

Hardware Security Module (HSM) for secure transactions

When it comes to payment transactions, security is one of the most important issues. Banks and financial institutions may suffer considerable financial losses in case of fraud. Reliable and flexible protection solutions are required which integrate into payment systems.

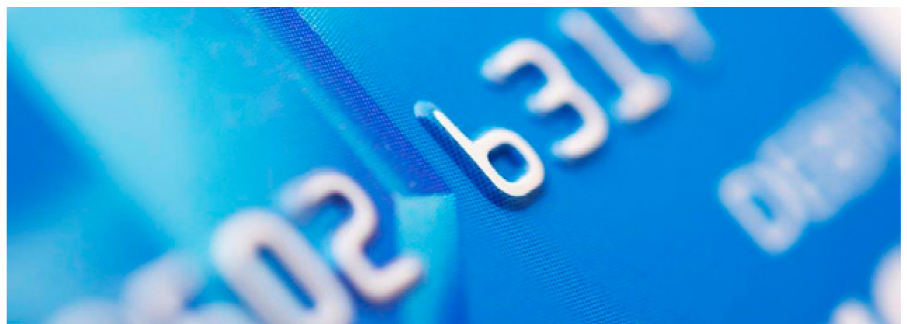
In close collaboration with major international banking networks, financial institutions and strategic partners, Atos has designed a range of Hardware Security Modules called crypt2pay™ that meet today's market requirements for payment, mobile payment and instant payment solutions.

Beyond payment transactions, the functions of crypt2pay are extended to secure transactions with other cards in the fields of health or identity, and other types of equipment, such as smart meters or connected objects.

Crypt2pay is a high performance encryption device designed to protect transactions, carried out with a bank or private card, contact or contactless, and all operations made in card processing centers.

Already chosen by several major European banks, crypt2pay brings the security required in many card applications:

- Transaction acquisition
- EMV and magnetic stripe authorization (VISA, Mastercard, American Express, UnionPay)
- PIN management & PIN printing
- Applications for private cards
- 3-D Secure™ issuance and authorization



- EMV and magnetic stripe data preparation
- Dynamic CVV verification
- HCE (Host Card Emulation) solutions for Cloud Based Payment
- Connection to digital payment platforms
- Key Management Centre

The cryptographic services offered by crypt2pay also cover transaction security needs for connected smart devices through dedicated macro commands:

- Smart metering transactions
- Securing the Internet of Things (IoT)

The crypt2pay product range uses the latest cryptographic technology. It adapts to different uses with a high level of reliability. New functions can be easily uploaded on the HSM to ensure upgrading to the latest market evolutions.

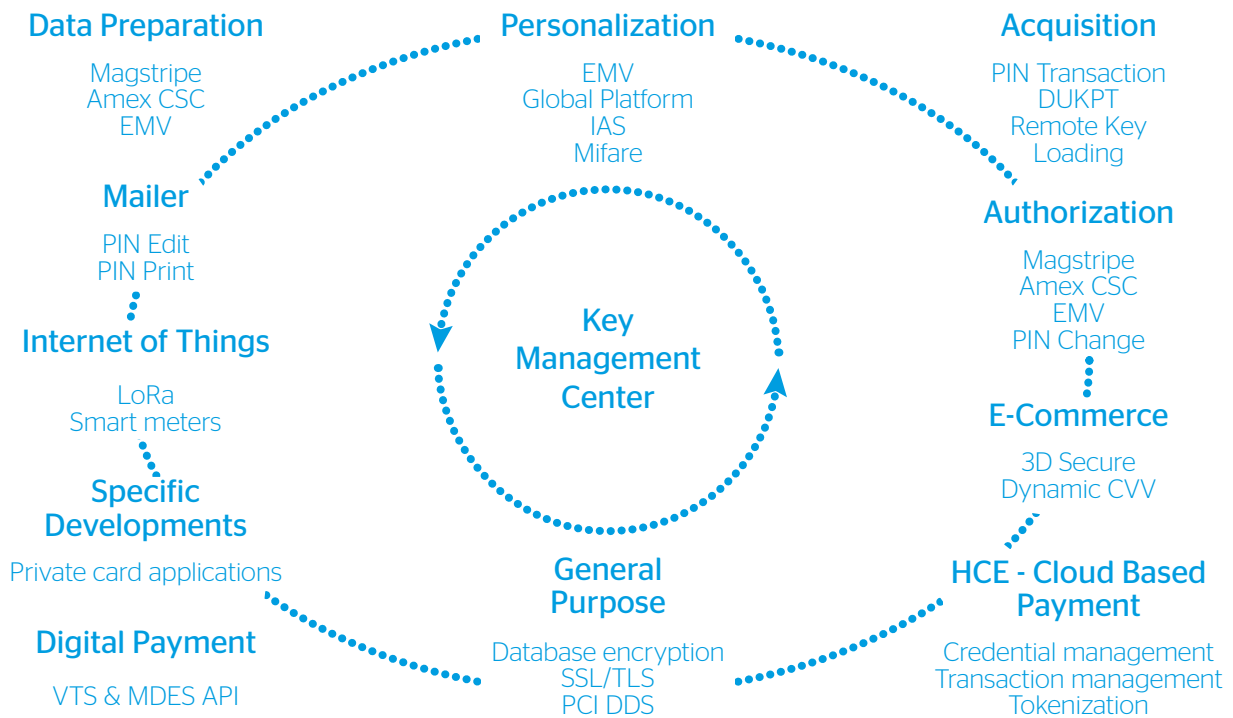
In addition, crypt2pay integrates general purpose functions accessible through standard interfaces to cover all needs to protect stored data (database encryption) or exchanged data (protection of SSL/TLS keys) and meet PCI DSS requirements.

Crypt2pay is a universal module available in a wide speed range, offering a large variety of options and connection protocols.

A European leader in integrated security

Atos has built up a unique body of expertise in information systems security, bringing together consulting and systems integration expertise and an in-depth understanding of corporate security technologies. With more than 30 years in financial security, Atos has gained considerable professional experience in securing banking networks. Thanks to a network of recognized partners, Atos takes an active part in implementing comprehensive payment systems with renowned software publishers such as ACI Worldwide, Worldline, FIS, HPS, S2M, Steria and others. Many banks and card centers worldwide already rely on our technologies and experience.

crypt2pay functions



Security, flexibility, scalability

- Tamper resistant design: MEPS approved, FIPS 140-2 level 3+, PCI HSM
- Several speed configurations: 100 to 3600 PVV / s
100 to 1200 RSA2048 / s
- Multi-purpose HSM with different customizable packages
- Proprietary interface: TLV messages
- Standard interfaces : PKCS#11, Microsoft CNG, EKMv

Full compliance

- EMV 4.2 CPA
- Visa VIS 1.6.0
- MasterCard Mchip
- AMEX CSC™
- 3-D Secure™
- PayPass & PayWave
- DUKPT 2009 & 2017
- TR31 2018
- TR34 2012
- HCE Cloud Based Payment
- LoRa

Cryptography

- DES : DES and triple DES
- RSA: Keys up to 4096 bits
- PKCS1.5 and PSS signature
- SHA-1, SHA2
- HMAC
- AES : 128, 192 and 256 bit keys
- ECDSA : ANSI and Brainpool named curvers
- DSA : keys up to 3072 bits

Technical features

- Performance:
Crypt2pay HR: up to 1600 PVV tps
Crypt2pay XT: up to 3600 PVV tps
- Voltage: 85 - 264 Vac
- Frequency: 47 - 63 Hz
- Humidity: 30% - 70% non condensing
- Operating temperature: 10/45°C
- Dimensions:
Crypt2pay HR: 440x270x65mm
Crypt2pay XT: 442x346x76mm
- Weight:
Crypt2pay HR: 9 kg
Crypt2pay XT: 14 kg

™ : a certification Mark of NIST, which does not imply product endorsement by NIST, the U.S or Canadian Governments.

For more information:
<https://atos.net/en/products/cyber-security/data-encryption/hsm-trustway-crypt2pay>

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