



# Fortanix Data Security Manager for VMware Sovereign Cloud

## Market need

VMware Sovereign clouds offer continuous protection and secure accessibility controls to enable new values and opportunities data protection. Protect and control confidential or restricted data with the data residency and data sovereignty that a sovereign cloud provides, ensuring compliance with changing data privacy laws using a trusted cloud that supports a nation's digital economy. Virtual environments running VMware can readily leverage vSphere VM Encryption or vSAN encryption to protect VMs and data-at-rest. However, enterprise key management that is both secure and adaptable to a dynamic software-defined infrastructure remains a challenge. Traditional HSMs require proprietary hardware and are inflexible for a software-defined data center. Software-only key managers on the other hand do not offer the protection of HSMs.

## Solution Overview

The joint VMware and Fortanix solution offer scalable data protection and compliance for VMware Sovereign cloud environments. Fortanix Data Security Manager (DSM), is a unified HSM and Key Management solution that easily integrates via KMIP for VMware vSAN and vSphere VM encryption, enabling sovereign cloud customers to bring and manage their own keys. Fortanix DSM makes it possible for VMware Sovereign cloud providers to deliver Data Protection and compliance to the end customers (tenants). Secured with Intel® SGX, Fortanix DSM delivers HSM security with software defined simplicity, and a cloud scale architecture.

Fortanix DSM with built-in multi-tenancy, when integrated together with VMware Sovereign cloud, enables service provider partners the ability to offer Bring Your Own Key (BYOK) for VM encryption and vSAN Encryption, FIPS 140-2 Level 3 HSM protection, key management, tokenization, and secrets management through a single platform, hosted within the VMware Sovereign Cloud boundary.

# Joint Use Cases



## Bring your own key for VM and vSAN encryption

Fortanix Data security provides VMware users an option to bring their own keys to encrypt VMs/vSAN and other encryption use cases



## Complete Key lifecycle Management

Fortanix delivers full key lifecycle management as a service to ensure secure and consistent key management across on-premises and multicloud environments, including bring your own key (BYOK) and bring your own key management service (BYOKMS).



## FIPS 140-2 Level 3 HSM backed platform

Customers store the keys in the Fortanix FIPS 140-2 Level 3 certified HSM and cryptographic operations are executed securely within the hardware.



## Tokenizing Sensitive Data

Combination of Format Preserving Tokenization (FPE) and role-based access control (RBAC) for application running on VMware Sovereign, helps in protecting sensitive data. With Fortanix, relevant users can get authenticated through



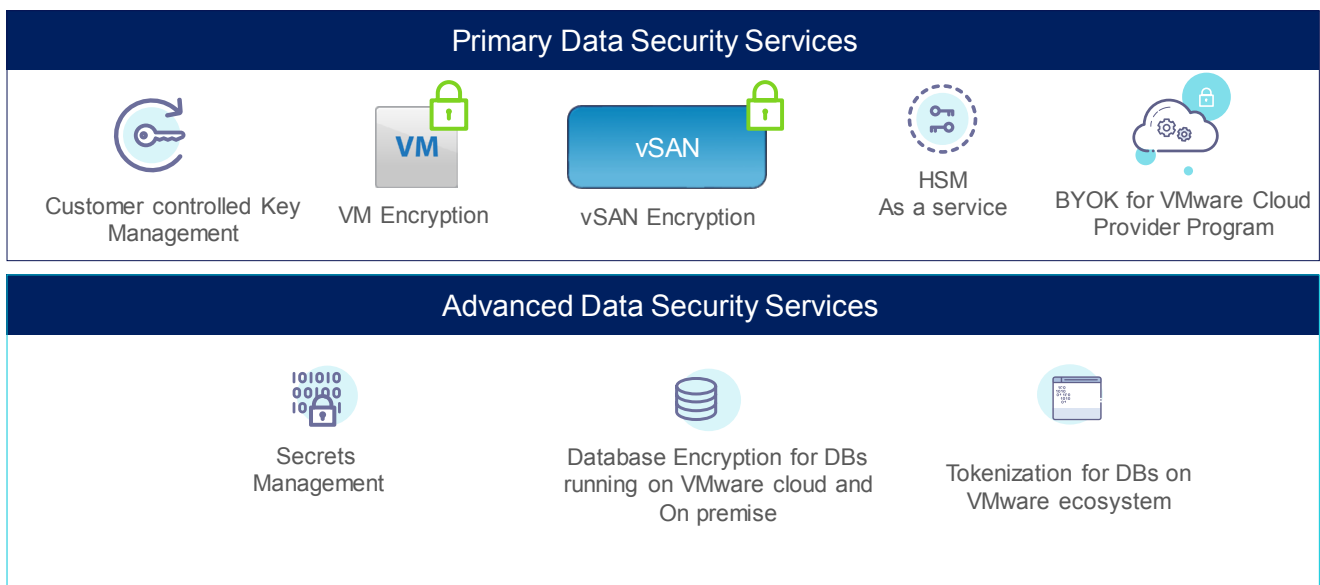
## Database Encryption

Fortanix integrates with native database encryption to manage and store the cryptographic keys required to encrypt all your databases including Oracle, SQL Server, MongoDB, Postgres, MySQL, Maria DB, IBM DB2 and more on VMware Sovereign cloud.



## Secrets Management

Fortanix offers a secure secrets management solution that can manage secrets natively in the cloud and on-premises, providing extensive RESTful APIs through open standards such as OAuth, OpenID (SAML), LDAP, JWT, and PKI.



## Benefits of using Fortanix Data Security Manager in VMware Sovereign Clouds



### QUICK TIME TO VALUE

5 Minutes for implementation versus 2-3 weeks with other HSM services



### GREATER CONTROL OVER THE KEYS

Control the keys externally, turn the keys off, turn them on when required and get control over data



### OWN YOUR DATA AND KEYS

Using Fortanix DSM, VM encryption keys for are managed and owned by the customers



### STRICT ACCESS CONTROL AND QUORUM APPROVALS SAFEGUARD DATA

Segregation of the key management operations based on roles and permissions ensures control over data



### MEET GDPR AND SCHREMS II REGULATIONS

FIPS certified HSM and key management with regional level isolation helps meet specific data privacy regulations.

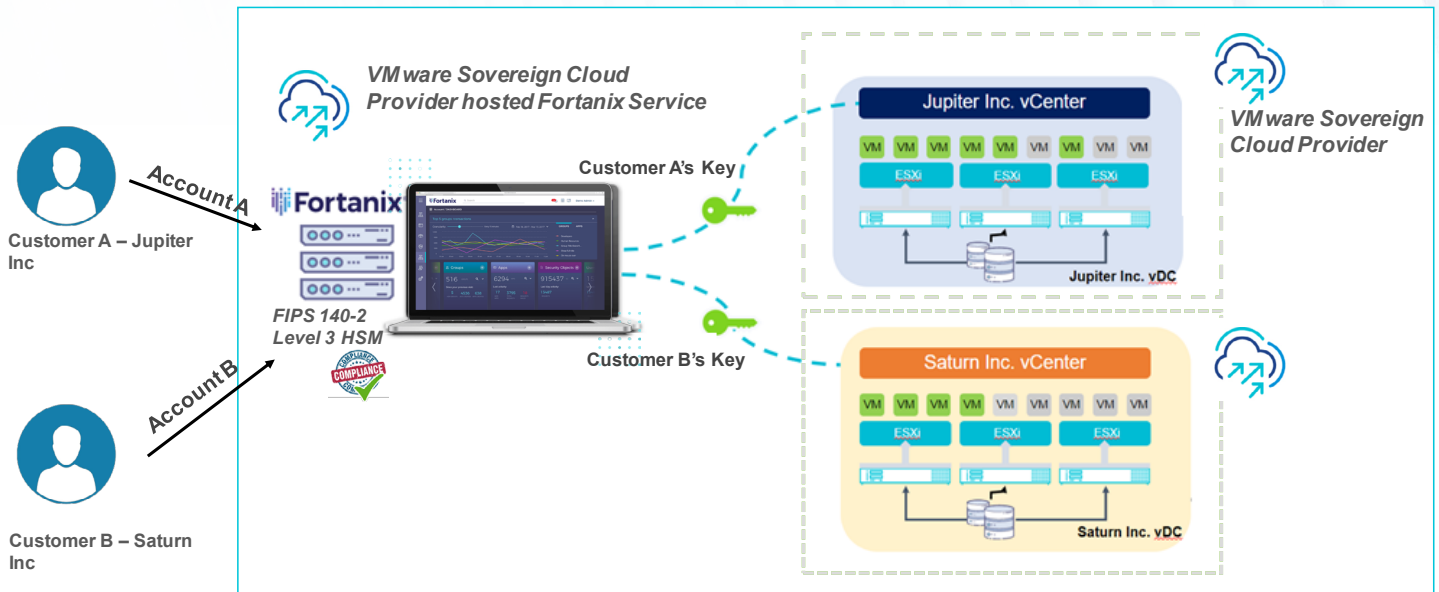
## Deployment – VMware Sovereign cloud Boundary

The VMware Cloud Provider partners can host Fortanix Data Security Manager out of the HSM appliances running in their data centers within the VMware Sovereign cloud boundary. Each VMware Sovereign cloud customer will have a dedicated vCentre where they can configure Fortanix Data Security Manager as an external key manager. The customer will have full control of the keys and the VMware Cloud Provider partner will have zero access/visibility to the keys. The keys never leave the sovereign cloud boundary.

- Only Customers will have access to the keys. Providers have zero visibility.
- Keys will be generated and managed in Customer controlled Fortanix DSM account
- Multi-tenancy- Each customer account is separated from each other

# Fortanix DSM for VMware Sovereign Cloud: Multitenancy Platform with Customer managed keys

## Sovereign Boundary



## About Fortanix

Fortanix® is the data-first multicloud security company. As the industry's first and largest provider of confidential computing solutions, Fortanix decouples data security from infrastructure. Fortanix solutions empower organizations with centralized controls to secure data spread across clouds, applications, SaaS, databases, and data centers. Over a hundred enterprises worldwide, especially in privacy-sensitive industries like healthcare, fintech, financial services, government, and retail, trust Fortanix for cloud security and privacy. Fortanix investors include Intel Capital, Foundation Capital, Neotribe Ventures, and In-Q-Tel. Fortanix is headquartered in Mountain View.



Learn more at  
[www.fortanix.com](http://www.fortanix.com)

## About VMware

VMware, a global leader in cloud infrastructure and business mobility, helps customers accelerate their digital transformation. VMware enables enterprises to master a software-defined approach to business and IT with VMware Cross-Cloud Architecture™ and solutions for the data center, mobility, and security.



Learn more at  
[www.vmware.com](http://www.vmware.com)