

## Case Study

Large, EMEA-Based ATM Deployer

# FUTUREX



## Turnkey Migration to the Futurex Platform

One of Africa's largest independent ATM deployers and operators contacted Futurex seeking to upgrade their current hardware security module (HSM) infrastructure to feature better scalability and customization. In order to help achieve their goals, Futurex provided a turnkey solution that allowed them to seamlessly migrate their core cryptographic infrastructure to the Hardened Enterprise Security Platform.



### Case Study Overview

For many companies, the choice to upgrade and standardize their existing data security infrastructure can be both an exciting moment of growth as well as a burdensome chore. While the upgrade process enables companies to remain up-to-date with current cryptographic standards and best practices and ensure their infrastructure can handle the amount of data being processed daily, the process can seem daunting. Integrating existing applications, spending time learning and configuring a new system, and transferring encryption keys all represent typical concerns during the migration process. However, the benefits of updating and standardizing on a single data security platform far outweigh the efforts of the migration itself. Ultimately, staying current with the latest in enterprise data security technology is a reliable method for remaining compliant and ensuring sensitive data is protected, while also introducing new management and operational efficiencies.

This case study discusses how Futurex helped one such company facilitate their migration to an updated and compliant HSM infrastructure that better addressed their needs for scalability, manageability, and security.

### Company Overview

*The company acts as the deployer and operator for thousands of ATMs used by retail and banking institutions, and has created a name for itself as one of the leading independent deployers of ATMs in Africa. Part of their reputation comes from their after-deployment services, which includes client relations, technical support, continuous ATM monitoring, cashing services, ATM security, brand awareness, transaction processing support, and repair services to a distributed network of branches and field technicians.*

# The Business Case

As the company considered their migration, they identified four key areas Futurex’s solution would need to address: time spent training their employees on new functionalities, time spent configuring the new HSMs, methods of translating their previously generated keys to the standards-based format used by Futurex HSMs, and testing of the final infrastructure prior to deployment.

---

## Desired Infrastructure

---

The company, as one of Africa’s largest deployers of ATMs, has thousands of ATMs deployed across the continent for use by both financial and retail institutions. In order to securely protect the information of their customers, and to ensure the integrity of their ATMs, the company wanted to upgrade and migrate their legacy cryptographic processing infrastructure to a modern platform. To prevent any complications during the migration, the company looked for an HSM provider that would address their infrastructure and business needs. As such, they chose to work with Futurex for the migration in part because of the features offered with Futurex devices, as well as Futurex’s long history of designing customized solutions with a high success rate.

To begin the project, Futurex worked with the company to discuss the migration, their current infrastructure, and the goals they wished to achieve with their new security ecosystem. The company stressed scalability, high throughput rates, the ability to maintain high levels of security, and a close relationship with their vendor to provide feature and functionality updates in the future to keep pace with information security best practices. Futurex’s Solutions Architect team also recommended developing a solution that would allow for automatic use after deployment, reducing the overall risk of downtime and easing the transition process.

Ultimately, Futurex’s Solutions Architects were able to identify four areas to address in the solution: key translations, system integration, system scalability, and system migration.

---

## Solution Outline

---

### Quick and Simple Key Translation

Futurex’s Freedom Application allows organizations to quickly and painlessly translate their existing keys from a previous, restrictive schema to Futurex’s standards-based methodology.

### Easy System Integration

The company was offered a turnkey solution as a part of their migration package that works with a variety of systems and reduces the need for extensive customization.

### System Scalability

The modular architecture of Futurex’s Hardened Enterprise Security Platform offers a scalable solution, allowing their infrastructure to grow alongside their transaction volume.

### Rapid System Migration

The advanced feature set of Futurex’s products allows organizations to greatly minimize, or eliminate altogether, downtime when migrating between HSM providers.



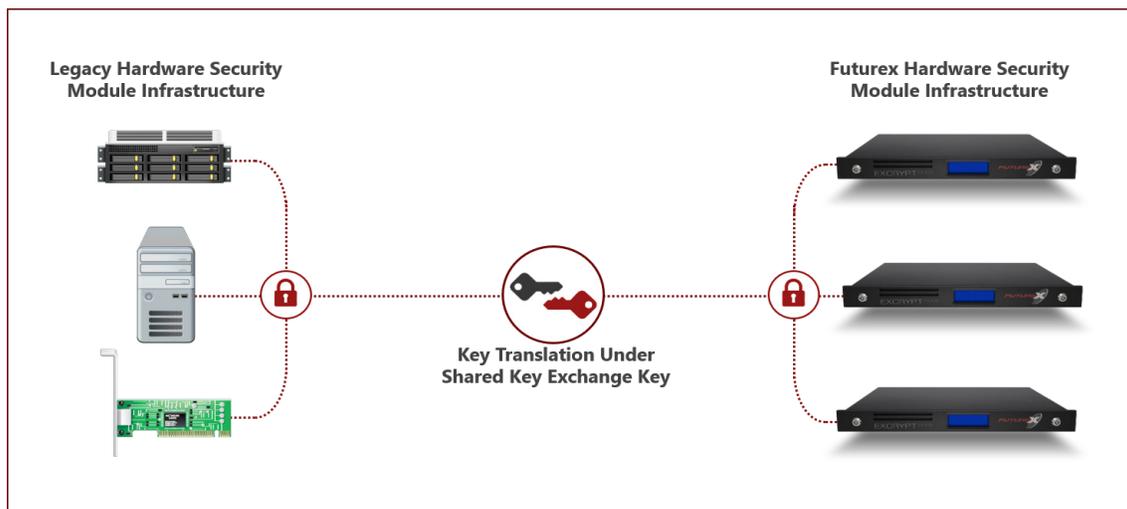
## The Solution

The Futurex Solutions Architect team developed a custom solution that integrated seamlessly into the company's environment and addressed their concerns for security and scalability. To start, the Excrypt Series of HSMs was selected to fulfill requirements regarding FIPS 140-2 Level 3 compliant data encryption. The Excrypt family of devices offers robust physical and logical security features that ensure consumer information processed by the company's ATMs remained safe within the FIPS 140-2 Level 3 compliant Secure Cryptographic Device. The easy-to-use Excrypt API gave their developers an intuitive interface to access the HSM's cryptographic processing functionality, fulfilling their current as well as anticipated future needs.

To remotely manage these devices, the Solutions Architects added the Securus, Futurex's portable, touchscreen-based, FIPS 140-2 Level 3 compliant tablet to the solution. The Securus not only assists with both remote management and device configuration, but is also able to provide necessary configurations and updates to multiple, geographically dispersed systems from one location. Similar to Excrypt Series devices, the Securus offers strong security features such as PKI-secured communication for remote management, and enforcement of security requirements such as dual authentication.

In addition to the Excrypt and Securus devices, the Futurex Freedom Application was included in the solution to assist the company in automatically transferring their keys from their previous system to the Excrypt Series HSMs. The Futurex Freedom Application uses a Key Encryption Key (KEK) to take keys created using alternate key schemas and automatically transport and translate them to a standards-based method used by all Futurex HSMs. The result is a Master Key File (MFK) that is controlled solely by the company. The Freedom Application is capable of translating a vast number of keys, making a full-scale deployment in a short period of time feasible for companies looking to switch between systems.

After developing an implementation plan with mutually agreeable time lines, members of Futurex's Solutions Architects team traveled to the company's headquarters to facilitate hands-on training, assist in the time period leading up to the official migration, and remain on-hand to troubleshoot any issues that occurred during the transition.



**Futurex Freedom Application**  
Turnkey Migration Overview

## Futurex Devices and Platforms

### Excrypt Series HSM



The Excrypt family of devices, consisting of the Excrypt Plus and Excrypt SSP Enterprise v.2, are FIPS 140-2 Level 3 and PCI HSM compliant hardware security modules that provide the ultimate combination of security and processing speed. The Excrypt Plus offers speeds up to 5,000 transactions per second, while the Excrypt SSP Enterprise v.2 can process up to 20,000. Excrypt Series HSMs offer strong physical and logical security as well as disaster recovery and hardware redundancy to ensure mission-critical operations maintain rock-solid stability.

### Securus



Futurex's Securus is the industry's first purpose-built remote key loading and device management tablet. The Securus enables users to remotely monitor and configure their infrastructure from virtually anywhere in the world. Through the Securus, users can configure units, load encryption keys, and update firmware without having to visit their data centers in-person, which significantly reduces the cost and time associated with key loading ceremonies and other routine processes.

## The VirtuCrypt Hardened Enterprise Security Cloud

VirtuCrypt offers best-in-class cloud encryption services for organizations around the world. By offering a range of secure, versatile, and scalable security services, VirtuCrypt designs solutions to meet current and emerging security and compliance standards. VirtuCrypt's tailored solutions offers companies a unique core cryptographic infrastructure, backed by Futurex's hardened, FIPS 140-2 Level 3 compliant technology. Just as Futurex's products span from hardware security modules to key and certificate management services, VirtuCrypt's services are equally wide ranging.

Providing the robust security of physical hardware with the convenience of the cloud, VirtuCrypt offers all the critical elements of a world class encryption-based security service with a focus on high availability and maximizing predictability while significantly lowering upfront capital expenditure. Whether an organization requires complete infrastructure management or simply to add functionality for their existing Futurex infrastructure, VirtuCrypt offers a variety of service structures designed to meet a diverse range of needs.

## The Results

Futurex provided the company a solution that allowed them to transition seamlessly from their previous system to a standards based and highly scalable infrastructure. The migration, with the help of the Freedom Application and interoperability of Futurex devices, resulted in zero downtime. In the lead-up to this transition, their employees were extensively trained on-site by members of Futurex's Solutions Architects team to ensure that they would be comfortable with Futurex's functionality after the migration. To provide additional assistance as well, Futurex's team remained on-site for the mission-critical portions of the transition.

The company proved their industry-leading foresight by choosing to upgrade their data security platform to account for newer standards and trends within the financial industry. With the increase in cybersecurity threats in recent years, they client understood their responsibility to protect their customer's sensitive data. By choosing to work with Futurex's Hardened Enterprise Security Platform, they benefited from advancements in ease of use, remote access, system scalability, and overall versatility.

## About Futurex

For more than 35 years, Futurex has worked with organizations around the world to provide reliable, innovative, and industry leading data security solutions. With hardened, physical devices that provide standards-compliant technology spanning hardware security modules to key and certificate management servers, Futurex prides itself on its ability to consistently improve its Hardened Enterprise Security Platform. From enhancing transaction speeds, embracing new technologies, and establishing innovative standards within the industry, Futurex is consistently meeting the growing needs of its global customers and partners.



**FUTUREX ENGINEERING CAMPUS**

OFFICE: +1 830-980-9782 TOLL FREE: 800-251-5112  
864 OLD BOERNE ROAD, BULVERDE, TEXAS, 78163 USA