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nCipher Security Updates

Trust. Integrity. Control.

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nCipher Security

AGENDA

- **nCipher Security as company**
  - Company introduction
  - nShield overview
  - eIDAS qSCD updates
  - FIPS 140-2 certification updates
- **nCipher Use Cases**
  - eIDAS Remote Signing
  - Other use cases
    - Local PKI and HSM usage
    - Hybrid PKI Authentication Infrastructure
    - Cloud Information Protection - BYOK/Microsoft Azure KeyVault API

nCipher Security

20+ Years of delivering trusted threat protection and enabling compliance

Deep expertise and track record in applied cryptography

HSM market leader with a long history of industry certifications and validation

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Trust
Integrity
Control

Cloud
IoT
Blockchain
Payments

Solutions delivering trust for business critical applications and information

1000+ 

Organizations rely on nCipher to secure and globally support their applications and information

- 5 of the top 10 Fortune 100
- 10 of the top 20 FTSE 100

What's happening with nCipher Security?

In Q4 2018

- the European Union Commission required Thales to break the General Purpose HSM business out of their organization so they could complete the acquisition of Gelmato.

1st January 2019

- nCipher became a standalone company offer the General Purpose HSM (nShield) product range owned by Thales but to be sold.

22nd February

- Entrust Datacard agreed to purchase nCipher from Thales.
- The acquisition of nCipher is expected to be closed by the end of the quarter.

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nCipher under Entrust Datacard ownership

Organization	• Focused set of goals on selling General Purpose HSMs to the broadest possible set of customers and use cases
Partnership	• nCipher plan to continue to support all of our partners and remain vendor neutral in these markets.
Competitiveness	• We also understand that our partners support competitive HSMs as we support other PKI and eSign partners.
nFinity Program	• nCipher will continue to support Technology partners through the nFinity partner program
Confidentiality	• nCipher will maintain confidentiality of our partners information per our contracts and NDAs.

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Hardware Security Modules (HSMs) provide the foundation of trust

Highest level of protection for encryption or signing keys

Implement and enforce customer-defined policy

"Harden" applications that use cryptography

Source of high quality random numbers for keys

A Hardware Security Module (HSM) is a certified, trusted platform for performing cryptographic operations and protecting keys

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The nShield difference: Security World architecture

Easy scaling of nShield estates

- Performance scalability
- Unlimited number of HSMs can be pooled

Convenience, flexibility and ease of operation

- Easy backups, eliminating manual cloning
- Unlimited storage of keys

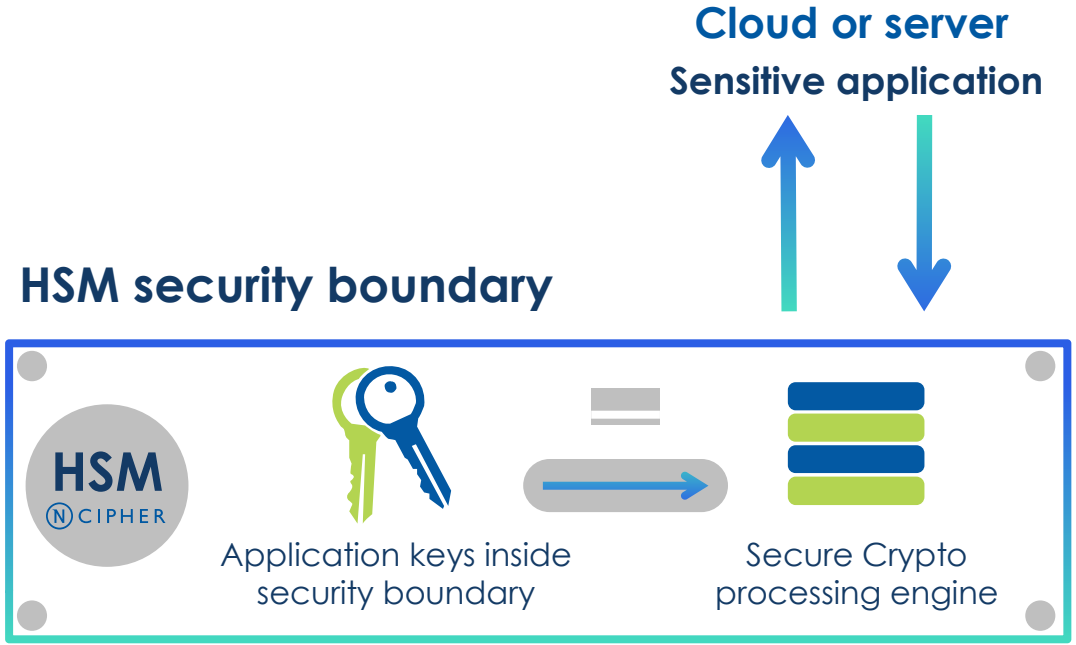
Resilient to hardware failure

- Seamless failover and load balancing
- No single point of failure
- Units can be shipped and will never have keys in memory

The nShield difference: CodeSafe

CodeSafe is a secure run-time environment within the certified HSM boundary

- Ability to remove applications from more vulnerable cloud or server environments



Examples:

- Consensus logic for blockchain
- Manufacturing controls for IoT device key injection
- Code signing
- More… including custom

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nShield Certification Updates

Updates on FIPS 140-2 and CC EAL4+/qCSD certification

nShields with eIDAS certification

nShield + models are compliant to eIDAS standards

- nShield Solo+ and Connect+ were certified to Common Criteria* (CC) by the Italian certification agency, OCSI, in March 2016.
- OCSI granted **nShield** the status of **Secure Signature Creation Devices (SSCDs)** and as **Qualified Signature/Electronic SEAL Creation Devices (QSCDs)/**

http://www.ocsi.isticom.it/index.php/dispositivi-di-firma/dispositivi-accertati

nShield XC models is under certification for EN 419 221 -5

- New generation nShields are currently under going new EN 419 221-5 profile of Common Criteria certification.

http://www.tuv-nederland.nl/nl/38/ongoing_certifications.html

*EAL4+ (AVA_VAN.5)
Find the OCSI certification doc on our website.

nShield firmware and FIPS 140-2 Certifications

	Latest FIPS	Latest non-FIPS on DVD[1]	Latest non FIPS by download[2]	In certification for FIPS[3]	In certification for CC[3]
Edge	2.61.1	2.65.2	12.50.2	12.50.8	NA
nShield +	2.61.2	12.40.0	12.50.2	12.50.8	NA
nShield XC	3.4.2	3.3.25	12.50.2	12.50.xx	12.50.7

- All nShield models are FIPS 140-2 Certified.
- Due to the increased security requirements with NIST SP800-131A Revision 1 and NIST Implementation Guidance, some of the existing certificates became temporary historical, and revised with new certification status.
- nShield + models and Edge for the FIPS certification.

Security world includes CC compliant mode

FIPS-140-2-level-3

- Security World compliant with FIPS140-2 level 3 .

Common-Criteria-Cmts

- Security World compliant with Common Criteria PP 419 221-5.

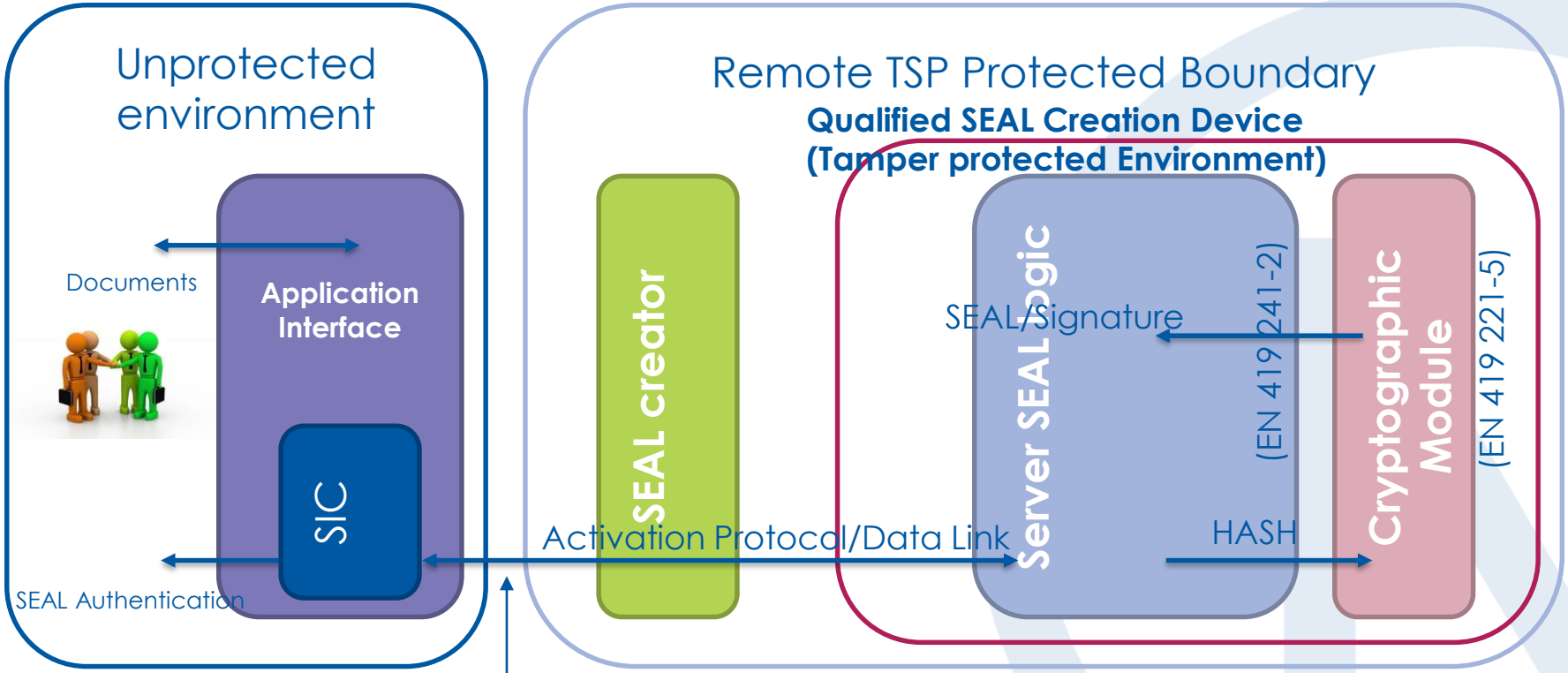
(Standard mode)

- Security World compliant with FIPS 140-2 level 2.

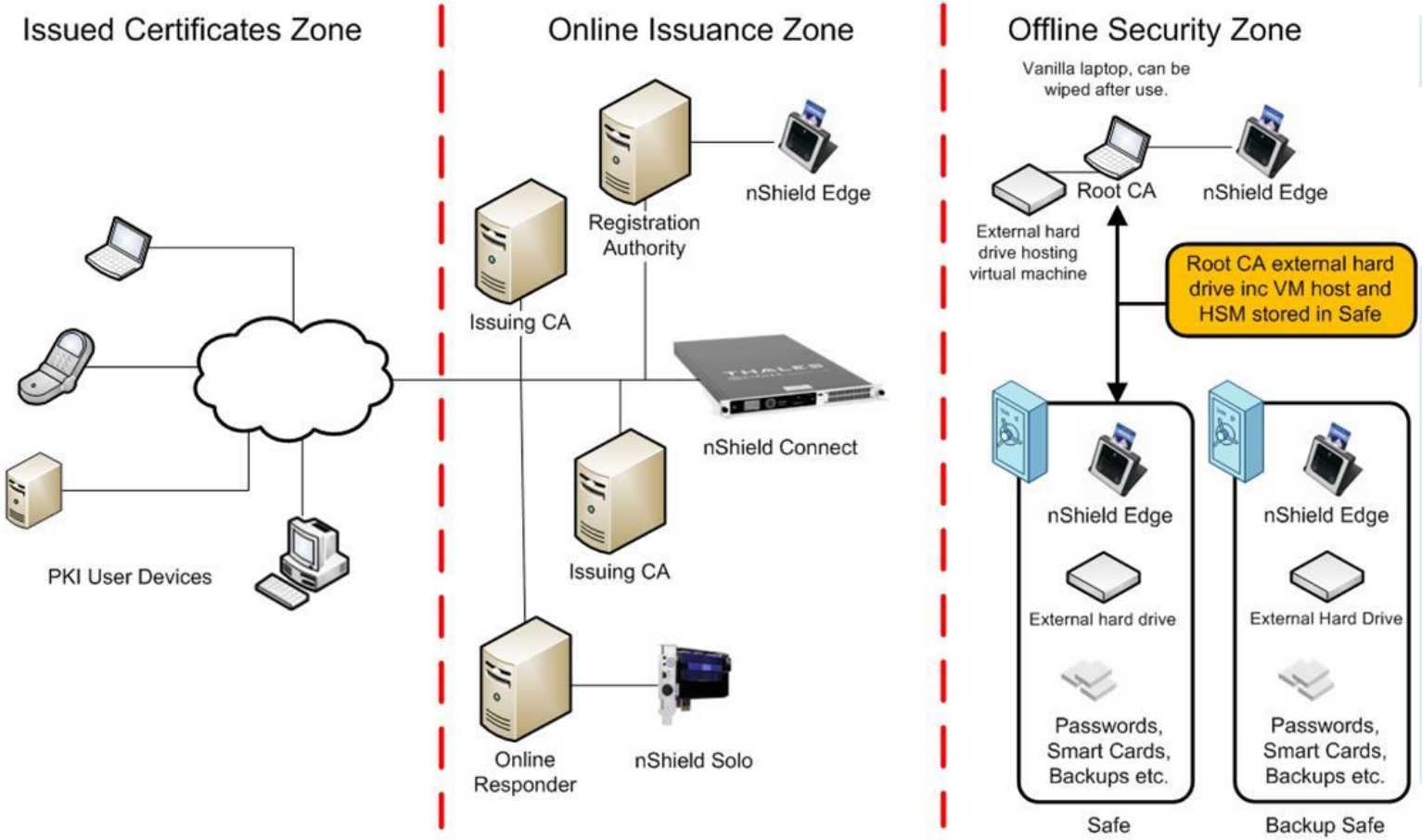
Use case examples & Case Study

Using HSMs for different purposes, different ways

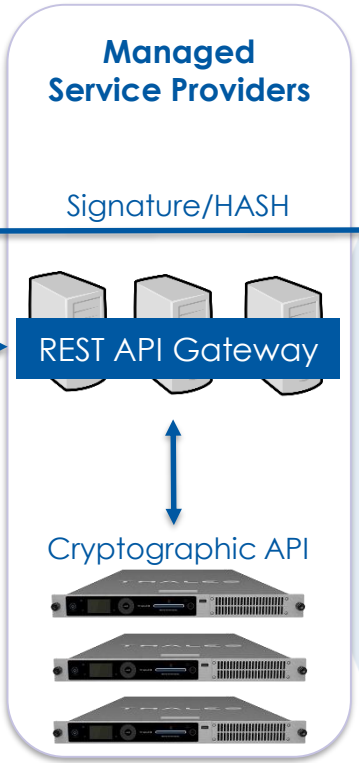
eIDAS Remote Signature



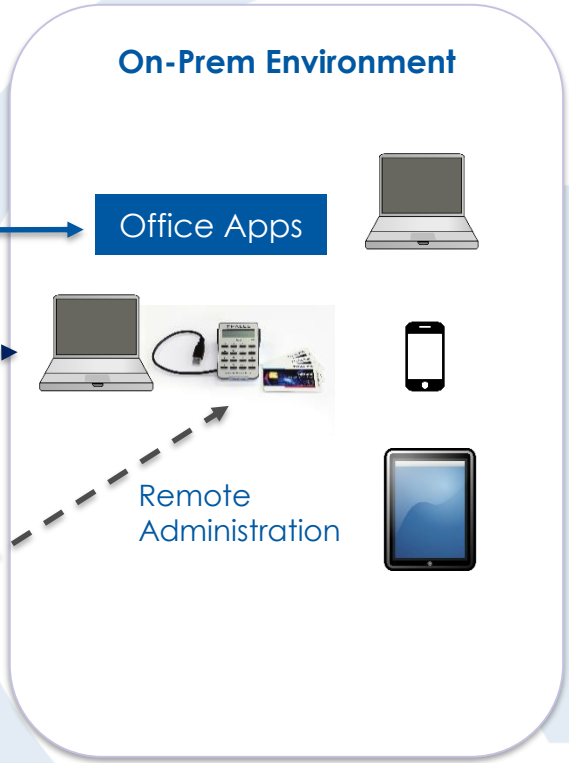
Traditional Public Key Infrastructure (PKI)



Hybrid PKI Authentication Infrastructure



REST API



FIPS 140-2 level3/eIDAS qCSD

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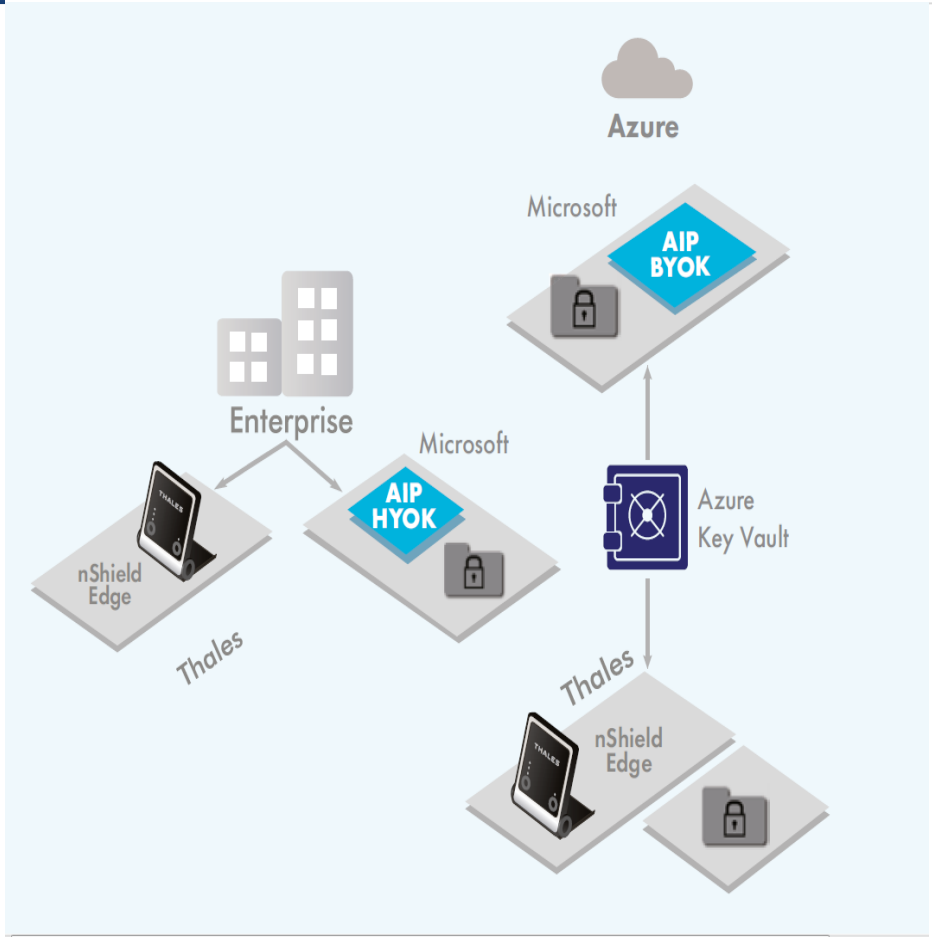
Microsoft Azure BYOK and HYOK (Cloud)



Microsoft Azure KeyVault services

- Azure keyVault let you generate your own key and used as your tenant key

BYOK in Microsoft Azure

- Keys are transferred to nShield within Azure, providing HSM security at both ends.
- Azure KeyVault can be utilized in:
  - Office 365
  - SharePoint
  - Information protection
  - Market place

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Thank you!

www.ncipher.com