Diebold Nixdorf

ProChip/EMV Kernel

Get the processing power and functionality you need, in a flexible, multivendor solution.

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EMV: A Global Phenomenon in Reducing Fraud

Developed in the 1990s by Europay, MasterCard and Visa (EMV), this global standard has become a crucial weapon in the fight to reduce credit card fraud. EMV chip-based cards are nearly impossible to clone, which ensures additional authentication security during point-of-sale (POS) and ATM transactions.

HOW DOES EMV WORK?

In an EMV-based transaction, consumers use a credit or debit card with an embedded chip, eliminating the need for a transaction processor to read information off the magnetic stripe. The card is entered into an EMV-enabled reader, and remains in the reader during transaction processing. The chip card establishes a session with the EMV reader and encrypts the cardholder's information.

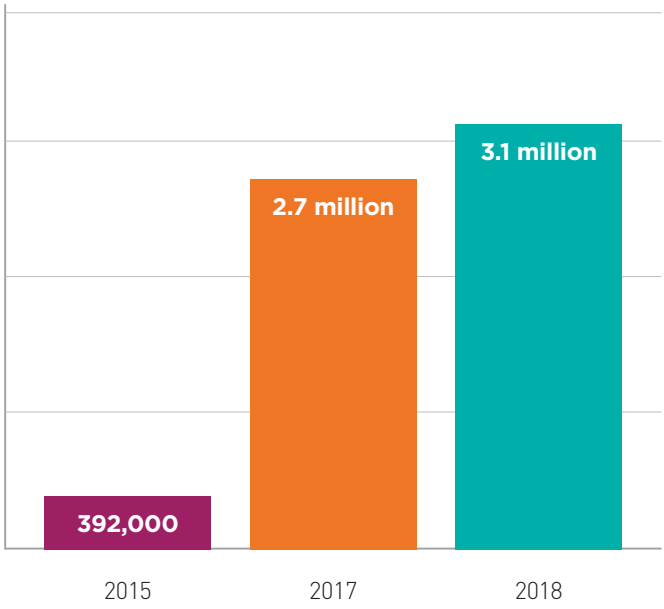
WHAT MAKES IT MORE SECURE?

A new, single-use encryption is created for every transaction that takes place during the session; even if the encrypted information is accessed, it cannot be reused. The cardholder must also supply their PIN, which is encrypted and sent to the ATM host (along with the EMV information) to authenticate the user before accessing any information or accounts.

WHO'S USING IT?

While EMV got its start in Europe in the mid-2000s, its migration to the United States over the past half-decade has been swift and nearly universal.

U.S. Merchants that have Converted from Magnetic-Stripe Payments to EMV



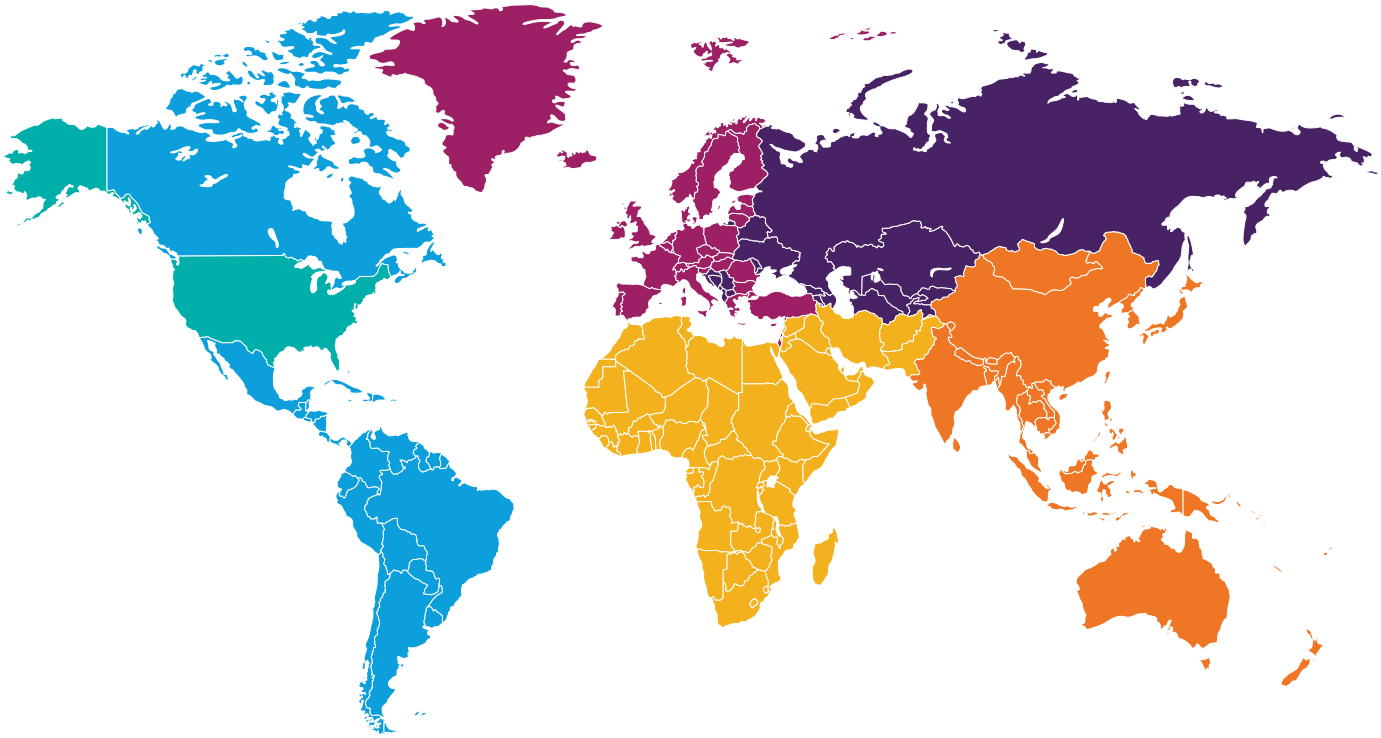
Source: "U.S. EMV Merchant Locations Grew by 400,000 in 2018's First Half, Visa Data Show," Digitaltransactions.net, 2018

Financial institutions have followed suit, integrating EMV-compliant solutions into their ATM fleets.

Source: "New ATMIA EMV Survey Reveals 86% Migration Rate for U.S.," ATMIA, 2018

Globally, EMV is quickly becoming the standard for consumer credit and debit card use.

Global Acceptance of EMV



Canada, Latin America, and the Caribbean	United States	Europe Zone 1	Europe Zone 2	Africa and the Middle East	Asia Pacific
86.9% of cards	60.7% of cards	85.5% of cards	80.4% of cards	87.8% of cards	51.0% of cards
93.8% of transactions	53.5% of transactions	97.3% of transactions	91.8% of transactions	93.0% of transactions	68.2% of transactions

Contact EMV Global Adoption*

*Figures reported as of Q4 2018 and represent the latest statistics from American Express, Discover, JCB, Mastercard, UnionPay, and Visa, as reported by their member financial institutions globally.

Figures are reported by region and do not imply country-by-country statistics.

Source: EMVCo™, 2019

IMPLEMENTING & POWERING EMV PROCESSING

EMV transactions at the ATM require a software kernel with functions that conduct processing logic and data. Our software-kernel solution, ProChip/EMV, offers financial institutions a simple, flexible, multivendor solution to powering EMV processing.

The Benefits of Diebold Nixdorf's ProChip/EMV Software Kernel

- It's certified compliant with the latest EMVCo specifications.
- It supports processing of EMV-enabled cards on DN terminals as well as other vendors' self-service systems.
- It provides a documented API that enables other equipment manufacturers to integrate it easily into their technology. The EMV library functions can be used by systems that are running third-party applications.
- It offers a way for FIs to integrate an EMV kernel into their own software environments (with EMVCo specifications already met), reducing in-house development and certification costs.
- It enables FIs to implement communications between the terminal and an EMV-enabled card.
- It also administers the terminal's EMV data and makes it available, enabling quick, easy implementation of EMV-compliant transaction processes on self-service equipment even without detailed knowledge of EMV.
- It's independent of the host protocol and can be integrated into existing host protocol environments.

TECHNICAL SPECIFICATIONS

ProChip/EMV is certified for EMV 4.3 under Level 2 acceptance. The official certificate is listed on EMVCo's website (www.emvco.com) under L2 Contact Kernels.

Hardware & Software Requirements

- Min. PC with 1.3 GHz CPU and 512 MB RAM
- EMVCo Level 1 certified hybrid card reader (from EMVCo specification V3.1.1 on)
- Windows 7 or 10
- CEN/XFS-compliant platform

Access a simple, multivendor solution that enables you to quickly power EMV transactions on your self-service systems—no matter the manufacturer. Our flexible architecture uses standard CEN/XFS interface to enable tailored implementation depending on your unique requirements, with documented API that enables other equipment manufacturers to integrate it just as easily.

WHY DIEBOLD NIXDORF?

At Diebold Nixdorf, we've been fighting fraud for more than 160 years. Our security experts have seen it all—so you don't have to. We offer end-to-end support for each integration project, and an industry-tested, compliant, multivendor solution designed to give you the flexibility and peace of mind you need to meet the global standards of card processing.

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Find out more about ProChip/EMV. **Talk to your DN representative today.**