

EMV Chip Overview



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Multi-layered approach to fraud

Evolving risk landscape presents new challenges



Risk landscape of 2014 – 2015



Growing fraud challenges

Card-not-present (CNP) fraud now represents over half of all fraud globally

Cross-border fraud continues to present challenges for both customer experience and growth



Increasing and shifting data compromises

Data theft from compromises, skimming, and phishing are increasing in frequency globally, adversely impacting POS, CNP, and ATM channels



New players and services, evolving third-party dynamics

Proliferation of third parties, new client types, and developing economies are coupled with misuse of the payment system by high-risk merchants and agents



Growing regulatory interest

Increasing government and regulatory attention in electronic payments is resulting in rules and policies altering growth opportunities in various markets



Evolving client needs

Clients expect network viewpoints, thought leadership, and increased investment in network security

Regulatory scrutiny of clients also increasing

Our work is never done



Data
Security



Data
Devaluation



Fraud
Prevention

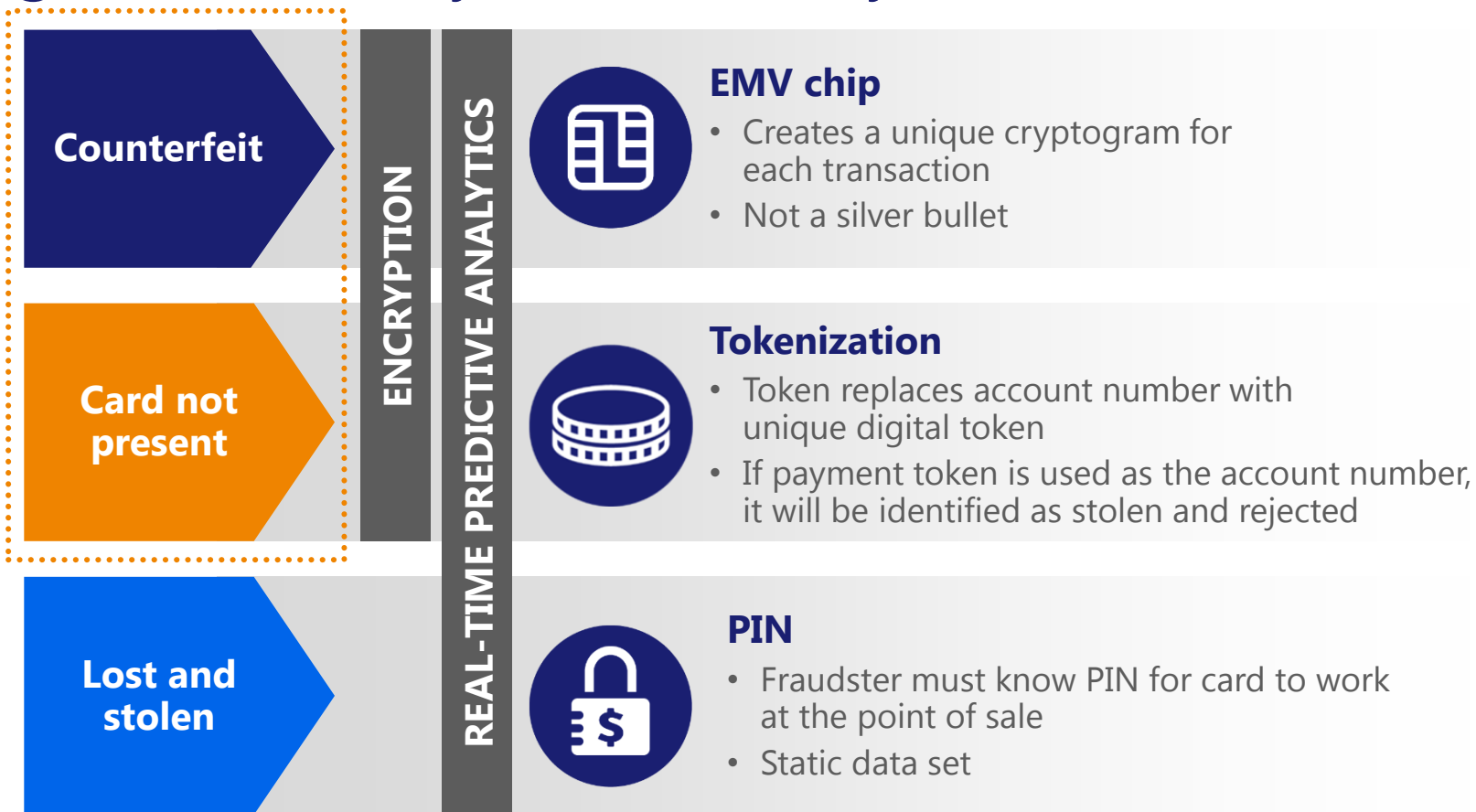


Breach
Response

Fighting fraud with layers of security



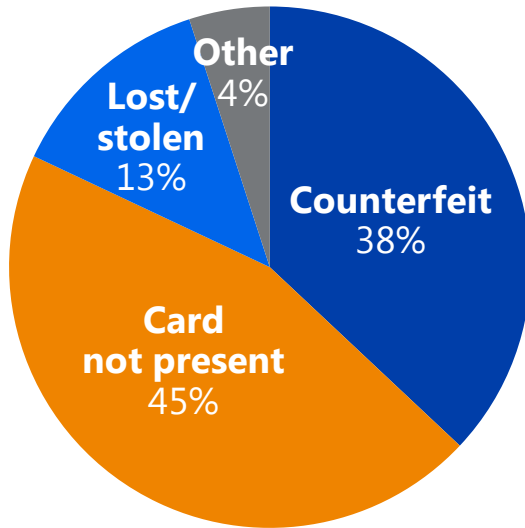
83% of fraud in the U.S.



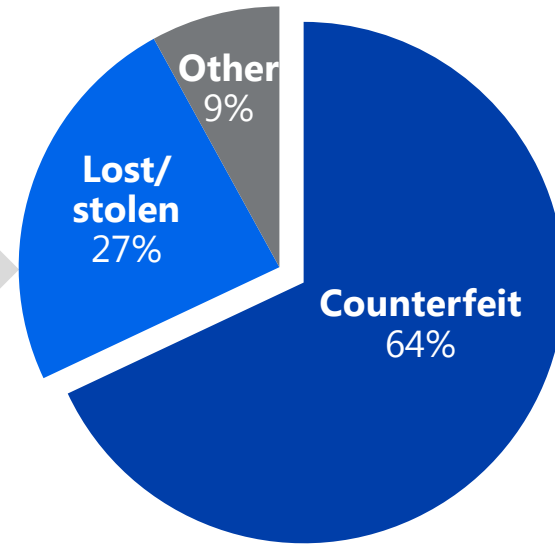
Fraud landscape today

Counterfeit fraud represents 64% of card-present fraud and is growing at 15% per year

Total fraud by type



Card-present fraud



EMV chip will significantly reduce card-present counterfeit fraud

Overview of EMV chip

What is EMV chip card technology?

- EMV chip or “smart” cards are credit, debit or prepaid cards that have an embedded microchip
- Microchip generates a dynamic one-time use code (a cryptogram)
- Prevents the data being re-used to create counterfeit cards



The benefits of EMV chip

Security, innovation and acceptance



1



Enhanced security – fraud reduction

2



Enhanced international acceptance

3



Paves the way for secure mobile payments – tokenization

4



Moves U.S. closer to dynamic data authentication – devaluing data

5

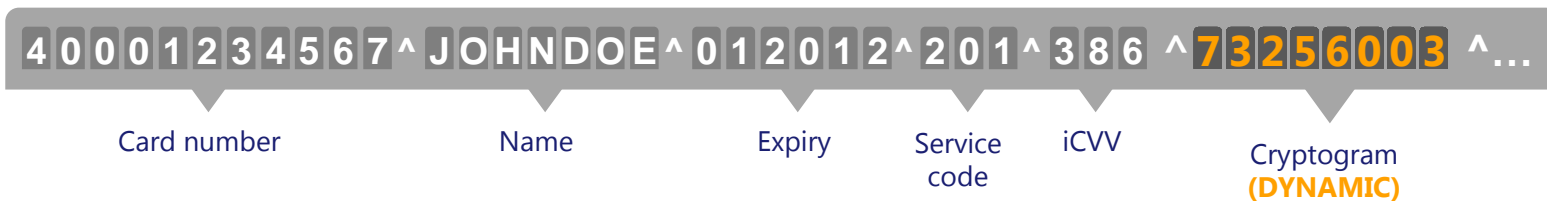
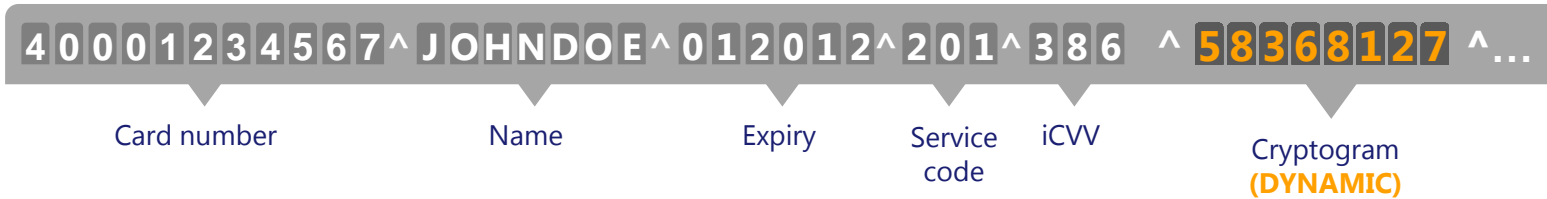


Cardholders still protected with zero liability

How does EMV chip technology work?



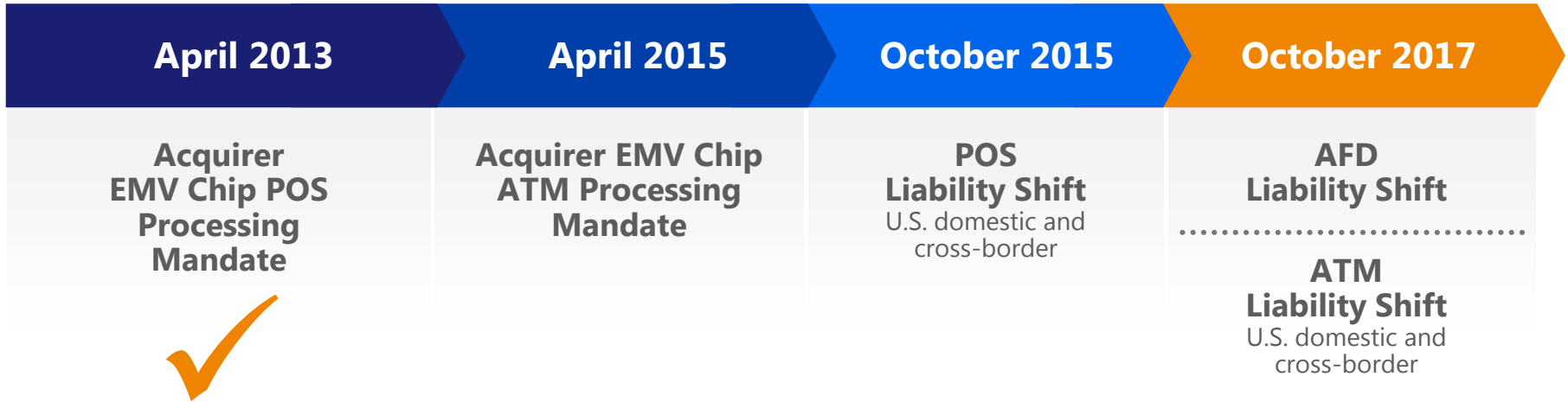
Because the cryptogram changes with every transaction, even if the card data is stolen, the information can't be used to create counterfeit cards because the cryptogram would have already "expired"



Visa U.S. EMV chip roadmap



- In August 2011, Visa led the industry by setting a plan to move the U.S. to EMV chip technology
- Successful globally, liability shifts have been the primary incentive used to encourage both issuers and merchants to adopt EMV chip technology



Note: AFD = automated fuel dispenser

EMV liability shift for counterfeit fraud



U.S.	Card	Terminal	Liability
Today	Mag stripe only	Mag stripe only	Issuer
After October 1, 2015 for POS	Mag stripe only	Mag stripe only	Issuer
	Mag stripe only	EMV chip	Issuer
After October 1, 2017 for AFD & ATM	EMV chip	Mag stripe only	Acquirer
	EMV chip	EMV chip	Issuer

There is **no EMV liability shift** on **contactless or lost/stolen fraud** transactions

Market Update

U.S. EMV Migration – Client readiness report



Credit

- **48 million** EMV chip cards issued, majority credit
- **1 in 3 of the top 50 credit issuers** actively issuing chip credit cards
- **Cobrand portfolios** have started migrating to chip



Debit

- **Several** debit issuers actively issuing; multiple pilots underway
- Debit EMV PV **increased 30%** from December to January



Acquirers / Terminals

- **All** major acquirer processors actively deploying EMV chip terminals
- Terminal manufacturers **continue testing common debit AID**
- Cross-industry efforts to define **minimum terminal configuration** requirements underway



Merchants

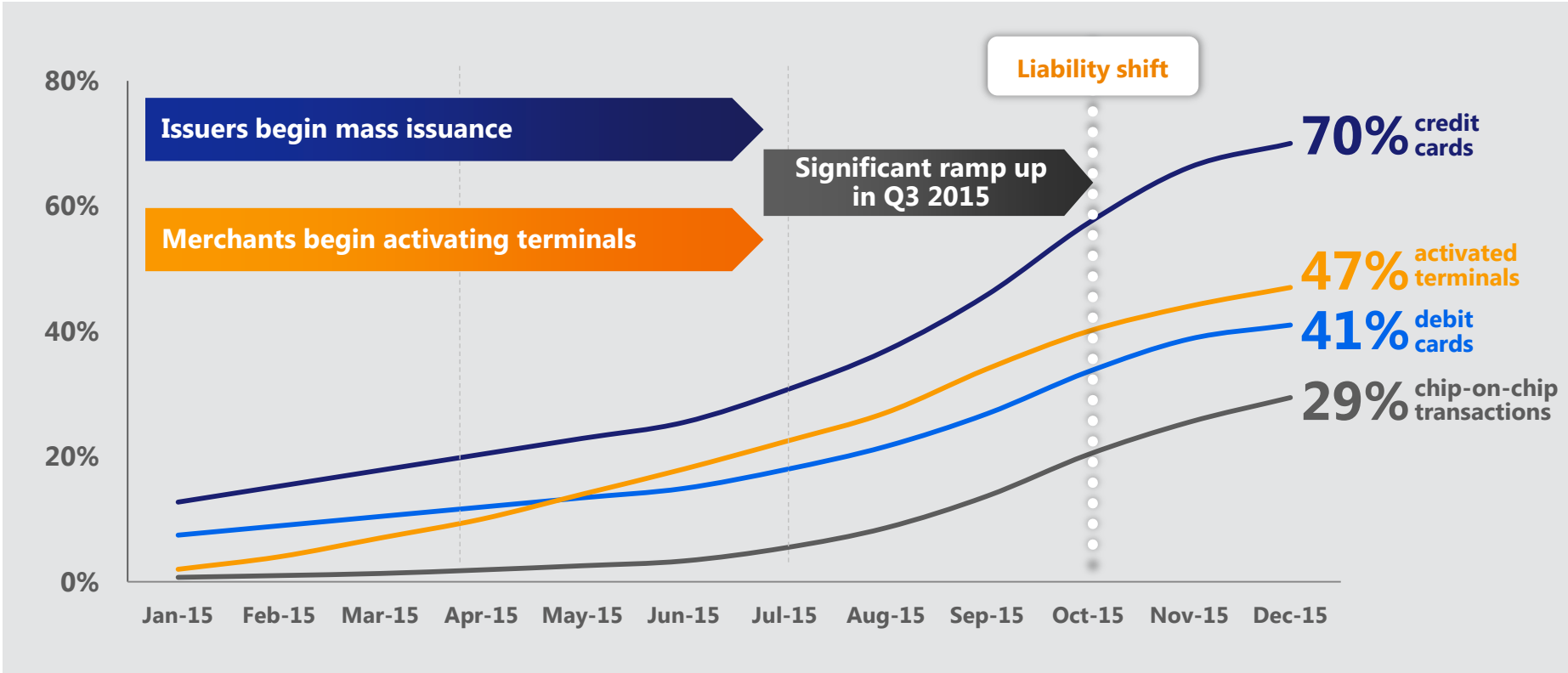
- **100 thousand** EMV chip activated merchant locations, a **26% increase** from September to December
- Over half of domestic EMV PV generated by **small merchants**
- Several major U.S. retailers have launched or are preparing for **early chip pilots** in Q1 2015

Sources: Current cards per Operating Certificates as of 31-Dec-14; credit / debit card forecast per Aite Report – EMV: Lessons Learned and the U.S. Outlook (June 2014); activated terminal forecast per Payment Security Taskforce Acquirer projections press release (October 2014) ¹Forecast based on information currently available to Visa. Actual results may vary significantly.

U.S. EMV chip migration – 2015 forecast¹



EMV chip as % of U.S. total



Sources: Cards per Aite Report – EMV: Lessons Learned and the U.S. Outlook (June 2014); terminals per Payment Security Taskforce Acquirer projections press release (October 2014)

¹Forecast based on information currently available to Visa. Actual results may vary significantly.

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Progress on U.S. EMV chip migration



Payment Security Taskforce projections for U.S. EMV chip migration

Nine of the country's largest payment card issuers estimate that they will have issued **more than 575 million chip-enabled payment cards** by the end of 2015¹

Forecast of participating acquirers estimated that at least **47 percent of U.S. merchant terminals will be enabled** for EMV chip technology by the end of 2015²

U.S. issuer EMV chip considerations



Product construct

- Mimic Cardholder Verification Methods (CVM) in use today
- Always online authorized and authenticated
- Contact EMV chip card or dual-interface card
- Continue to support magnetic stripe

Portfolio conversion

- Prioritize expiring cards, heavy users, affluent
- Maximize chip-on-chip transactions

Timing considerations

- Liability shift date and communications strategy
- Cost of reissuance prior to shift vs. counterfeit fraud reduction with fewer disputes, customer service calls, and replaced cards

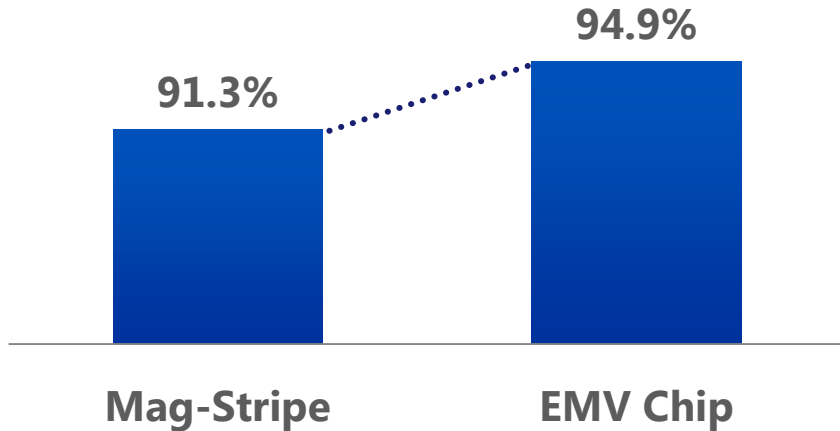
Best practices should reduce complexity, cost and time-to-market

EMV chip improves authorization rates

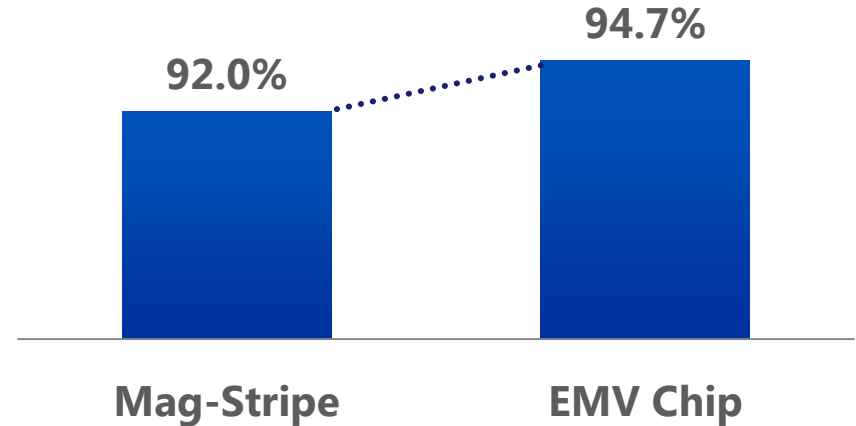


Issuers globally have increased transaction approval rates with EMV chip on both domestic and cross-border transactions, resulting in incremental payment volume

Domestic approval rate
(LAC)



Cross-border approval rate
(CEMEA)



EMV Chip Resources to Support You





Enabling clients



Issuer training content

- Visa chip technology training
- Branch staff training
- Infographic series content

Cardholder education content

- Direct mail
- Visa Chip Card Introduction video
- How to Use Your Visa Chip Card video
- Digital and POS

Enabling merchants

- EMV chip business case for merchant
- Merchants toolkit and POS signage

Where to access content


- Visa Online
- [Visa.com](https://www.visa.com)



Visit www.visachip.com



Online destination for issuers, consumers, merchants and acquirers




Introducing Visa chip technology - confidence in a smarter world

Home > Who Benefits > Card Technology > Chip Cards Overview

Every time a chip credit or debit card is used in-store, a unique one-time code is created that's needed to approve the transaction—providing an additional layer of security, so you can have the confidence to pay and be paid everywhere. Visa chip technology is:

- Preventing fraud from occurring:** Chip cards create a unique code every time they're used in-store. This feature is uniquely responsible to replicate in your bank's code to help secure in-store fraud.
- Protecting consumers from loss:** All Visa transactions are protected through Visa Zero Liability.
- Securing the future of payments:** Visa Chip technology gives the way for issuers like yours to make a commitment, ensuring consumers and business you want to pay in the future is secure and convenient.




Let Visa chip technology do the work.

Protect your business from fraud.

Use Visa Chip Payment.


Consumers Pay with confidence everywhere. Learn more	Issuers Give your cardholders an extra layer of security. Learn more	Merchants Protect your business from counterfeit fraud. Learn more	Acquirers & POS Partners Prepare for the next generation of secure in-store payments. Learn more
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Introducing Visa chip technology - confidence in a smarter world



Home > Who Benefits > Card Technology > Chip Cards

Visa chip cards are not only more secure, they are also simpler to use. Chip cards and terminals work together to protect in-store payments. A unique one-time code is generated behind the scenes that is needed for the transaction to be approved - a feature that is virtually impossible to replicate in a counterfeit card.



See how easy it is to use

- Step 1**
Insert the chip end of your card into the terminal (instead of swiping).
- Step 2**
Keep your card in the terminal to complete your purchase.
- Step 3**
Don't forget to take your card with you when you leave.





Introducing Visa chip technology - confidence in a smarter world

Home > Who Benefits > Card Technology > Chip Cards

Plan for the next generation of secure payment

Visa chip technology is enhancing the security of card transactions, and U.S. financial institutions are projected to issue nearly 600 million chip-enabled payment cards by the end of 2015. This awards consumers across the country will start to expect to use them. Visa has the world in the global adoption of chip and is ready to use its expertise to help your business offer chip technology.




How to stay ahead

- Take advantage of the EMV chip opportunity to offer your customers a new level of protection.
- As your environment shifts to help fuel and verify your POS terminals and software.
- POS partners can connect with your acquirers and partners to test and verify merchant's POS terminals and software.

Help your customers stay ahead

- Remind your merchants that chip technology will help protect their brand and their pieces of mind.
- Help protect your merchants from hackers who are ready to target unsecured terminals and software.

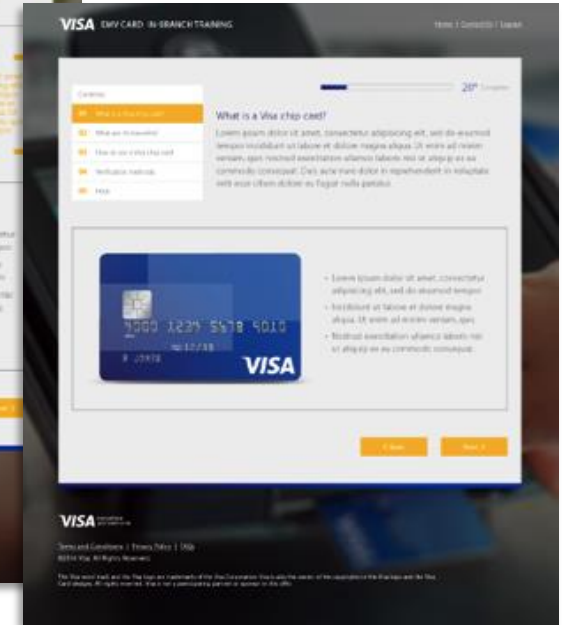
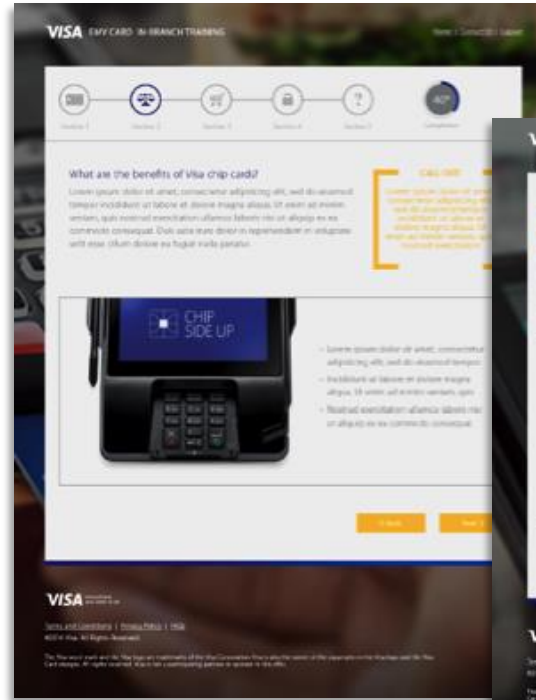


Branch staff training



Help tellers understand EMV chip so they can educate customers

- Introduction to EMV chip
- Technology: How it works
- Benefits
- How to use
- Adoption cycle
- Frequently asked questions



Interactive materials for merchants on the benefits of EMV chips

The screenshot shows the 'Benefits of Chip' page from the merchant toolkit. It features a blue background with a Visa card image. The card displays the number 4000 1234 5678 9010, the name R JONES, and the expiration date 12/18. A yellow box highlights the card number 35289912. The page is divided into three sections: Simple, Smart, and Secure. The 'Simple' section states that Visa Chip technology is easy to use and helps deliver seamless, secure checkout experiences. The 'Smart' section explains that the embedded microchip on each card generates a unique one-time use code for each transaction. The 'Secure' section notes that even if card data is stolen, the unique code will have already expired and cannot be used for counterfeit fraud. The page includes social media icons, a search icon, and a 'Contents' menu.

Benefits of Chip

Simple, smart, secure—that's the power of Visa chip technology.

Simple
Visa Chip technology is easy to use and helps you deliver seamless, secure checkout experiences and build trust with your customers.

Smart
Through the embedded microchip on each chip card, a unique one-time use code is generated behind-the-scenes that is needed for a transaction to be approved.

Secure
Even if card data is stolen, the unique code will have already expired and cannot be used for counterfeit fraud in stores. Plus, no matter how your customers choose to pay, they're still protected from fraudulent purchases through Visa's Zero Liability policy.

- EMV chip overview
- Changing landscape
- Benefits of EMV chip

The screenshot shows the '01 Build your implementation team' page from the merchant toolkit. It features a blue background with a Visa card image. The page is divided into a table of contents on the left and the main content on the right. The table of contents lists six steps: 01 Build your implementation team, 02 Expand your Knowledge of Chip & Assess Your Future Needs, 03 Develop an Implementation Plan, 04 Present Plan to External Team, 05 Test & Implement Your System, and 06 Train Your Staff. The main content for step 01 includes a sub-section 'Assigning a project manager' and 'Choosing an Executive Sponsor (only if applicable to you)'. The 'Assigning a project manager' section states that it helps handle both the day-to-day management and the overall milestones. The 'Choosing an Executive Sponsor' section states that it can help with strategic planning efforts so your project manager can focus on deliverable dates and resolving issues. The page also includes a sub-section 'Utilizing outside support' and 'Identifying your team members'. The 'Identifying your team members' section states that these can include experts in the areas of IT, operations, finance, marketing, training, legal and more. The page includes social media icons, a search icon, and a 'Contents' menu.

01 Build your implementation team

The process of implementing chip technology is better done with a team. Involving professionals across a number of disciplines helps keep every aspect of your technology migration on track and in the right hands. Before embarking on your transition to chip, it's important to figure out who will participate and what role each team member will play. A few things you might want to consider include:

Assigning a project manager
To help handle both the day-to-day management but also the overall milestones.

Choosing an Executive Sponsor (only if applicable to you)
Engaging a chip implementation consultant can help with strategic planning efforts so your project manager can focus on deliverable dates and resolving issues.

Utilizing outside support
Engaging a chip implementation consultant can help with strategic planning efforts so your project manager can focus on deliverable dates and resolving issues.

Identifying your team members.
These can include experts in the areas of IT, operations, finance, marketing, training, legal and more.

Looping in key team members from the very beginning
This helps keep them up to speed throughout each step of your implementation of chip technology.

- Training for your management, staff, and customers
- Planning and implementation guidelines
- Resources for your business



Key takeaways



- EMV chip is not a silver bullet – clients should continue using a multi-layered approach to fraud management
- Investing in EMV chip supports future innovation and reduces face-to-face counterfeit fraud
- Take advantage of the streamlined EMV chip implementation approach to reduce cost and complexity and speed time-to-market

Visit
www.visachip.com

Q&A



Thank you