Hardware Security Module



# THE WORLD'S MOST ADVANCED FINANCIAL HARDWARE SECURITY MODULE

# PROTECT SENSITIVE PAYMENT DATA AT REST, IN USE, AND IN MOTION

Electronic payment networks need data security solutions that scale in speed and can expand over time to support emerging payment types and algorithms. The Excrypt SSP Enterprise v.2 is the world's fastest hardware security module for financial transaction processing, offering robust functionality and full backward compatibility with the Excrypt SSP Series of HSMs. It has a high degree of scalability, offering speeds in excess of 20,000 transactions per second, all in a compact, 1U rackmount chassis.

With integrated disaster recover and redundancy features to ensure rock-solid reliability, the device complies with key management best practices and contains some of the industry's most advanced security features.



The Excrypt SSP Enterprise v.2 excels in high throughput environments where rock-solid stability and functional extensibility is a must. Not only does this device provide increased redundancy, greater performance, and platform virtualization, it's the fastest payment HSM in the world, capable of processing over 20,000 transactions per second.

## **HSM VIRTUALIZATION**

The Excrypt SSP Enterprise v.2 can create multiple logically independent HSMs inside a single host device for separate transaction processing environments.

- Unique firmware versions, users, key storage space, and security policies on each virtual HSM
- Multiple methods of access including a web portal, API, the Guardian Series 3, and VirtuCrypt
- Test new firmware on an independent virtual instance
- Increase the ROI of your HSM infrastructure

# **AVAILABLE PAYMENT SECURITY FUNCTIONALITY**

Card/PIN Issuance

Card/PIN Validation

➤ Mobile Payments

► EMV Issuance/Validation

► P2PE and Tokenization

MAC and Hashing

ATM Remote Key Loading

General Purpose Crypto

## **HSM VIRTUALIZATION AND APPLICATION PARTITIONING**



 The Excrypt SSP Enterprise v.2 offers HSM virtualization and application partitioning, allowing multiple logically separated environments to be created within a single FIPS 140-2 Level 3 validated boundary.

## UNIVERSAL COMPATIBILITY



Turnkey compatibility with all major financial host application software sold around the world, as well as support for standards-based interfaces like PKCS #11 and Java for general purpose cryptographic processing.



# PRODUCT OVERVIEW: EXCRYPT SSP ENTERPRISE V. 2

The Excrypt SSP Enterprise v.2 provides virtualization capabilities that allow users to host logically separated virtual HSMs from within a single physical device. A sample configuration for these independent devices is pictured below.

#### **Host Hardware Security Module** Virtual HSM 2 - 192,168,1,6 Virtual HSM 1 - 192,168,1,5 Firmware Version 5.0.0.3 Firmware Version 6.1.2.0 • MFK – Triple DES Financial Master Kev MFK - Triple DES Financial Master Key FTK - AES 256-bit PKCS #11 Key Security policy Security policy Function blocking Function blockingWorking key storage Working key storage Virtual HSM 3 – 192.168.1.7 Virtual HSM N - 192.168.1.8 Firmware Version 5.6.0.4 Firmware Version 6.1.2.0 • PMK - AES 128-bit GP Master Key MFK – Triple DES Financial Master Key FTK – AES 256-bit PKCS #11 Key PMK - AES 128-bit GP Master Key Security policy Security policy Function blocking Function blocking Working key storage Working key storage

## SUPPORTS WIDE-RANGING CRYPTOGRAPHIC FUNCTIONALITY



- Magnetic Stripe and EMV Card Issuance and Verification
- · MAC and Hashing
- · Point-to-Point Encryption
- Format-Preserving Encryption
- ATM Remote Key Loading
- HCE and Cloud Payments
- · Digital Signing
- General-Purpose Cryptography

- Mobile Payments
- PIN Management and Printing
- Tokenization
- · Contactless/NFC
- · 3-D Secure
- · PCI Data Protection
- On Behalf Key Management (OBKM)
- Custom Functionality

# HSM VIRTUALIZATION, APPLICATION PARTITIONING, AND CUSTOM COMMAND EXTENSIONS



- A single Excrypt SSP Enterprise v.2 HSM can be divided into multiple logically separated, completely independent virtual HSMs
- Design and deploy custom extensions within the HSM's cryptographic boundary to add functionality to existing Excrypt API commands
- Use application partitioning to segregate key storage locations, giving individual applications control over their own keys and security policies through API function blocking

### HARDENED ENTERPRISE SECURITY PLATFORM INTEGRATION



The Excrypt SSP Enterprise v.2 integrates directly with Futurex's Hardened Enterprise Security Platform for centralized configuration, management, monitoring, alerting, load balancing, scalability, cloud-based services, and more.

## DISASTER RECOVERY AND HIGH AVAILABILITY



- Contains hot-swappable power supplies and dual Ethernet ports
- Integrates with VirtuCrypt Plus Monitoring and Alerting and Disaster Recovery services for increased infrastructure visibility and uptime

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# PRODUCT SPECIFICATIONS

### **DIMENSIONS AND WEIGHT**

Weight: 36 pounds (16.33 kg) Width: 19 inches (48.3 cm) Height: 1U - 1.7 inches (4.37 cm) Depth: 19.44 inches (49.38 cm)

### **INDUSTRY COMPLIANCE STANDARDS**

- FIPS 140-2 Level 3 validated
- PCI HSM
- ANSI X9.24 Part 1 and Part 2—TR-39
- RoHS
- FCC Part 15 Class B

# Guardian Series 3

Create a centrally managed network of devices communicating over encrypted TLS. The Guardian can manage groups of client Futurex devices from any location.



### AVAILABLE FUNCTIONALITY AND INTERFACES

# **Algorithms**

· 3DES DUKPT

AES

• RSA

• ECC

### Interfaces

Excrypt API

PKCS #11

Java JCA/JCE

And more

Key Block Formats

• TR-31

AKB

Cryptograms

# Remote Management

Combine the Excrypt SSP Enterprise v.2 & the Excrypt Touch for remote access and management.



### **AVAILABLE CONFIGURATIONS**

Scalable throughput as processing needs grow.

5,000 TPS 10,000 TPS

20,000+ TPS