



## Unified Cryptography, Ready for What's Next

**The Excrypt HSM** - Revolutionary payment and general-purpose cryptography together in one powerful platform. Scale to 75 fully isolated virtual HSMs per device. Move to PQC when you're ready. And manage it all without rewriting your existing applications.

### Still the World's Fastest HSMs

Performing up to **40,000 signatures per second (RSA-2048)** and **100,000 payment operations per second**, Excrypt HSMs deliver industry-leading speed.

Beyond enterprise speed, Excrypt HSMs scale cryptographic capacity as workloads grow, with unmatched virtualization and multitenancy.

Throughput that lets organizations consolidate high-volume payments, large-scale PKI, real-time tokenization, and application security onto a single platform.

## Unified Cryptographic Capabilities

**Converged HSM:** One platform. All your cryptography. Excrypt HSMs handle payment and general-purpose workloads, so you can do more with less.

**Future-Ready and Crypto-Agile:** The cryptography you use today won't be enough tomorrow. Futurex HSMs are already built for PQC and future standards, so you stay ahead without the scramble.

**Ease of Use:** Modern UI, where most HSMs are outdated and complex. Excrypt HSMs are built to be simple to deploy, easy to manage, and powerful in operation.

**Multitenancy:** One Excrypt HSM can host up to 75 fully isolated virtual HSMs. Each has its own independent firmware, configuration, keys, policies, network stack, and dedicated throughput allocation. Your architecture stays secure, predictable, and flexible.

**Migration from Legacy Platforms:**  
No rip-and-replace. No code rewrites.  
No vendor lock. Excrypt HSMs support standard payment and general-purpose APIs so you can replace legacy HSMs without changing your software.

## Modernize, Migrate, or Expand

Excrypt HSMs fit into your environment today. They also extend Futurex CryptoHub deployments with additional speed, capacity, and resilience when needed. Whether you're replacing legacy systems or building new ones, the Excrypt HSMs keep cryptography at scale simple and secure.



## Use Cases

### Payment Use Cases:

PIN translation & verification

CVV generation & validation

Message authentication code (MAC) generation & verification

EMV validation

Apple, Google, Samsung tokens

PIN & offset generation

Mobile & web PIN management

EMV key generation & derivation

Cardholder data decryption (FPE & DUKPT)

Cardholder data translation

P2PE key management

### General-Purpose Use Cases:

Data encryption

Data privacy and confidentiality

Database encryption

Data integrity

PKI and certificate authority

IoT device authentication

5G subscriber authentication

Blockchain and distributed ledger

Digital signatures

Code signing

IoT provisioning and 5G

AI weight & model integrity

## Specifications and Compliance

### 1U Appliance Dimensions:

- Height: 1U – 1.72 in / 4.37 cm
- Width: 19 in / 48.26 cm
- Depth: 25.25 in / 64.14 cm
- Weight: 34 lb / 15.42 kg

### PCIe Card Dimensions:

- PCIe standard height, full-length
- Height: 4.376 in / 111.15 mm
- Length: 12.394 in / 314.81 mm

### Physical Interfaces/Connectivity:

- PCI Express Gen 3.0 x4
- Ethernet over PCIe Connectivity
- Dual 10 Gbit Ethernet RJ45
- Supports up to 1,000 concurrent TCP socket connections for high-density application integration
- USB 3.1 Gen 1 Type A

### Onboard Battery:

- User-replaceable, with a 10-year lifetime
- Capable of retaining keys/CSPs for 2 years unpowered
- Internal supercapacitor for 2 hours of standby power when replacing the primary battery.

### Electrical Power Draw:

- Idle: 35 W, Typical: 55 W, Maximum: 91 W

### User-Serviceable Components:

- User-serviceable fans, battery, and power supplies

### Operating Environment:

- Operating temperature range: 10°C to 50°C with 55 CFM air flow rate
- Storage temperature range: -20°C to 65°C
- Relative humidity: non-condensing 10 to 95%

### Supported Platforms:

- Windows, Linux, VMware ESXi, KVM

### Cryptographic Interfaces:

- PKCS #11, Java JCA/JCE, Microsoft CNG/CAPI/EKM, OpenSSL, Excrypt (Futurex-native), RESTful (Futurex-native), Excrypt Universal Interface (legacy HSM compatibility), Command line interface for automation of management activities

### Compliance:

- FIPS 140-3 Level 3 (in progress), PCI PTS HSM v4, Common Criteria, Cartes Bancaires, Bancontact, AS2805 AusPayNet, GBIC, ASC X9.24, and other standards

### Cryptography Support:

- Symmetric: 3DES, AES up to 256-bit, FPE
- Asymmetric: RSA up to 8192, ECC P-521, ECDSA, ECDH
- Hash: SHA-2, SHA-3
- Payments and standards: TR-31/TR-34/X9.143 Key Blocks, DUKPT, Master/Session, Fixed Key, X9.17/X9.24, X.509, OBKM, ISO 9564
- PQC: ML-KEM, ML-DSA
- QRNG: Quantum Random Number Generator
- Additional regional and proprietary schemes supported; contact Futurex for the complete list

### By The Numbers:

- Deployment models: 1U appliance, PCIe Card, Cloud
- IAM support: Role-based access control with granular, function-level permissions for administrators, applications, and tenants.
- Secure Code Environment (SCE): Up to 20 SCEs; an isolated environment in which to develop and run custom applications within the crypto boundary.
- Throughput: Up to 40,000 RSA signatures per second and 100,000 payment operations per second

### Virtualization and Multitenancy:

- Virtual HSMs: Up to 75 per physical HSM
- Partitions: Up to 250 per host or virtual HSM with policy-level API blocking

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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