Prime Factors Bank Card Security System (BCSS) powered by Thales payShield 9000

Get card issuance system development costs under control with BCSS and Thales

Once the strategic decision has been made to develop a card issuance platform in-house, there is still another important 'make versus buy' decision. Developers can build key management from scratch but it's a complex system and requires specialized expertise. They can also learn a low-level API so they can incorporate hardware security modules (HSMs) into the issuance platform. Or save time, money and resources by purchasing the Bank Card Security System (BCSS) from Prime Factors.

BCSS reduces the need for in-house expertise to develop and keep a card issuance system constantly up-to-date with the latest key management standards, payment applications and security certifications. It works exclusively with Thales HSM technology to meet the latest logical security requirements of the card network brands – Visa, MasterCard, Discover, American Express and JCB.

With BCSS and Thales HSM technology, issuers and personalization bureaus can get to market faster and respond more quickly to change, whether it's new security requirements or new card applications supported by the HSM firmware. Plus they can be confident that BCSS and Thales technology will help them pass annual card network brand audits with ease.

Proven certified solution for all key management and data preparation needs

BCSS and Thales HSM technology work together to provide complex key management and perform sensitive data generation and distribution for card issuance. BCSS utilizes the HSM to generate the keys and data required for a wide range of credit and debit card applications. Data preparation and personalisation for both magnetic stripe cards and EMV chip cards are supported. All keys and sensitive data are processed according to the latest industry standards, with the Thales payShield 9000 hardware security modules (HSMs) ensuring that no plaintext keys are ever exposed outside the tamper-resistant boundary of its high-performance key generation security engine. The keys and security codes generated by payShield 9000 are held encrypted in the BCSS key vault database where they are available for secure distribution to other systems and locations, including the bank's own transaction processing and authorization systems. BCSS and the payShield 9000 meet all the relevant card scheme security audit standards for card issuance and personalization.

Solution benefits

- Eliminates complex in-house security-related development activities
- Reduces integration effort and time to market
- Simplifies audit compliance
- Eases migration from magnetic stripe to EMV cards
- Supports the latest payment applications

Why BCSS only uses Thales HSMs

- Thales payment HSMs are trusted globally
- Thales offers a range of packages optimized for issuing banks and bureaus
- Thales supports the latest card scheme applications in a timely manner
- Thales offers a range of certifications including FIPS 140-2 and PCI HSM
- Thales HSM technology is proven in mission critical environments to provide:
    - High performance
    - Resilience
    - Reliability
    - Scalability
    - Remote management

Thales' industry knowledge and long-term industry experience is reflected in the payShield 9000, the first HSM designed specifically for the payments industry and certified to the PCI HSM security standard. It includes optional modules for issuers and secure bureaus.

Thales HSM technology includes unique functionality for key management. A payShield 9000 can provide cryptographic isolation (at master key level) for multiple customers while alternative solutions can only accommodate one master key per HSM.

This facilitates key separation, lets issuers and bureaus manage separate secure storage environments for each customer and thus delivers an efficient risk management scheme across multiple key sets.

Solution specifications

BCSS provides a high level API that supports the following functionality:

- Create and verify security codes (CVV, CVC, CSC etc)
- Create and verify user security codes (PINs and PVVs)
- ARQC and ARPC cryptograms compliant with the latest EMV standards
- Transaction switching and verification
- PIN translation and PIN change
- PIN generation and PIN mailer printing support
- RSA key caching
- Underpinned by certified hardware security

Thales payShield 9000 integrates out of the box with BCSS – there is no need for any additional host client software. Flexible configuration adapts to individual issuing environments and provides:

- **A choice of base software packages:** Save costs by just purchasing the issuance modules needed – secure upgrades can be applied later if necessary
- **Up-to-date security functionality:** Standards-based key management, security codes and PINs supporting the latest card scheme applications
- **Data center friendly functionality:** Dual power supplies and Ethernet host ports delivering resilience, remote management reducing operating costs
- **A range of performance models:** Fast RSA key generation and PIN block translation using key blocks – organizations can choose the most appropriate level
- **Independent security validation:** PCI HSM and FIPS 140-2 Level 3 certified, the recognised payments industry security standards

About Thales

The people you rely on to protect your privacy rely on Thales to protect their data. When it comes to data security, organizations are faced with an increasing number of decisive moments. Whether the moment is building an encryption strategy, moving to the cloud, or meeting compliance mandates, you can rely on Thales to secure your digital transformation.

Decisive technology for decisive moments.

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