



Interlink Merchant Triple Data Encryption Standard (TDES) Compliance Update

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Agenda

- Visa PIN Security Compliance Program
- TDES Rational and Policy Overview
- PCI PED Testing Update
- Q and A



Visa PIN Security Compliance Program



- New PIN Security Compliance Validation Program announced November 18
 - Details on www.visa.com/cisp
- Ensure the continued protection of acquired interchange PINs with sound key management practices
- Visa's Global PIN Security Program requires **full** compliance with:
 - *PCI PIN Security Requirements*
 - *PCI Encrypting PIN Pad (EPP) Security Requirements*
 - *PCI POS PIN Entry Device Security (PED) Requirements*
- Applicable Visa requirements:
 - All PEDs must be using TDES
 - All attended POS PEDs must be pre-PCI / PCI approved
 - Appendix A – PCI PIN Security Requirements
- Visa conducts regular PIN Security Field reviews of program participants to validate compliance
- Requests annual attestations of program participants
- Provides educational PIN Security trainings

TDES Rationale



Business Objectives

- Secure Visa's payment system and maintain consumer confidence
- Ensure continued adequate PIN protection
- New TDES compliance policy balances business impacts with risks to the payment system

Global Standards no longer recognize Single-DES

- Single-DES (SDES) susceptible to compromise
- Organization for Standardization (ISO) and American National Standards Institute (ANSI) online and off-line retail key management standards no longer reference the use of Single-DES

Visa established global TDES usage requirements affecting both hardware (PIN-Entry Devices) and Key replacement at:

- All VisaNet Processor connections (host-to-host)
- All ATMs and all POS PIN-Entry Devices

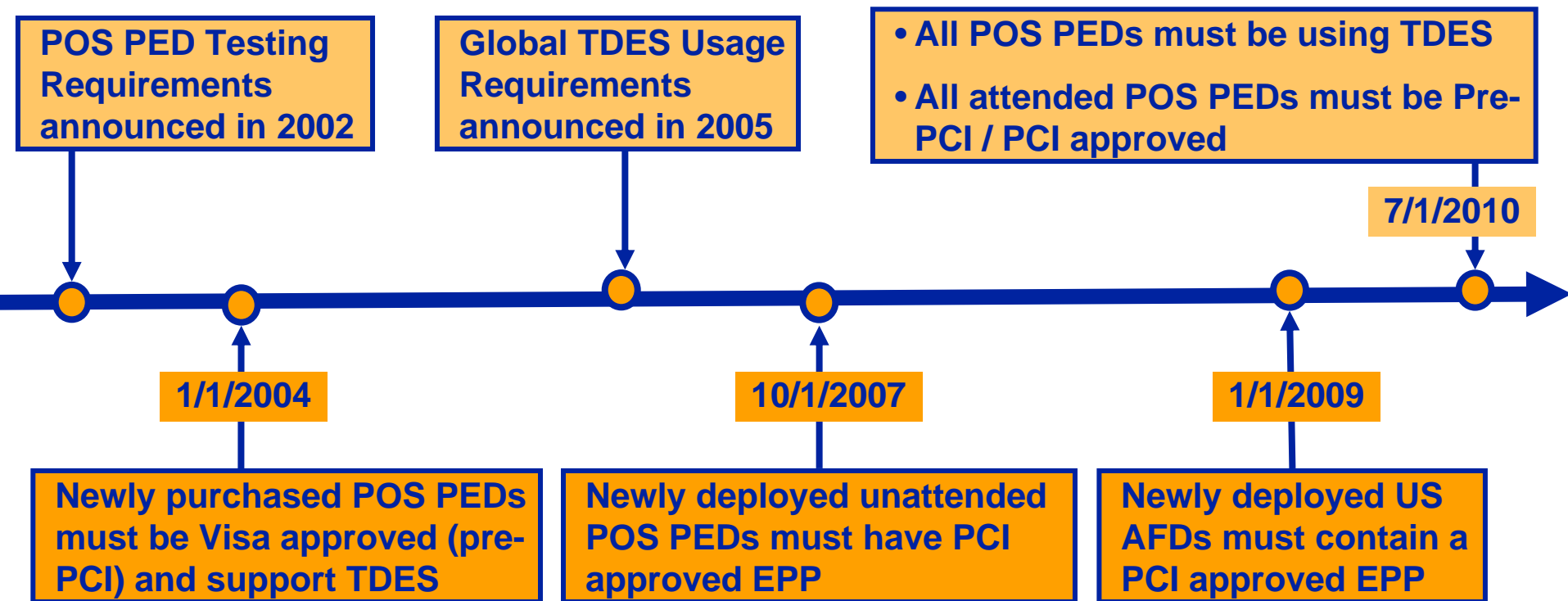
Visa is the established industry leader as the most secure way to pay

- TDES usage requirements support this promise to cardholders

POS: TDES Hardware and TDES Usage Mandates



Multiple articles published since 2002 to inform clients



All US ATMs and VisaNet Endpoints have been using TDES since 2007

New Enforcement Policy for POS TDES Usage

TDES Enforcement Policy announced April 22, 2009

- *Visa Business News Article*
- *New Visa TDES Frequently Asked Questions*
- Both available on www.visa.com/cisp

Visa will maintain the July 1, 2010, global TDES usage mandate

- Enforcement policy for TDES usage applies separately to:
 - Attended POS and kiosks -excluding Automated Fuel Dispensers (AFD)
 - U.S. Petroleum Merchants
 - Automated Fuel Dispensers
 - Encrypting PIN Pad (EPP) usage

Merchants should check with their Interlink sponsor to determine applicability

- Visa's TDES messaging began in 2002
- Some merchants have implemented TDES or on target

TDES Compliance Policy: Attended POS and Kiosks



POS/Kiosks — TDES Usage (excluding U.S. AFDs)

- ***Effective October 1, 2009***
 - Sponsoring Interlink acquirers must submit to Visa a summary TDES compliance status report and plan to achieve full compliance for sponsored attended POS and kiosk activity
 - Reports must be submitted to Visa quarterly
 - Reporting template provided to Interlink Acquirers
- ***Effective August 1, 2012***
 - Acquirers may be assessed fines for sponsoring any non-TDES compliant merchants or agents
 - Visa's goal is not to fine clients, but to encourage adoption of TDES

TDES Compliance Policy: U.S. Petroleum Merchants



U.S. Petroleum Merchants — TDES Usage

- ***Effective October 1, 2009***
 - Acquirers must submit to Visa a TDES compliance status report and plan to achieve full compliance for sponsored AFD activity
 - Reports must be submitted to Visa quarterly
 - Reporting template provided to Interlink Acquirers
- ***Effective July 1, 2010***
 - Merchants must be using at least Single-DES (SDES) Derived Unique Key per Transaction (DUKPT) **or** TDES
 - SDES DUKPT widely used but it is **not** the end-state goal – TDES is
 - Requirement implemented to manage risks introduced by (Master/Session) shared key scenarios
 - Visa's goal is to promote TDES adoption and not fine clients
- ***Using information provided in plans, Visa will determine a TDES usage mandate for AFDs***
- Inside petroleum sales (non-AFD) are managed under the POS category

TDES Compliance Policy: U.S. Petroleum Merchants



U.S. Petroleum Merchants — EPP Usage

- TDES capable hardware critical to TDES implementation strategy
- U.S. AFD EPP mandate delayed by 5 years
- PCI-approved EPPs for AFDs available since 2008

Effective January 1, 2009

- Newly deployed AFDs must contain a TDES-capable PCI-approved EPP
- Acquirers may be assessed fines for non-compliance

Effective October 1, 2009

- Acquirers must submit an AFD EPP attestation for newly deployed AFDs at sponsored merchants
- Reporting template provided to Interlink Acquirers

Quarterly TDES Reporting



Visa's quarterly TDES reporting requirements are a critical aspect of Visa's compliance strategy and enforcement policy:

- Collaborative effort with Interlink acquirers and Visa
- Allows acquirers and Visa to monitor TDES implementation progress and compliance rates
- Will help establish a reasonable and achievable TDES usage date for U.S. AFDs
- Helps both Visa and Interlink acquirers to pro-actively manage the risks introduced by ongoing SDES usage
- Enforcement policy is based on the current risk environment that exists for cardholder PINs
- Changes to the policy will be based on further analysis of exploited vulnerabilities, emerging risks and threats to the payment system

SDES PIN Compromise Liability



In the event of a PIN compromise due to the use of SDES past July 1, 2010 acquirers will be subject to:

- Account Data Compromise Recovery (ADCR) and Data Compromise Recovery Solution (DCRS), or similar program liability
 - <http://usa.visa.com/merchants/operations/adcr.html>
- Potential fines if the entity is found to be non-compliant with the *Payment Card Industry PIN Security Requirements* including *any* use of SDES past July 1, 2010

PCI PIN Entry Device Testing



PCI Security Standards Council (SSC) manages and approves laboratories for testing PEDs and PED approvals

- Visa started program in 2002 (Pre-PCI PEDs)
- Adopted by PCI SSC in 2007

Testing consists of verification of the Hardware, **Firmware** and TDES capability

Separate processes for the evaluation of POS and EPP

- www.pcisecuritystandards.org/pin

Visa has set mandates for the use and deployment of PCI-Approved PEDs

New PCI UPT and PCI HSM Devices



Visa has set mandates for the use these PCI PEDs:

- *PCI Encrypting PIN Pad (EPP) Security Requirements*
- *PCI POS PIN Entry Device Security (PED) Requirements*

Visa has not established mandates for the use of these devices:

- *PCI Unattended Payment Terminal (UPT) Security Requirements*
- *PCI Hardware Security Module (HSM) Security Requirements*
- When a significant amount of UPTs and HSMs are approved Visa will establish mandates
- Mandates will not be retroactive but only for newly deployed devices
- UPT is currently a best practice – Use of PCI EPPs in Kiosks and AFDs is mandated by Visa
- See *Visa PED FAQ* on www.visa.com/cisp

Sunset of Attended Pre-PCI POS PEDs



- **Types of Attended POS PEDs:**
 - PEDs that were never approved - sunset date of July 2010
 - PEDs that were evaluated and approved under the Pre-PCI (Visa) PED program
 - PEDs evaluated and approved under the PCI program
- **Proposed sunset only affects Pre-PCI attended POS PEDs**
 - Pre-PCI PEDs approved between April 2002 - December 2004
 - Pre-PCI PED approvals for new deployments expired December 2007
- **Tentative target date - December 2014**
 - Allows approximately seven years from the approval expiration
 - Accommodates the natural expiration of most of PEDs
- **See Visa PED FAQ on www.visa.com/cisp**
 - Visa Europe announced Pre-PCI attended POS PED expiration - December 2012
 - Visa Inc. will announce shortly

Known Compromised POS PEDs



Vendor Attested

VeriFone

- PINpad 101
- PINpad 201
- PINpad 2000
- Everest

Hypercom

- S7S
- S8

Ingenico

- eN-Crypt 2400
- C2000 Protégé

**Compromised PEDs are listed on www.visa.com/cisp
Nov. 2007 *Visa Security Alert* “POS PIN Entry Device Vulnerabilities”**

All Vendor attested attended POS PEDs (neither pre-PCI or PCI approved) must be removed from production by July 1, 2010

Recently a Pre-PCI attended POS PED was identified as compromised:

Ingenico eN-Crypt 2100

NOTE: For the most recent list of known compromised PEDs see Bulletin on www.visa.com/cisp

TDES / PED Best Practices and Requirements



Best Practices:

- Use PCI PED V2 PEDs - tested under more robust standards
- Touch PEDs once - if PED being repaired, use opportunity to redeploy with TDES keys
- Use PED's key registers to load future use TDES keys
- Retire compromised PEDs ASAP
- If available, use PCI UPT and PCI HSM approved devices

Requirements:

- Generate a new Base Derivation Key (BDK) for TDES DUKPT implementations (*PCI PIN Requirement 19*)
 - SDES DUKPT BDK must not be used for TDES
- Only use Interlink ESOs that have been registered with Visa
- Registered ESOs posted on Visa public site:
 - http://usa.visa.com/merchants/risk_management/thirdparty_agents.html

For More PIN Security Information



www.visa.com/cisp

- *November 2009 - Update on Visa's Compliance Validation Program*
- *November 2009 - Visa NA PIN Security Training Schedule*
- *September 2009 – Interlink Merchant TDES Compliance (webinar)*
- *September 2009 – POS PED Vulnerabilities*
- *August 2009 - US POS TDES Frequently Asked Questions*
- *August 2009 – General PED Frequently Asked Questions*
- *April 2009 - Update on Visa's TDES Policy*
- *Visa PIN Security Tools and Best Practices for Merchants*
- *PCI PIN Security Requirements v2 Jan. 2008*
 - *Visa specific requirements - Annex A*
- *Visa PIN Security Program: Auditor's Guide*
- *Other PIN security related Bulletins documents*

www.visa.com/pin

www.visa.com/pinsecurity

PCI Security Standards Council

www.pcisecuritystandards.org

- *PCI POS PIN Entry Device Security Requirements*
- *PCI EPP Security Requirements*
- *PCI UPT Security Requirements*
- *PCI HSM Security Requirements*
- PCI Approved PIN Entry Device List
 - 100 Vendors
 - 296 PEDs

Visa 2010 NA PIN Security Trainings



Visa One-Day Key Management Trainings:

- February 17 – Miami, FL (Adjacent to ATMIA)
- April 22 and October 7 – Foster City, CA

Visa Three-Day Compliance Validation Training:

- September 14 – 16, Foster City, CA

For more information go to www.visa.com/cisp

- Trainings are accredited for Continuing Professional Education
- Custom in-house training sessions available
- To register contact: VisaBusinessSchool@visa.com

Final Thoughts on Fraud and PIN Security



Protecting the payment system is a shared responsibility for all payment system participants

Everyone has an important role to play:

- Issuers
- Acquirers
- Merchants
- Cardholders
- Processors
- Third Party Agents
- Public/Government Officials
- Law Enforcement

Your PIN Security Contacts at Visa



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Regional PIN Security Contacts in all Visa regions



Questions



This webinar presentation is posted
on www.visa.com/cisp