



ENCRYPTION AND KEY MANAGEMENT

SLASHING THE COST OF DATA ENCRYPTION AND KEY MANAGEMENT AT THE EDGE

StorSecure is StorMagic's integrated data encryption and key management server (KMS) product. It enables organizations with one to thousands of locations to affordably and efficiently introduce data encryption at each individual site. With security breaches and data leaks increasingly hitting the headlines, organizations of all sizes are becoming more and more aware of the importance of securing their data. Furthermore, with increasing amounts of data stored locally, on-premise and at the edge of the enterprise, there is a need for a solution that can ensure data security at a low cost with lightweight requirements.

[Read more on the best practices for encryption at edge and remote environments in this white paper](#)

From a multi-national manufacturer with thousands of sites to an independent corner shop bakery - StorSecure allows data to be encrypted and keys to be stored onsite, in the datacenter or cloud for only \$2,000.

COMBINING StorSecure WITH SvSAN

StorMagic SvSAN is a lightweight, simple virtual SAN that enables high availability over just two nodes in a cluster. Ensuring that data is always available and downtime is minimized as much as possible is a necessity for any company with business-critical applications. SvSAN delivers

this at a low cost and with inherent flexibility that allows a wide range of deployment options.

[Read more about StorMagic SvSAN in the product data sheet](#)

StorSecure is a simple add-on feature to StorMagic SvSAN that enables the highly available data mirrored by SvSAN to be encrypted in-flight before it is written to disk. Furthermore, StorSecure includes enterprise-class key management functionality. Providing a full-featured KMS and encryption engine is a unique, industry-leading approach; combining it with the lightweight high availability of SvSAN results in just a single piece of software to be managed by the end user.

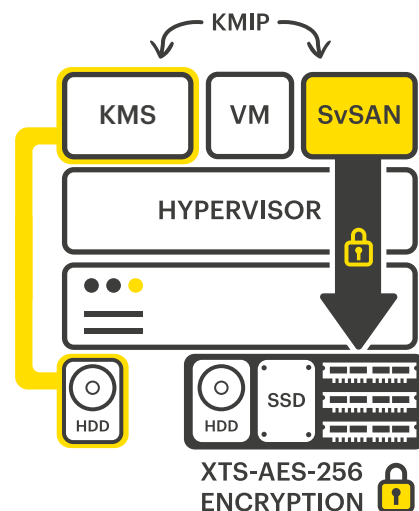


Figure 1
StorSecure is deployed as a VM on top of the hypervisor, just like SvSAN, but with its own dedicated storage. Keys can be generated and stored from this location, remotely at a datacenter or via the cloud. XTS-AES-256 encryption is carried out by SvSAN while the data is in-flight before it is written to disk.

MILITARY-GRADE DATA ENCRYPTION

Data handled by StorSecure is encrypted using military-grade encryption algorithms. This ensures it meets stringent data privacy and security regulations such as HIPAA, PCI DSS and SOX. In addition, it does not require special hardware, allowing ordinary server and storage infrastructure to be leveraged, resulting in significant cost savings.

Military-grade FIPS 140-2 compliant encryption algorithms (XTS-AES-256)

Meets HIPAA, PCI DSS and SOX requirements

Option to encrypt all SvSAN mirrored data or selected volumes (*existing or new*)

Secure erase and re-key feature

Leverages CPU AES-NI encryption instructions for improved CPU acceleration and performance

No special self-encrypting disk drives, RAID or hardware acceleration cards - just use normal hardware

Avoid OS or hypervisor-level encryption

Data destruction (*disk scrubbing or degaussing*) not required on failed drives before discarding

CYBER SECURITY EXCELLENCE AWARDS WINNER 2019
StorMagic's innovation in encryption resulted in being named a winner in the Encryption Product Category of the 2019 Cybersecurity Excellence Awards.

AFFORDABLE, FLEXIBLE KEY MANAGEMENT

Alongside StorSecure's data encryption, the software also includes a complete KMS solution. This enables millions of keys to be stored safely and securely. The defining feature of StorSecure's KMS is that keys can be generated and stored onsite, in your datacenter, or in the cloud - all for the same low price. You can even store keys in multiple locations for an extra level of protection and peace of mind.

Fast deployment: first encrypted data in less than 15 minutes

Easily integrate with almost any Single Sign-On (SSO) service including LDAP, RBAC, AD, IAM and others

Modern, full-featured and intuitive UI - no security expertise needed

No hardware security module (HSM) needed due to hardened, multi-layer virtual HSM appliance to ensure protection

Store keys anywhere: onsite, datacenter or cloud

Many key types rotate on-demand or on-schedule

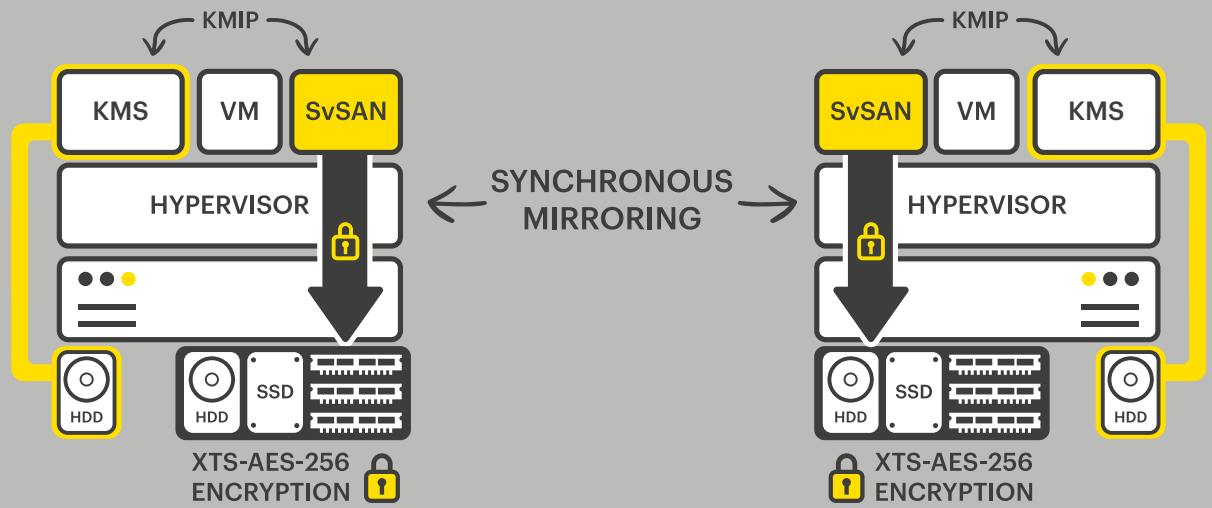
REST API allows keys to be migrated from existing HSM or KMS

Comprehensive security and disaster protection

Supports the open standard KMIP for third party KMS integration



Figure 2
An onsite, local StorSecure deployment sharing the same cluster as SvSAN. StorSecure can also be installed onto a separate local cluster for additional redundancy and security.



STORE KEYS ANYWHERE, ANYTIME - DEPLOYMENT OPTIONS

There are specific requirements when deploying StorSecure, which remain the same for all deployment options. These make sure the encryption and key management functions perform as described, but provide huge flexibility for organizations to deploy key management onsite or remotely. The table below details these additional requirements alongside SvSAN's:

OPTION 1 - ONSITE

StorSecure can run on the same SvSAN cluster that is processing and storing application data. This approach is particularly attractive for organizations with tight budget requirements or space, or those wishing to deploy clusters

at many different locations, who could realize significant savings by minimizing the amount of hardware deployed. This configuration is illustrated in figure 2.

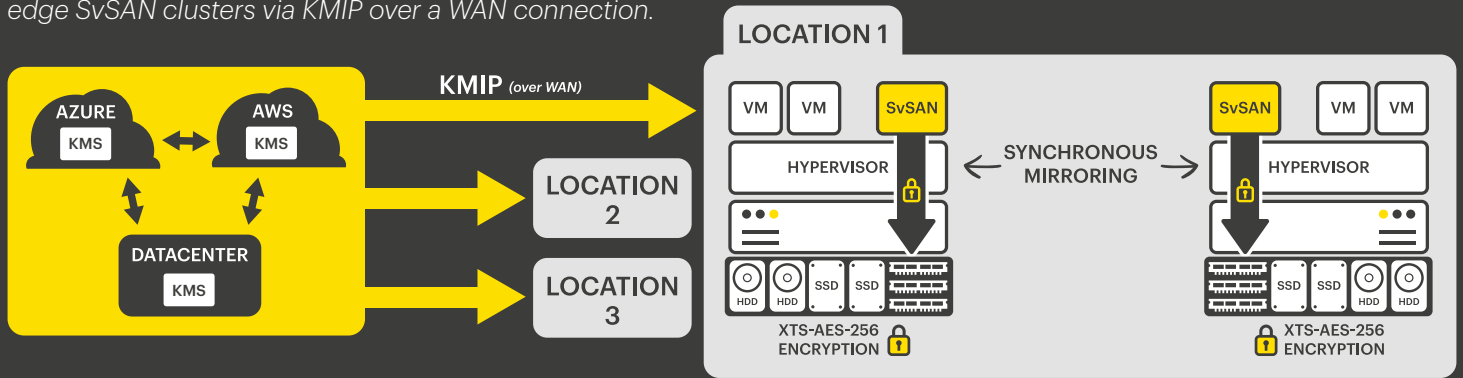
Another approach is to install and run StorSecure on hardware that is not part of the SvSAN cluster. This adds an additional layer of security and redundancy into the infrastructure - keeping key management separate from the data that is being encrypted. In this instance, the hardware used does not need to accommodate SvSAN's requirements. It only needs to meet StorSecure's requirements, listed out in the right hand column of the table above. This can be achieved through an additional cluster onsite, or remotely.

	SvSAN requirements	Additional StorSecure requirements
CPU	1 x virtual CPU core • 2 GHz or higher reserved	Additional 4 x virtual CPUs
Memory	1GB RAM	Minimum additional 6GB RAM • Recommended 16GB RAM
Disk	2 x virtual storage devices used by VSA • 1 x 512MB Boot Device • 1 x 20GB Journal Disk	Minimum additional 20GB HDD • Recommended 40GB HDD
Network	1 x 1Gb Ethernet • Multiple interfaces required for resiliency • 10Gb Ethernet supported • Jumbo frames supported	No additional requirements



Figure 3

A remote StorSecure deployment across a datacenter and two public cloud providers, with keys served to edge SvSAN clusters via KMIP over a WAN connection.



OPTION 2 - DATACENTER OR PUBLIC CLOUD

The deployment of StorSecure can be carried out remotely from the SvSAN clusters. Whether within an organization's datacenter or by leveraging a public cloud service such as AWS, Azure and others, StorSecure can provide key management via KMIP over a WAN link. This approach allows the KMS to reside in one or more locations to ensure high availability in case one location goes offline. This type of deployment, using a datacenter and/or public cloud, is illustrated in figure 3.

SCALING StorSecure

Scaling to accommodate future growth is straightforward with StorSecure. Alongside SvSAN's simple scale up and scale out capabilities where disks or compute nodes can be added without downtime, there are no additional encryption or key charges when scaling. Furthermore, each cluster can store millions of keys, easily scaling to accommodate any growth, at no extra cost. Details of how scaling works with SvSAN can be found [in this white paper](#).

PRICING AND SUPPORT

StorSecure is a feature add-on to SvSAN and costs \$2,000 per cluster, for a perpetual license with unlimited keys, regardless of the amount of storage. Additional maintenance and support fees are available over 1, 3 and 5 year periods. For more details on StorMagic's support, please refer to the [Support Policy and Lifecycle document](#).

FURTHER READING

To learn more about SvSAN, how and why it works, and where it fits best, check out the [StorMagic website](#). As a start, read more about SvSAN and its features and requirements [in the product data sheet](#).

You can take a detailed look at how SvSAN is deployed and managed through the comprehensive [deployment guide and manual](#).

Explore some of the many features of SvSAN such as [Predictive Storage Caching](#), or the [witness service](#) in more depth with our [extensive library of white papers](#).

If your organization is ready to test SvSAN, you can do so free of charge, with no obligations. Simply download our [fully-functioning free trial of SvSAN](#) from the website.

If you still have questions, or you'd like a demo of SvSAN you can contact the StorMagic team directly by sending an email to sales@stormagic.com

StorMagic
Unit 4, Eastgate
Office Centre
Eastgate Road
Bristol
BS5 6XX
United Kingdom

+44 (0) 117 952 7396
sales@stormagic.com

www.stormagic.com