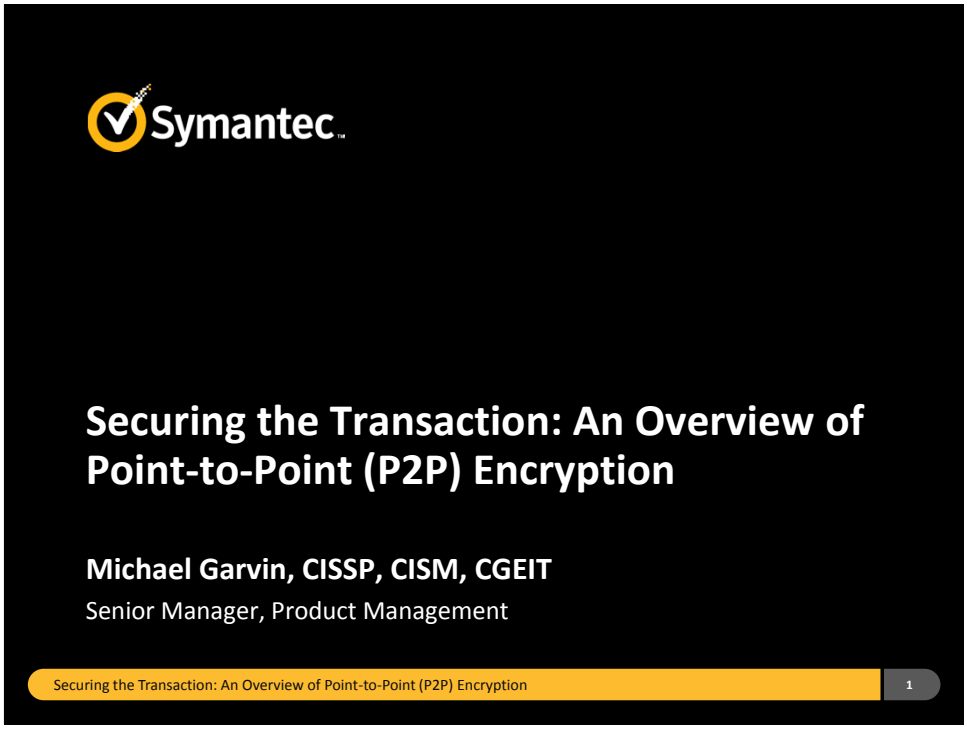
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Securing the Transaction: An Overview of Point-to-Point (P2P) Encryption
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Senior Manager, Product Management
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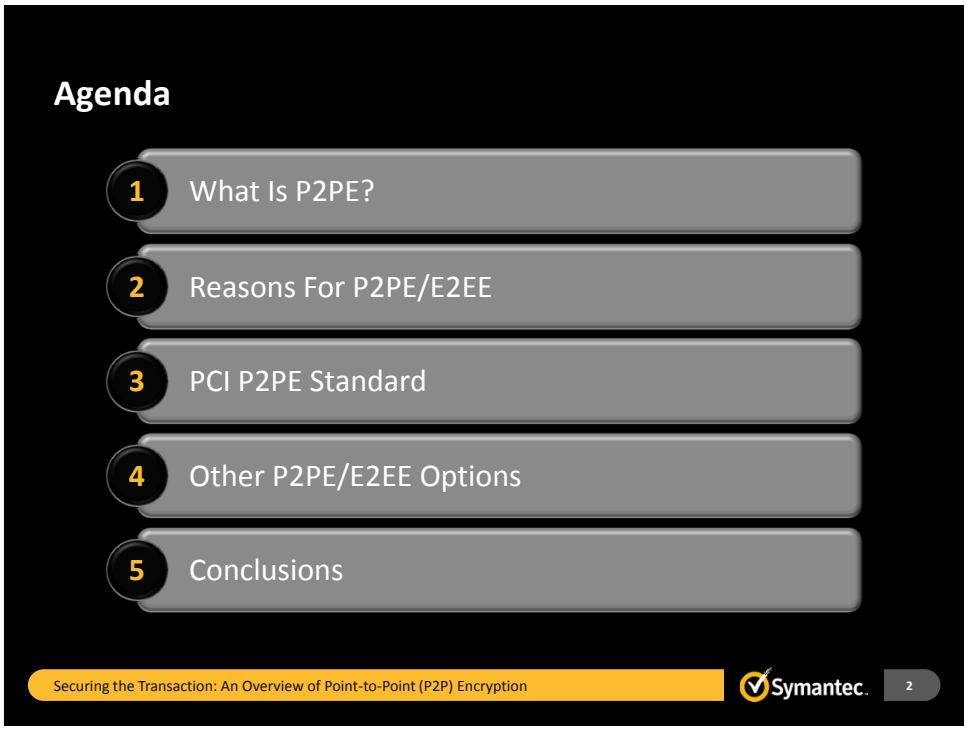
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What Is P2PE?

- Point-to-Point Encryption; may also be known as End-to-end Encryption (E2EE)
- A way to reduce – not eliminate – scope for PCI DSS compliance and assessment
  - Also to increase security, and to reduce risk and liability
- PCI has the P2PE Standard
- As with all things PCI, "it depends"

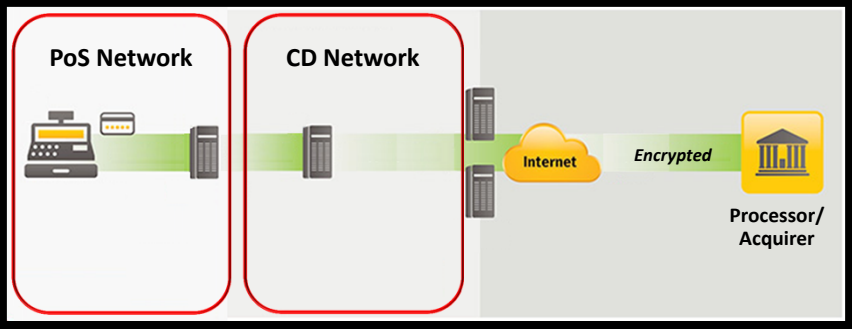
PCI DSS and Terminology Refresher

Build and Maintain a Secure Network and Systems	**1.** Install and maintain a firewall configuration to protect cardholder data
	2. Do not use vendor-supplied defaults for system passwords and other security parameters
Protect Cardholder Data	**3.** Protect stored cardholder data
	4. Encrypt transmission of cardholder data across open, public networks
Maintain a Vulnerability Management Program	**5.** Protect all systems against malware and regularly update anti-virus software or programs
	6. Develop and maintain secure systems and applications
Implement Strong Access Control Measures	**7.** Restrict access to cardholder data by business need to know
	8. Identify and authenticate access to system components
	9. Restrict physical access to cardholder data
Regularly Monitor and Test Networks	**10.** Track and monitor all access to network resources and cardholder data
	11. Regularly test security systems and processes
Maintain an Information Security Policy	**12.** Maintain a policy that addresses information security for all personnel

- PAN, SAD, CHD, and CDE (oh my!)

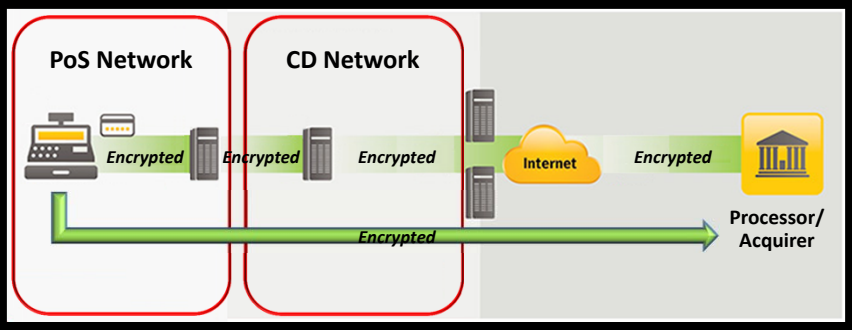
Reasons For P2PE/E2EE

Typical Implementation Before P2PE/E2EE



- Segmentation into "zones of trust" with varying data security
- Scope for compliance and assessment may not be minimized
- Likewise, neither may security and business risk

Implementation With P2PE/E2EE



- Encrypted data flows through existing channels, or is sent directly to a service provider
- Organization has limited/no ability to decrypt cardholder data
- Scope is limited, risks are reduced

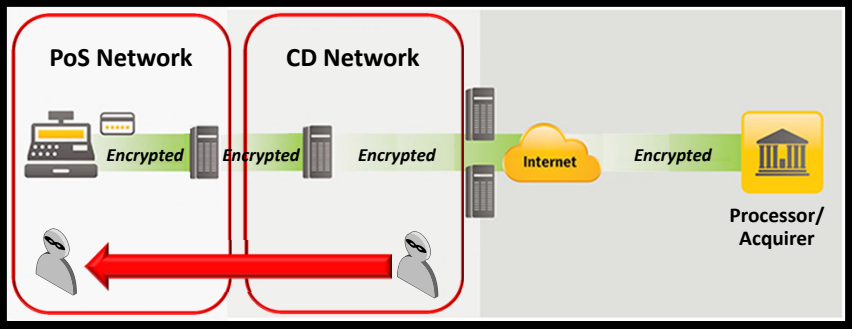
PCI P2PE Standard

PCI P2PE Terminology

- PCI P2PE Standard
- PTS – PIN Transaction Security (PCI standard)

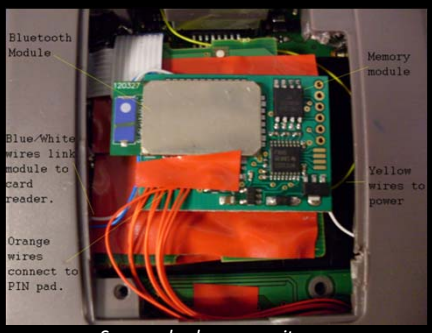
- POI – Point of Interaction (for P2PE, evaluated and approved via the PCI PTS program, with SRED listed, enabled and active)
- SRED – Secure Reading and Exchange of Data (PTS module defining POI device security requirements)
- HSM – Hardware/Host Security Module (protected hardware device that provides a secure set of cryptographic services)
- SCD – Secure Cryptographic Device (implements cryptographic logic or processes)

Shifting Security, Risks With P2PE



- Limit access to cardholder data (stored and transmitted; processed?)
- Transfer responsibility from the organization
- Risks may move closer to the POI, or to POI infrastructure

Physical Terminal Attack



Source: krebsonsecurity.com

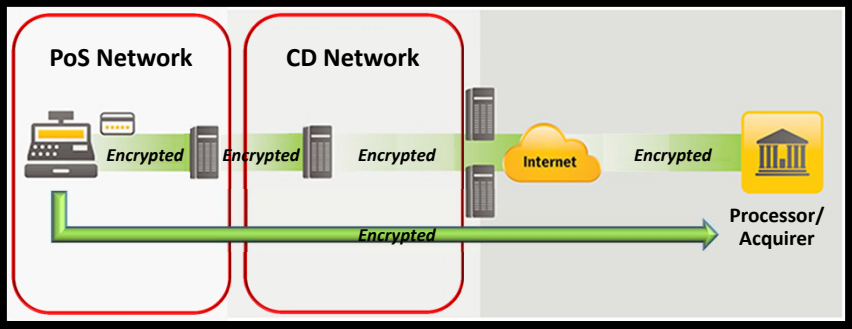
- Modification of hardware to capture or duplicate card data
  - Eg, the Aldi attacks
- Physical security and employee awareness is still critical

A High Bar

- Requires PTS and SRED compliant POI's, P2PE compliant solutions and applications
  - Possible rip-and-replace
  - Cost/benefit versus PCI DSS operations
  - Currently 3 solutions and 3 applications certified
- Service providers are in scope, and selection must be considered carefully
  - Assessment status, third party risk, liability, etc.
- Requires assessment and validation
- Subject to many of the same issues as PCI DSS compliance (people and processes, on top of technology)

Other P2PE/E2EE Options

Implementation With P2PE/E2EE



- Limit access – encrypt data, separate duties, and segment
- Consider impacts on security, compliance, and assessment
- Scope is limited, risks are reduced, cost may be reduced

Conclusions

Conclusions

- Consider the end game – business goals, security, compliance, risk, liability, etc.
- P2PE requires PTS and SRED compliant POI's, P2PE standard compliant solutions and applications
  - Possible rip-and-replace; cost/benefit versus PCI DSS operations
  - Currently 3 solutions and 3 applications certified
- E2EE and/or principles implemented within the CDE may achieve some of the same goals
- Third parties are in scope, and selection must be considered carefully
  - Assessment status, third party risk, liability, etc.
- Issues as PCI DSS compliance come into play (people and processes, on top of technology)


Symantec
Thank you!
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