Since the early days of EMV, card issuing has become less challenging thanks to maturing specifications, increased expertise and flexible vendor solutions. The main challenge for banks and service providers now is competition. Market position is determined by differentiation, time to market, and innovation relative to new technologies.

After ten years of successfully issuing EMV chip cards, S2M, a North African pioneer in card payment solutions, took the strategic decision to re-evaluate its card issuing platform.

The company’s aim was to retain its leading position in a rapidly evolving market. S2M recognised that in order to continue adding value, by anticipating and quickly responding to customer needs, current and future card issuing operations had to be underpinned by best-of-breed technology. The migration to a new solution, however, had to be carefully executed in order that S2M could simultaneously continue to deliver a seamless service to customers.
S2M

S2M is one of the leading service providers in North Africa and pioneered the very first credit card applications in the region. Founded in 1983, S2M has profiled itself for over thirty years as one of the leading players in developing and implementing payment solutions, personalisation, publishing and mailing.

S2M has established an impressive international reputation with hundreds of private and public banks in more than 30 countries in Europe, Asia, Africa and the Middle-East relying on its solutions and services.

KEY REQUIREMENTS: FLEXIBILITY AND COMPLIANCE

When migrating from magnetic stripe to chip in 2003, S2M acquired a data preparation system as part of a complete issuing solution delivered by a card vendor. It enabled S2M to perform data preparation for targeted cards within a project and it worked well for that initial purpose, however in the long term it proved time consuming and costly to support other card vendors’ products. In order to give customers as much choice and competitive advantage as possible, S2M wanted more technical and strategic flexibility from its data preparation and issuing platform. Subsequently, S2M specified that its future solution had to be vendor agnostic.

In addition, compliance had to sit at the very heart of the new solution. As a critical consideration in all data preparation operations, compliance to PCI-DSS standards was a key requirement for S2M’s future platform.

NEW SOLUTION

S2M issued a RFP to multiple major industry vendors and after an exhaustive selection process, CardInk from Cryptomathic was selected as the best-fit option. Cryptomathic was chosen for a number of reasons:

• Mature technology
• Experienced vendor
• International expertise
• Hardware vendor independency
• Impressive reference list

In addition there was a good cultural fit between S2M and Cryptomathic with quality ethos, staff competence and an ability to work together to complete an advanced task.

Secondary to the above CardInk was also chosen as it boasts key features that are important to S2M:

Compliance and security - CardInk complies with PCI logical security and Cryptomathic personnel have experience and a keen understanding of what is required with regards to logical security.

Key management - CardInk has built-in complete key management for EMV. Fully GUI controlled, the classic tasks of key generation, component and zone-encrypted key import / export, key lifecycle management and certificate exchange procedures with the payment scheme CA, are available and easily executed.

Flexibility - CardInk integrates into challenging issuing environments.
**Configurability** - New applications and flavours are GUI editable by the customer.

**Stability** - CardInk is a proven solution that has been running in small, medium and high volume facilities for over a decade and Cryptomathic prides itself in protecting against system downtime and offers 24/7 x 365 professional support.

**Usability** - Profiles and applications are GUI edited.

**Time to market** - CardInk is a mature off-the-shelf product.

**Price and total cost of ownership** - Cryptomathic uses a competitive licensing model suitable for any customer, regardless of its issuing requirements.

**Future proof** - Cryptomathic commits itself to support changes to existing applications from new and updated specifications and applets and supports all new versions of the major applications (incl. mobile) plus a wealth of regional and custom applications.

**Productivity** - CardInk is the fastest system in the world. It uses off-HSM key storage with two-level master key encryption.

**Mass editing** - A successful company quickly amasses a multitude of production profiles. From time to time there will be changes affecting several profiles e.g. specification changes and new cards / applets. CardInk has GUI mass edit of profiles to simultaneously set and change parameters in multiple profiles in one go.

**Card platform neutral** - CardInk produces data in the standard formats TLV, Common Personalization, Multos, in addition to custom formats using the GUI to edit applications and profiles.

### CHALLENGES ASSOCIATED WITH CHANGE OF PLATFORM

The process of migrating a legacy production system to a new one requires meticulous planning. During the transition phase, the key priority for S2M was maintaining system up time to prevent service interruptions. System down time was not an option.

This was more than an installation of a new system and ensuring its stability. Since S2M already produced cards, the collection of production profiles and cryptographic keys had to be continued over to the new system.
S2M services banks in more than 30 countries, so it was not possible to create and re-certify cryptographic keys. Instead, Cryptomathic delivered a proprietary tool that enabled S2M to securely transfer all cryptographic material from the old system to the new system. The result was that S2M could start up the new system and go straight into production.

By deploying Cryptomathic’s CardInk solution, S2M was able to reuse parts of the existing infrastructure, including the HSMs, producing significant direct cost savings.

In addition to providing CardInk, Cryptomathic also delivered an Automation Utility for interfacing with S2M’s card management system, xml-mapping the banks’ data formats and controlling automatic processing of incoming data files. Both Cryptomathic systems interface with DataCard Affina via the Automation Utility that returns files for Affina pickup.

PROJECT
An aggressive time frame was set for S2M’s migration project. The dialogue began in June 2014. By November 2014, S2M was fully engaged and ready for production.

CONCLUSION
S2M is now running CardInk to full satisfaction. The focus, skills, knowledge and innovative approach demonstrated by everyone involved in the project, from both companies, enabled it to be successfully delivered within a tight timeframe. After project completion a solid partnership has been established, which is set to last for many years to come.

ABOUT CRYPTOMATHIC
Cryptomathic is one of the world’s leading providers of security solutions to businesses across a wide range of industry sectors, including finance, technology, government, mobile and cloud. With more than 25 years’ experience, Cryptomathic provides customers with systems for e-banking, PKI initiatives, ePassport, card issuing, mobile payments, advanced key management and managed cryptography utilizing best-of-breed security software and services. Cryptomathic prides itself on its strong technical expertise and unique market knowledge. Together with an established network of partners, Cryptomathic assists companies around the world with building security from requirement specification to implementation and delivery.

Learn more at cryptomathic.com