

The Futurex Hardened Enterprise Security Platform



Futurex's Hardened Enterprise Security Platform is the industry's first and only solution for creating a fully customized core cryptographic infrastructure for the high availability, fault tolerant protection of sensitive data.

In the past, enterprise cryptographic ecosystems with multiple business applications required numerous "black box" devices often provided by several vendors. In contrast, Futurex's Hardened Enterprise Security Platform uses a sophisticated and powerful architecture to create a single cryptographic service environment with full functionality, scalability, resiliency, and unparalleled security.

Scalable, Versatile, Secure.

Core Cryptographic Infrastructure

Data security environments should be a versatile, customized business resource, not a collection of devices from multiple vendors, each with their own training processes, product release cycle, and technical support. Futurex solutions are all interoperable, allowing for the creation of a single core cryptographic infrastructure to be used across the enterprise.

- **Top-tier customer service and support**
- **Rapid development of customized features**
- **Security-focused architecture**

On-demand Scalability

Traffic to one business application skyrocketing? The Hardened Enterprise Security Platform plans for that. Excess capacity built into the overall environment allows for seamless increases in per-application resources to be made without physically visiting the data center.

Resiliency, Redundancy, and Disaster Recovery

Fault-tolerance is built into the core of the Hardened Enterprise Security Platform. Upon detection of an out-of-bounds parameter or failure of any component device, intelligent monitoring systems automatically notify administrators and reallocate resources. Environments can even be designed to withstand failure of entire data center environments without any transaction loss.

High Availability

The Hardened Enterprise Security Platform is designed to handle the most demanding transaction processing environments on a 24/7/365 basis. Firmware updates, system expansions, and configuration changes can all be performed with zero downtime.

Application-specific Key Segregation

Business applications share the same cryptographic resources, but keys and other critical security parameters remain segregated on an application-by-application basis. Keys, certificates, and other objects are automatically replicated throughout all devices in the environment, eliminating manual processes and ensuring all applications have immediate access.

- **Direct integration between hardware security modules (HSM) and key management servers**
- **PKI secured application-specific permissions**
- **Automated key and certificate replication**

SERVICE SPOTLIGHT

Object Referencing

Object referencing is a convenient and efficient way to manage a large volume of encryption keys for use in data processing. Through object referencing functionality, the Guardian9000 is able to request the correct encryption key from the KMES Series Key Management Enterprise Server and incorporate it in API requests to Futurex HSMs. By assigning unique labels to keys and certificates, the Guardian9000 is able to rapidly search through very large databases to locate the requested object.

The Process:

- 1 The host application receives a request from one of its devices and sends the name of the needed object to the Guardian9000.
- 2 The Guardian9000 uses the object label to sort through the KMES Series' stored objects and pull the appropriate one as a cryptogram sent using a secured TCP/IP connection.
- 3 The Guardian9000 sends the pulled cryptogram to the HSM responsible for data processing.

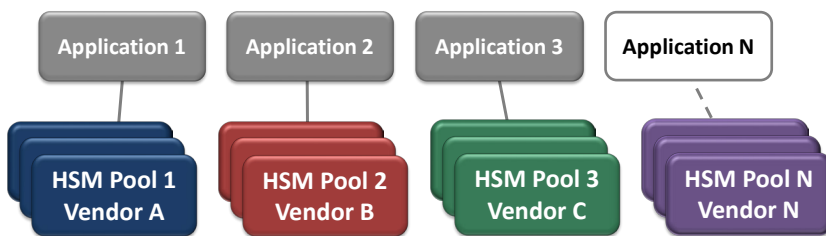
Features:

- Substantially reduces application integration requirements
- Enables restriction of key and certificate access to authorized business applications while maintaining a single, secured database and cryptographic infrastructure
- Fulfills a critical aspect of establishing a scalable, high availability-enabled core cryptographic infrastructure
- Enables central management of keys without need for key distribution
- Supports full enterprise key lifecycle management, from creation to deletion
- Supplies automated alerts for key-related activities
- Supports full remote management via the Securus

Security Across Your Entire Infrastructure

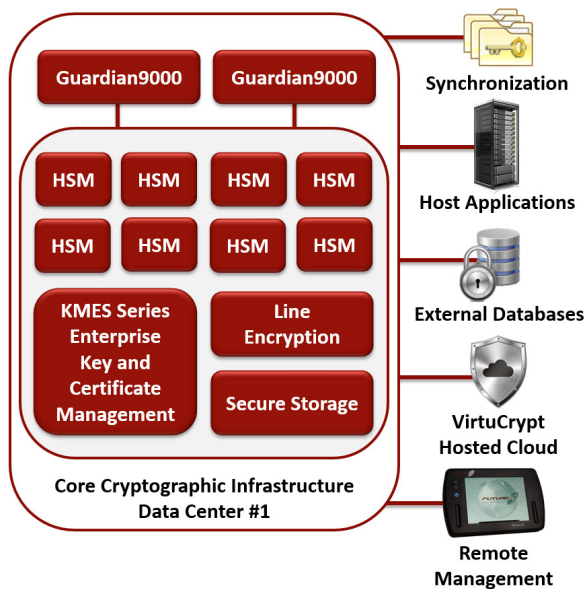
The Hardened Enterprise Security Platform enables full security and functionality through one vendor.

Legacy Cryptographic Environment



- Multiple vendor relationships required
- Low degree of customizability
- No direct integration between HSM and key management devices
- Significant capital and infrastructural investment required per application for disaster recovery, redundancy, and scalability

Hardened Enterprise Security Platform



- High availability core cryptographic infrastructure for multiple business applications
- Direct integration between all Futurex devices
- Hardware-secured authentication between host applications and data security appliances
- Centralized database of keys, certificates, and other critical security parameters
- Automatic replication of essential data between all managed devices
- Nth degree scalability and redundancy of all components
- Encrypted remote access for configuration and key loading using the Securus



VirtuCrypt: The Hardened Enterprise Security Cloud

Imagine a cloud service that combines scalable data processing capabilities along with the convenience of remote access and the robust physical and logical security of FIPS 140-2 Level 3 validated Secure Cryptographic Devices. That concept is now a reality, with organizations of all sizes able to benefit from the VirtuCrypt solution suite, based on Futurex's globally trusted Hardened Enterprise Security Platform. VirtuCrypt was designed from the ground up to provide customization and flexibility while addressing compliance mandates and industry standards. All of the key elements of a secure cloud service such as privacy, data security, continuous monitoring, incident management, and end-point security have been incorporated into a state-of-the-art technology platform.

Advantages:

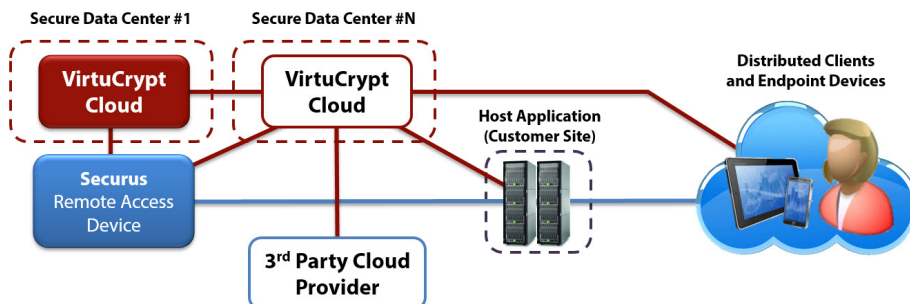
- Rapid deployment and fulfillment of a needed service
- Reduced capital and operational expenses for hardware, staffing, training, compliance, and more
- On-the-fly scalability, ensuring unexpected increases in throughput are easily met
- High availability data center architecture with the capacity to support 99.999% uptime
- Immediate access to the latest firmware updates, features, and hardware
- Established reliability, with over 33 years' experience providing innovative solutions and 24x7x365 support to organizations worldwide.

Full Enterprise Solution

A full scale Hardened Enterprise Security Cloud, with full customization.

Using one of VirtuCrypt's flexible service offerings, enterprises can deploy all of their Futurex devices into the cloud. VirtuCrypt will perform a thorough system analysis and design, develop a custom-built infrastructure, and deploy that infrastructure into VirtuCrypt's cloud, providing 24x7x365 Xceptional Support and seamless enhancements in the future.

VirtuCrypt's data centers provide high-bandwidth connections to other network and hosting providers, enforce physical security, dual control, and biometrics with multitiered identity verification mechanisms. The facilities are SSAE 16 (SOC 1, 2, and 3), PCI, TIA-942 Tier 4, and HIPAA-compliant.



MAIN SERVICES

Enterprise Services

For organizations desiring to utilize the cloud for their entire core cryptographic infrastructure, VirtuCrypt's Enterprise Services provide access to all the functionality inherent within Futurex's Hardened Enterprise Security Platform for one low cost monthly fee.

VirtuCrypt Elements

Businesses seeking to enhance their existing cryptographic infrastructure with additional cloud-based technology can take advantage of VirtuCrypt Elements. For tasks such as tokenizing data, verifying transactions, remotely loading keys, and more, VirtuCrypt offers specific functionality on a per-transaction basis.

VirtuCrypt Plus

Customers who have already integrated Futurex's Hardened Enterprise Security Platform into their core cryptographic infrastructures can utilize the cloud through VirtuCrypt Plus. Designed to complement Futurex's solution suite, VirtuCrypt Plus offerings include ways for organizations to add cloud-based backups or monitoring and alerting of their Futurex devices.