

# 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 expand over time to support emerging payment types and algorithms. The Excrypt SSP Enterprise v.2 is the world's fastest hardware security module (HSM) for financial transaction processing. It offers 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 50,000 transactions per second. All in a tamper-resistant, 1U rackmount chassis.

Integrated disaster recovery and redundancy features 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. Not only does this device provide increased redundancy, physical and logical security, and platform virtualization, it's the fastest payment HSM in the world, capable of processing over 50,000 transactions per second.

## **Payment Security Functionality**



Card/PIN Issuance

Mobile Payments

P2PE and Tokenization

ATM Remote Key Loading



Card/PIN Validation

EMV Issuance/Validation

MAC and Hashing

General Purpose Functionality

#### **HSM Virtualization and Application Partitioning**

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

### **HSM Virtualization**

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

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

#### **Universal Compatibility**

 Turnkey compatibility with all major financial host application software, as well as support for standardsbased 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 1 – 192.168.1.5 Firmware Version 6.1.2.0

- MFK Triple DES Financial Master Key
- Security policy
- Function blocking
- · Working key storage

Virtual HSM 3 - 192.168.1.7

PMK – AES 128-bit GP Master Key

FTK - AES 256-bit PKCS #11 Key

Firmware Version 5.6.0.4

Security policy

Function blocking



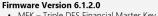
# Working key storage Virtual HSM N = 192.168.1.8

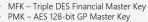
Virtual HSM 2 - 192.168.1.6

Firmware Version 5.0.0.3

Security policy

Function blocking





MFK - Triple DES Financial Master Key

FTK - AES 256-bit PKCS #11 Key

- Security policy
- Function blocking
- Working key storage

# Working key storage

#### **Wide-Ranging Cryptograhic Functionality**

- Magnetic Stripe and EMV Card Issuance and Verification
- · MAC and Hashing
- Point-to-Point Encryption (P2PE)
- 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 Extentions

- 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 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

#### **Native Integration with Futurex Solutions**

• The Excrypt SSP Enterprise v.2 integrates directly with other Futurex solutions for centralized configuration, management, monitoring, alerting, load balancing, cloud services, and more.

#### **Disaster Recovery and High Availability**

- · Contains hot-swappable power supplies and dual Ethernet ports
- Integrates with VirtuCrypt for increased infrastructure visibility and uptime



For over 40 years, Futurex has been an award-winning leader and innovator in the encryption market, delivering uncompromising enterprise-grade data security solutions. Over 15,000 organizations worldwide trust Futurex to provide groundbreaking hardware security modules, key management servers, and cloud HSM solutions.

Futurex is headquartered outside of San Antonio, Texas, with regional offices worldwide and over a dozen data centers across five continents, Futurex delivers unmatched support for its clients' mission-critical data encryption and key management requirements.



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## **Product Specifications**

### **Dimension 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
- RoHS
- FCC Part 15 Class B
- ANSI X9.24 Part 1 and Part 2—TR-39

#### **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.



#### **Functionality and Interfaces**

#### **Algorithms**

3DES DUKPT

AES

RSA

ECC

#### Interfaces

RESTful 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 as processing needs grow

Starting from

50,000+ TPS and beyond

Base Config

1,000 TPS