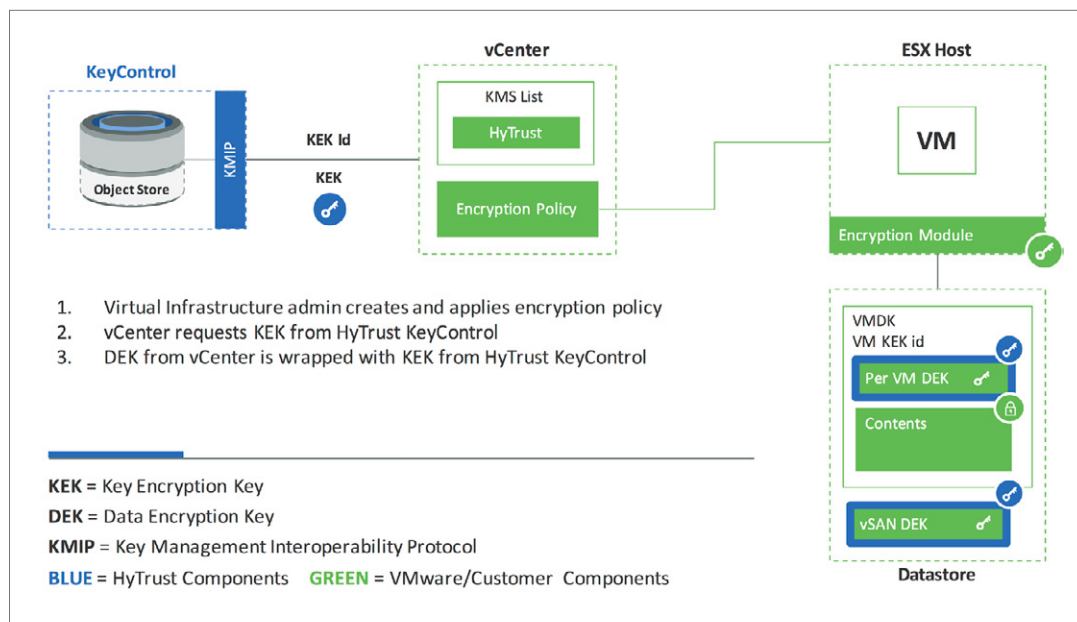
Entrust KeyControl has been certified by VMware and is the only solution to provide a proven and tested model for large-scale key management with the ease of a GUI administrative interface and the flexibility of a RESTful based API.

## How it works

The Entrust KeyControl software is delivered as an OVA, so it is fast and easy to install and connect to vCenter as a KMS.

1. The ESXi™ host (managed by vCenter) generates and uses an internal key (see diagram below), called the data encryption key (DEK), to encrypt virtual machines and disks.
2. The vCenter server then requests a key from Entrust KeyControl. This key, known as the key encryption key (KEK), is then used to encrypt the DEK.
3. The encrypted DEK and KEK IDs are stored in the disk image metadata.
4. When a VM boots up on a ESXi host, or when the vSAN datastore is brought online, that ESXi host will read the KEK ID, and request the vCenter server for the KEK corresponding to that KEK ID.
5. vCenter issues a request to Entrust KeyControl for the KEK corresponding to the KEK ID and deliver the KEK to the ESXi host.
6. The ESXi host then uses the KEK to decrypt the DEK and then use DEK for encryption and decryption.

## Architecture view



# About VMware

VMware®, a global leader in cloud infrastructure and digital workspace technology, accelerates digital transformation by enabling unprecedented freedom and flexibility in how our customers build and evolve IT environments.

Entrust aims to make private, public, and hybrid cloud infrastructure more trustworthy for enterprises, service providers, and government agencies.

**Regulatory compliance:** VMware customers can quickly meet regulatory compliance requirements that require encryption.

**Brand protection:** VMware customers can be assured of mitigation of data breaches leading to brand damage.

**Easy operations:** VMware administrators can quickly meet security and compliance requirements without operational overhead.

## Learn more

To learn how to accelerate vSphere 6.5 VM encryption with Entrust KeyControl, visit [entrust.com](http://entrust.com)

For more information

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## ABOUT ENTRUST CORPORATION

Entrust is dedicated to securing a world in motion 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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