

Case study



Axfood, one of Scandinavia's Largest Food Retailers, Turns to Hardware to Secure Payment Data

Motivation: Protecting payment data of company and consumer

As one of the largest food retailers in Scandinavia, Axfood handles lots of payment transactions with more than 80 percent of all customers choosing to pay with credit or debit cards. Meanwhile cybercrime is becoming more sophisticated at targeting confidential information across industries from retail giants to hospitals. Axfood realized the imperative importance of securing its enormous amount of payment data both for the safety of the company and its customers.

Challenge: Becoming both EMV and PCI compliant, can it be done...?

Axfood was an early adopter of EMV, a set of industry standards that include embedding a computer chip in payment cards that uses secret cryptographic keys to help protect against fraud at the point of sale, and make payment cards more difficult to counterfeit. These chip and pin cards are a vast improvement for preventing counterfeit use in comparison to traditional magnetic strip cards. However, security controls still need to be put in place to protect cardholders' confidential information on payment cards not just at the moment the card is swiped or dipped, but all the way through the transaction process.

...without compromising speed or scalability?

Axfood's goal was to comply with the Payment Card Industry's Data Security Standard (PCI DSS), to provide safe-keeping of customer payment data during transfer between its network of 450 stores and the acquirer, while also providing a swift customer transaction. Axfood searched for a security solution that could encrypt and decrypt massive amounts of payment data on a daily basis, without affecting speed, latency or scalability.

The solution: Hardening security with Utimaco

After a six-month period of evaluating different software and hardware solutions, Axfood opted for the Utimaco hardware security module. Utimaco's FIPS-certified hardware security module generates and stores the secure cryptographic signatures that are required for authorizing communication commands between the point-of-sale terminal, the store and the acquirer. Each cryptographic signature is generated via true random number generation, which enables cryptographic keys that are truly unique and that cannot be accessed by a third party. In comparison, software-based cryptographic keys can be captured in the moment of unlocking – offering attackers the ability take over the software, exploit vulnerabilities and run attacks remotely.

The technical solution: Symmetrical keys to protect consumer data.

Axfood opted for a hardware based solution as the HSM allows the acquirer to validate that the payment request is genuine, and that the card-based transaction data is valid according to the respective bank. During this process the data is encrypted at all times following the requirements of EMV/PCI. Their use of an HSM and hardware-based keys eliminates the possibility of abuse by third parties.

The implementation: Successful & fast in only 6 months

With its multiple brands and store locations, Axfood manages unprecedented amounts of data, but was able to successfully alter their infrastructure and complete the deployment of Utimaco's HSM across its entire organization in only six months. Overseeing the implementation was Head of Store IT Development Bo Bäckström: "Utimaco's engineers worked with us to quickly harden security. They're both highly skilled and intently eager to cooperate and help serve all of our needs, and at a price point that fits the sheer size of our organization."

About Axfood

Axfood AB conducts food retail and wholesale business in Sweden. Retail business is conducted through the wholly owned store chains Willys and Hemköp, comprising 258 stores in all. In addition, Axfood collaborates with a large number of proprietor-run stores that are tied to Axfood through agreements. These include stores within the Hemköp chain as well as stores run under the Handlar'n and Tempo brands. In all, Axfood collaborates with approximately 820 proprietor-run stores. B2B sales are conducted through Axfood Närlivs and the wholly owned Axfood Snabbgross chain. Wholesaling is conducted through Axfood Sverige. Axfood is listed on Nasdaq Stockholm AB's Large Cap list. Axel Johnson AB is the principal owner, with 50.1% of the shares.

About Utimaco

Utimaco is a leading manufacturer of hardware security modules (HSMs) that provide the Root of Trust to the IoT. We keep your cryptographic keys and digital identities safe to protect critical digital infrastructures and high value data assets. Utimaco delivers a general purpose HSM as a customizable platform to easily integrate into existing software solutions or enable the development of new ones. With professional services, we also support our partners in the implementation of their solutions. Put your trust in Utimaco – today and in the future. For more information, visit hsm.utimaco.com