CASE STUDY:

ecentric
PAYMENT SYSTEMS

South Africa's First P2PE Environment

Ecentric Payment Systems is one of South Africa's leading payment processors. With over one billion transactions processed across over 60,000 connected terminals, they have built a strong reputation for security, high availability infrastructure, and strong customer service.

As part of a project to further enhance their security profile, Ecentric worked with Futurex partner Stanchion Payment Solutions to design and deploy point-to-point encryption (P2PE) in their environment. This deployment marked an important step in protection of consumer and retailer data throughout the country and gave Ecentric the honor of being PCI's first listed decryption provider in the world.

What is Point-to-Point Encryption?

P2PE is widely recognized as one of the most valuable investments in encryption technology for transaction processors, retailers, and Point of Sale (POS) manufacturers. Unlike other technologies, P2PE encrypts data from the moment a transaction is first taking place—during the swipe or dip of a payment card.

Because P2PE encrypts data at the point of capture, the data is secure as it's processed—be it entering the physical memory of the POS terminal or traveling to the processor's HSMs for transaction validation. Without P2PE, if clear cardholder data is sent from one physical location to another, it becomes vulnerable to interception. Even the very short window of time during which payment card data moves from the point of capture to the POS terminal's RAM is an opportunity for such attacks as those initiated by RAM scraping malware. These attacks can happen instantaneously, and P2PE is designed to maintain vigilance over every transaction.

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About Ecentric Payment Systems

Ecentric Payment Systems is the preferred payment solutions provider in South Africa. Based in Cape Town, it has provided payment solutions to South African retailers since 1998, processing over 880 million payment transactions. It has a proven history of pursuing security for its customers, achieving PCI DSS level 1 certification in 2009.

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The Business Case

To enhance the transactional security of its Point of Sale terminals, Ecentric Payment Systems approached Stanchion Payment Solutions, a partner of Futurex. Ecentric wanted to assure the security of its retailers' transactions, which meant complying with PCI DSS (Payment Card Industry Data Security Standard) requirements. The move made Ecentric Payment Systems the first payment solutions provider in all of South Africa to offer P2PE to its customers.

The Desired Infrastructure

The infrastructure that Ecentric desired included a number of requirements:

1. Having already achieved Level 1 PCI DSS certification in 2009, Ecentric wanted to maintain and achieve further compliance with one of the most widely respected standards for payment card security.

2. Ecentric needed its HSMs to have the transaction processing speeds to support its 60,000+ terminals.

3. Multiple devices in two physical locations needed to be upgradeable with zero downtime, so mission-critical transaction processes are never interrupted.

4. Because it would maintain its devices in two separate locations, Ecentric wanted to ensure that it did not need to spend exorbitant sums on travel to and from its two South African data centers.

5. Ecentric required both vertical and horizontal scalability to accommodate future growth without affecting production capabilities.

6. The FIPS 140-2 Level 3 hardware security modules needed to conduct key storage and transaction processing. Ecentric's payment terminals support multiple keys and those keys required that the HSM perform decryption for the P2PE transactions which were encrypted at the Point of Sale.

Stanchion Payment Solutions

For nearly 20 years, Stanchion has been at the center of payment solutions for retailers, banks, credit unions, card schemes, payment processors, and payment systems all over the globe. Stanchion is a certified Futurex partner.

The Solution

To fulfill its requirements, Ecentric Payment Systems worked with Stanchion Payment Solutions to implement the Excrypt SSP Series and the Securus in its two South African locations: Cape Town and Johannesburg.

The Excrypt SSP Series of hardware security modules (HSM) allows for secure transaction processing as encrypted data travels from the terminal to the HSMs where that cardholder data is decrypted and sent to the host application for approval. The scalability of the Excrypt SSP Series of up to 2,250 TPS per device and over 20,000 in the Excrypt SSP Enterprise v.2 support the transaction loads of Ecentric's customers while maintaining compliance with PCI DSS.

With the Securus, Ecentric's system administrators and key officers need not worry about traveling between Cape Town and Johannesburg to conduct keying operations on the HSMs. The Securus permits remote key management and configuration of multiple devices simultaneously.

ECENTRIC'S P2PE INFRASTRUCTURE: HIGH-LEVEL OVERVIEW

Host Application

Primary Site | Cape Town

Backup Site | Johannesburg

Excrypt SSP Series

The Excrypt SSP Series is a high-throughput HSM, operating at speeds of up to 2,250 transactions per second (TPS), over 5,000 in the Excrypt Plus, and over 20,000 in the Excrypt SSP Enterprise v.2. With versatile functionality including EMV, P2PE, tokenization, RSA, PKCS #11, and more, the Excrypt SSP Series provides reliability and speed to Ecentric's transaction processing environment.

Securus

The industry's first purpose-built remote key loading and device management tablet, the Securus enables Ecentric to remotely monitor and configure their infrastructure from virtually anywhere in the world. Through the Securus, Ecentric can configure units, load encryption keys, and update firmware without ever having to step foot into their data centers, significantly reducing the cost and time associated with key loading ceremonies and other routine processes. The Securus includes a smart card reader for security and convenience, eliminating the need for paper-based key records.

The Results

After successfully implementing the Excrypt SSP Series and Securus, Ecentric became the first payment solutions provider in South Africa to implement P2PE and become the first PCI-listed decryption provider in the world. By acting as a trailblazer in South Africa for securing payments, they positioned themselves as security-focused leaders within their field while protecting their customers' most sensitive data from theft.

Backed by Futurex technology, the company has the capability to scale its security apparatus as its business grows. This means Ecentric will not only be prepared to tackle current and future compliance standards, but it will also be prepared to tackle peak transaction rates. "Futurex supports the latest card data encryption standards and uses the point-of-sale's existing security key to protect the information. Because the module itself is tamper-proof and tamper-evident, the security keys are completely secure from physical breach," said Max Gysi, Senior Solutions Architect at Stanchion Payment Solutions.

> *By deploying the devices, Ecentric will be the first payments provider in Africa to deploy 'point-to-point' encryption (P2PE), thereby establishing the strongest protection possible for our retailer customers and their brands. P2PE will provide a competitive advantage and is a major step forward in assisting our customers to achieve compliance with the most rigorous industry standard, PCI DSS.*
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> — *Hassen Sheik, CEO: Ecentric*

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