



Securing Prepaid Cards

Online banking companies need to secure payment cards just like their brick and mortar counterparts. One progressive online banking company in South America wanted a way to improve data security for its prepaid card issuance and validation operations. Working with Futurex, this company was able to implement a solution promoting scalability, ease of use, and physical and logical security to encrypt and validate card information in a secure and compliant manner.

The Benefits of Prepaid Cards

The payment industry is evolving rapidly, with banks constantly developing new features and technologies. One of the biggest recent banking trends is to provide prepaid cards in addition to credit or debit cards. Prepaid cards can be secured just like other cards, but also have features that set them apart as a strong component of the payment options available through financial institutions.

Market Awareness

Financial institutions are constantly searching for the product or feature that will give them an edge on their competitors and allow them to reach a broader market. They attempt to increase their customer base by using incentives, advertisements, or similar methods.

More and more banks are realizing that there is a large untapped customer market available: unbanked individuals. Those who have not yet chosen a bank typically prefer cash payments, and many do not qualify for credit cards.

To reach this untapped market, banks must provide unbanked individuals with a solution that is beneficial to both the customer and the financial institution. That solution lies in prepaid cards. Prepaid cards offer convenience to banks' customers while still allowing the financial institution to gain the benefits inherent in card-based transactions, as well as introduce ancillary services to those individuals.

Customer Satisfaction

Making banking easy and convenient is essential to retaining existing customers and gaining new ones. By offering prepaid cards, banks can improve customer satisfaction in a variety of ways, such as:

- Prepaid cards give customers the convenience of cash without the safety concern of the money being stolen or lost.
- Prepaid cards are available to those with poor credit history, with none of the risks associated with authorizing credit cards for such individuals.
- Travellers often prefer to use prepaid cards loaded with different currencies, rather than pay currency conversion fees for cash.

Ease of Implementation

Preparing and issuing prepaid cards is no more difficult than the same process for credit or debit cards, and in some ways is even easier. Utilizing a physically reinforced hardware security module allows financial institutions to handle all of the preparation, issuance, and transaction validation through a single device. Hardware Security Modules, or HSMs, offer unparalleled security without compromising on efficacy or convenience for the financial institution.

Ways to Load Money onto Prepaid Cards

Bank Accounts



On the Phone



Direct Deposit



At the Store



The Business Case

Forward-thinking organizations are using the evolving technology in the financial industry to increase their customer base by providing their customers with prepaid cards, giving them access to payment methods that promote the convenience and speed necessary in today's world.

One large bank in South America saw a opportunity to improve the way prepaid cards work, incorporating the convenient payment option with an online account tailored to providing all the tools for complete customer control over spending and money management.

When this bank realized that an innovative plan for prepaid cards needed innovative data security to support it, they decided to upgrade their existing hardware security modules. After researching the available products on the market, they knew that the capabilities and versatility of Futurex's platform made the Excrypt SSP9000 HSMs the right choice.

The bank contacted Futurex, beginning a business relationship based on a mutual



value for data security. Futurex Solutions Architects analyzed the bank's environment to determine their needs, and then developed a customized solution.

The South American bank's requirements were centered around a security system that would be able to grow as rapidly as the company did. They needed a platform that maintained the height of physical and logical security, with an API their host application would support. Speed and scalability were needed to ensure the bank's cryptographic infrastructure performed quickly and effectively, not only initially but also long term. They were able to find the answer to their needs in Futurex's Excrypt SSP9000 HSMs.

Functionality Requirements: Large South American Bank

Scalable: As the bank grows, having a security solution that can support scalability is essential. On top of increased processing capacity, the bank needs a security platform that will support the integration of future devices and payment methods.

The modularity of Futurex's Hardened Enterprise Security Platform enables virtually limitless scalability.

Easy to Use API: The bank's host application must be able to easily integrate with the security hardware, using an intuitive API that requires little employee training.

Futurex's Excrypt API is a comprehensive, innovative command set that offers robust functionality and versatile expansion capabilities, making integration and operation an easy process.

High Performance: The bank's high number of card transactions require HSMs that can support a large volume of requests while maintaining speed, without performance degradation.

Futurex's best-in-class hardware security modules boast the fastest transaction speeds in the industry.

The Solution

Processing prepaid cards requires both speed and security, so the bank opted for the fastest payment hardware security module in the world: the Excrypt SSP9000.

The scalability of the Excrypt SSP9000 enables increases to processing speed upon need, and its inclusion in the Hardened Enterprise Security Platform allows for other devices to be added in the future. The FIPS 140-2 Level 3 and PCI-HSM-validated device satisfies rigorous security requirements, with both physical and logical measures to prevent tamper.

The Excrypt SSP9000 units are being used for two main purposes: to prepare and issue prepaid cards and to validate the card transactions.

Card Preparation: Utilizing Futurex’s intuitive API, the host application uses an automated process to gather the information for each prepaid card, such as the service code, card number, and expiration date. That data is sent to the Excrypt SSP9000, which generates and encrypts the card verification code (the unique 3-digit number on each card).

Card Validation: After activation, each card can be used like a credit card, in-store and online. During the transaction, the card verification code is sent to the Excrypt SSP9000, which verifies the card information, then sends approval to the host application.



The Results

This large South American bank saw an opportunity to progress beyond the the current standards for customer service and banking usability, and in doing so became a company on the forefront of a monumental shift in the way payments are done, providing new and efficient features. The integration of the Excrypt SSP9000 serves as further proof of the bank’s commitment to continual improvement and technological advancement.

The HSM ensured their customers would not have to worry about the security of card information, meeting or exceeding all relevant regulatory standards.

The successful implementation of the Excrypt SSP9000 into the bank’s core cryptographic infrastructure has given them the basis to grow their prepaid card production for many years to come.

About Futurex

For over 30 years, Futurex has been a globally recognized name in providing secure, scalable, and versatile data encryption solutions. More than 15,000 organizations worldwide have trusted Futurex’s Hardened Enterprise Security Platform to provide innovative, first-to-market solutions for the secure encryption, storage, and transmission of sensitive data.

Futurex maintains an unyielding commitment to offering advanced, standards-compliant hardware security modules, key management servers, and general-purpose data encryption technology alongside world class customer service.

