Introduction to Hardware Security Modules

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Intro to HSMs

1. What's a HSM?

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2. Who buys them?

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Introduction

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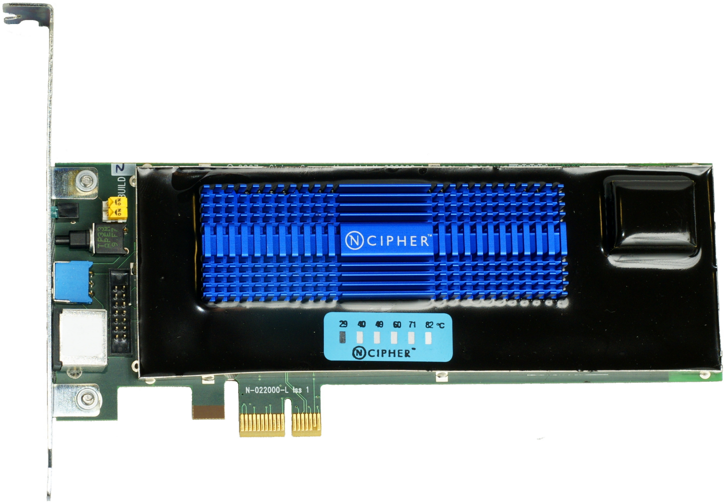
- nCipher acquired by Thales 2008.

WTF is an HSM?



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- Tamper reactive hardware rare in HSMs; more common in things in adversarial environments like payments terminals.

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- Sold to governments and industry.

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  - Dual control: 'any 3 of these 5 people can use the key'
  - Complex key policies: 'this RSA key can only decrypt using OAEP'
  - Providing a decent way to back up key material

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    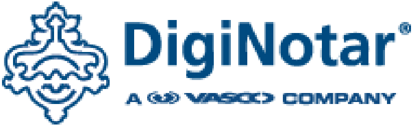

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  - Understanding and expressing the policy you want is an ongoing problem.
- Don’t do crypto any quicker (in general) than software running on a modern CPU.
- Don’t fix a system using rubbish crypto (RC4, unauthenticated block cipher modes, RSA PKCS#1 encryption, MD5/SHA1 signatures, ...)

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  - Some requests are ‘interesting.’

Fin

Questions?

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