

The EMV Checkup

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The University of the Pacific, the first chartered institution of higher education in California, is an independent and comprehensive university offering over sixty-six (66) undergraduate programs and thirty-three (33) graduate programs.

Currently, more than six hundred (600) faculty and nine hundred and eighty (980) staff members serve more than six thousand (6,000) students in its eight (8) colleges and three (3) campuses located in Stockton, San Francisco and Sacramento



UNIVERSITY OF THE PACIFIC

What does EMV stand for?

- A: Electronic Magnetic Verification
- B: Electromagnetic Validation
- C: Europay MasterCard Visa
- D: Elephants Might Vacation

What is EMV?

- Formed by Europay, MasterCard, and Visa
- Now known as EMVCo, LLC
- Membership includes
 - American Express
 - JCB
 - Discover
 - MasterCard
 - UnionPay
 - Visa

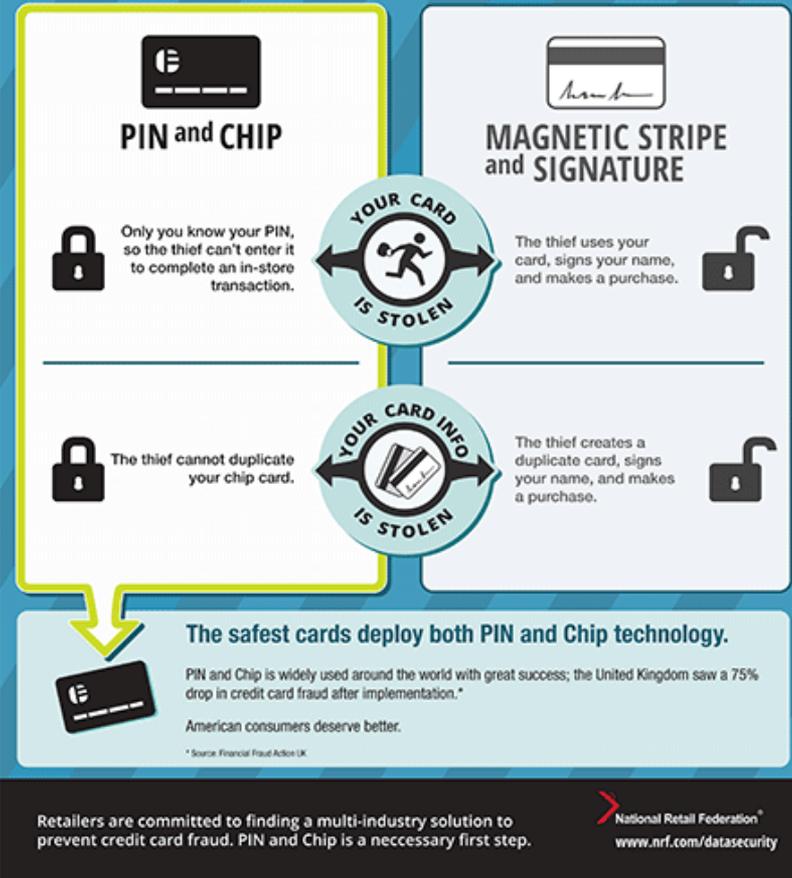
What is EMV?

- Both algorithmic software and hardware
- 1st version released in 1996 (3.1.1)
- Latest version 2011 (4.3)
- EMV specifications today:
 - Contact chip
 - Contactless chip
 - Common Payment Application
 - Card personalization
 - Tokenization

What is EMV?

- Two consumer facing options:
 - Chip + PIN
 - Chip + Signature
- USA deploying Chip + Signature, with the exception of Federal Employee Purchasing Cards.

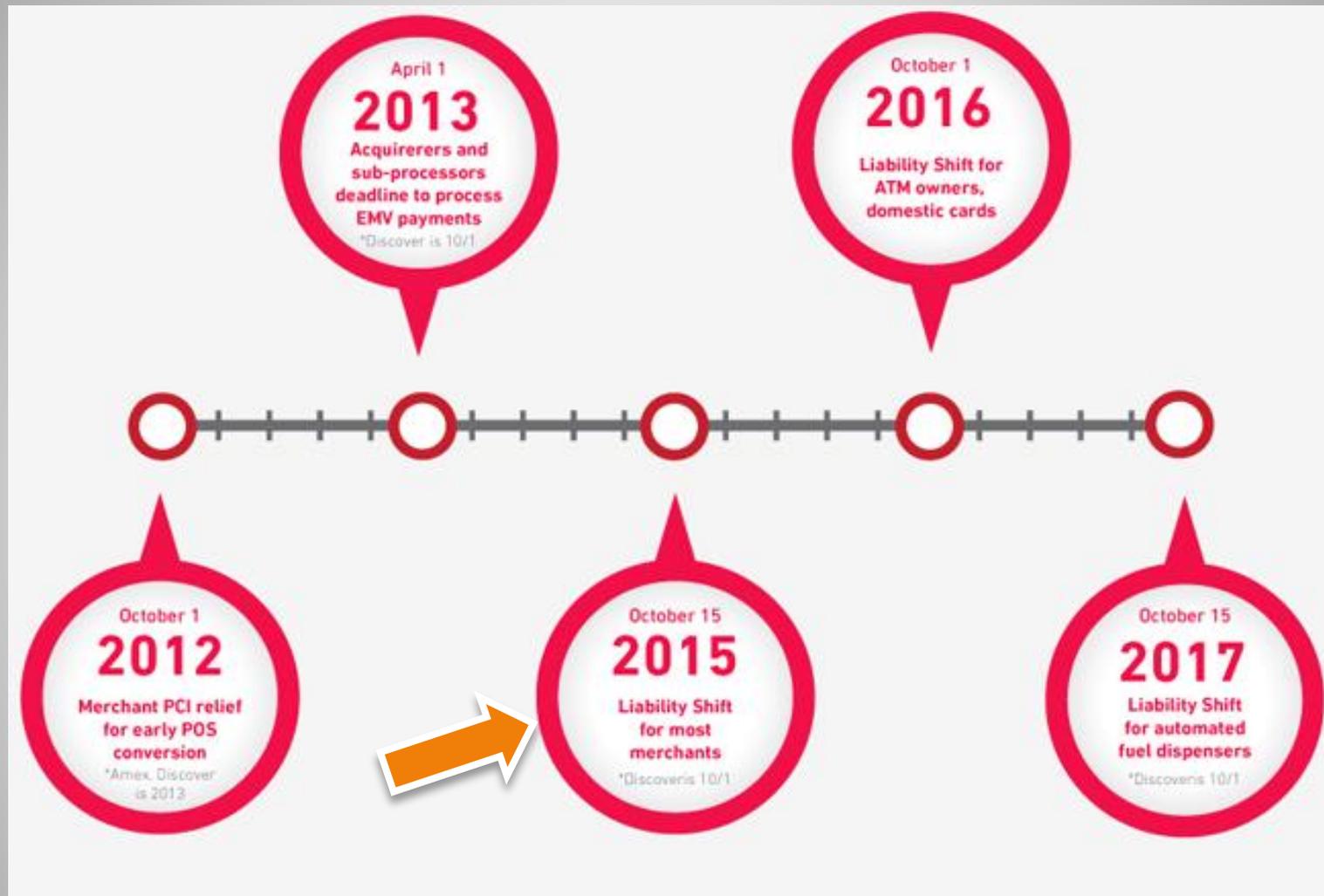
PIN and Chip Prevents Credit Card Fraud...and Protects You.



What is EMV?

- Liability Shift October 15, 2015
 - (Discover Card October 1st, 2015)
- Shifts \$\$\$ of fraud transactions from Card Brands/Issuer to Merchant
- EMV is NOT PCI Compliance
 - 0 mentions in PCI version 3.2

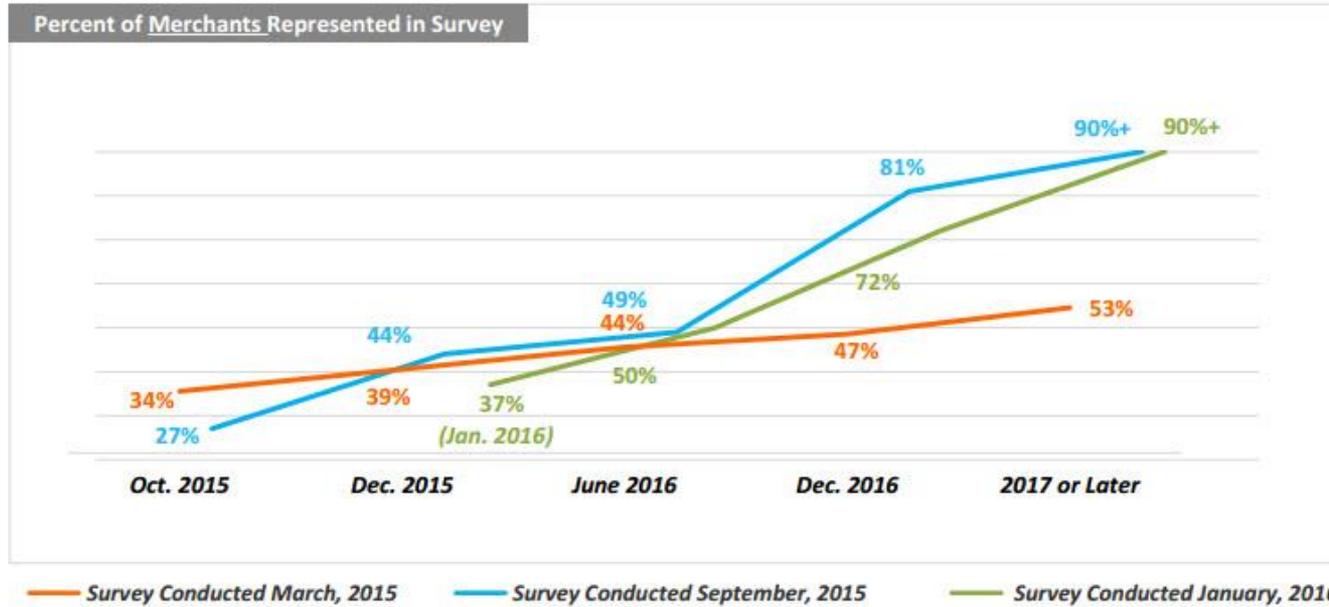
What is EMV?



An EMV Timeline

92 companies surveyed representing 3.95 million merchants

If your merchant portfolio is not currently EMV ready, when do you expect the vast majority of your merchants to be EMV ready?

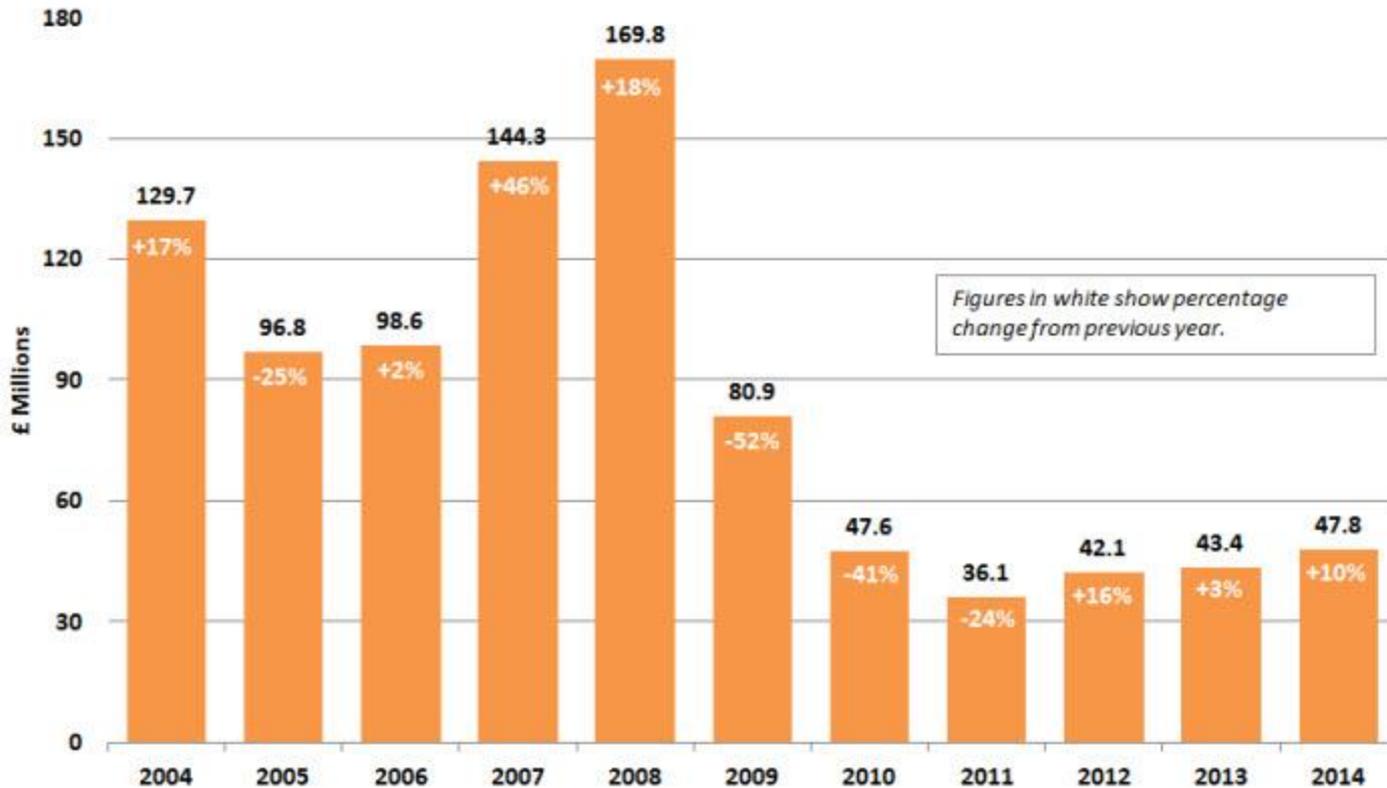


An EMV Timeline

- Card Present vs. Card Not Present
 - What does EMV do for this?
- Fraud Shift
 - Blueprint in European countries
 - USA should expect something similar.

EMV Security/Risk

Counterfeit card fraud losses on UK-issued cards 2004-2014



Source: Fraud the Facts 2015 (pg 13)
Financial Fraud Action (FFA UK)
www.financialfraudaction.org.uk

EMV Security/Risk

- It's not perfect
 - Skimmers
 - Tape....yes....tape.
 - New card vs. cloned card
 - Identity theft
 - Sloooooooooooooow..er.

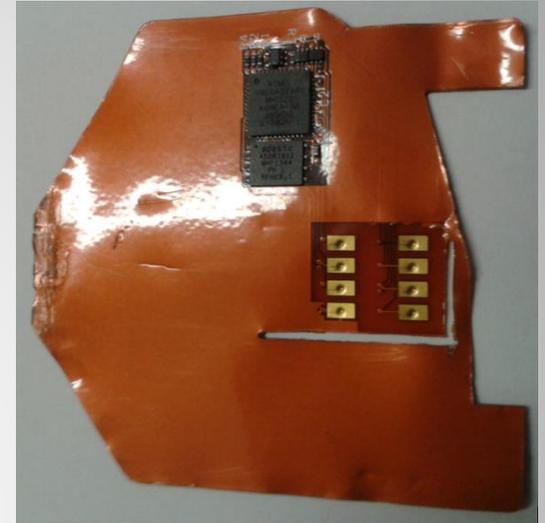


Image via krebsonsecurity.com



Image via dataprivacymonitor.com

EMV Security/Risk

- Inspect Machines
 - (PCI required 9.9.2)
- Train employees to identify issues
- Train your customers
 - Don't remove card until machine prompts

EMV Security/Risk

"We have lots of retailers who have made and continue to make significant investments in equipment upgrades but cannot avoid the liability shift due to a lack of certification" – Gray Taylor, Conexus, Dec 2015

"Retailers have invested in the technology for chip-and-PIN but banks and issuers have only gone halfway and invested in chip-and-signature, prior to this transition the United States had arguably the weakest card system and we're still going to because we're going to be using signatures. Most of us use PINs for our debit cards, or to unlock our iPhones. It's laughable to suggest that American consumers can't figure out how to use a four-digit PIN." - Jason Brewer, Retail Industry Leaders Association.

Visa CEO Charles W. Scharf said in an earnings call late last month that more than 750,000 locations representing 17 percent of the U.S. face-to-face card-accepting merchant base are now enabled to handle chip-based transactions, also known as the EMV ("Europay, MasterCard and Visa") payment standard. –Krebsonsecurity.com, Feb 2016

"Every time I go into a grocery store or a large chain I see the EMV terminal slot—and it's been taped over," – Michael Moeser, Javelin Strategies

Some merchants, particularly the large ones, don't want to "educate America" on how to perform an EMV transaction. This was especially acute during the holiday season. They see EMV as just slowing down lines and chose to wait until consumers learned what to do—and do it quickly—at someone else's store. – Allen Weinberg, Co-Founder, Glenbrook Partners

Where is the Industry?

Understanding the slow, tortured process of the ongoing transition to microchip cards in the U.S. requires a closer look at how all of the companies involved profit in different ways from credit-card transactions. Nearly every transaction involves three parties: a retailer that accepts the card, a bank that issues it, and a processor that facilitates the payments between the first two parties. For example, when I try to buy a train ticket at Charles de Gaulle with my Bank of America MasterCard, the French train system, Bank of America, and MasterCard all get a cut of the payment. But if someone else uses my credit card to make that purchase, those same companies have to figure out how to cover the costs since I, the customer, am not held liable for fraudulent charges. So rather than trying to eliminate fraud, all of these different companies are trying to reduce their own obligation to pay for it when it happens.

- Josephine Wolff, The Atlantic, March 2016

<http://www.theatlantic.com/business/archive/2016/03/us-determined-to-have-the-least-secure-credit-cards-in-the-world/473199/>

Where is the Industry?

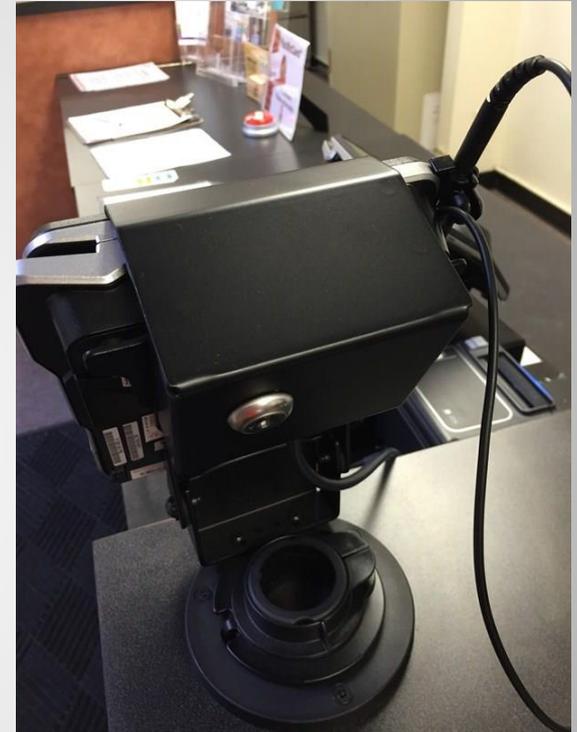
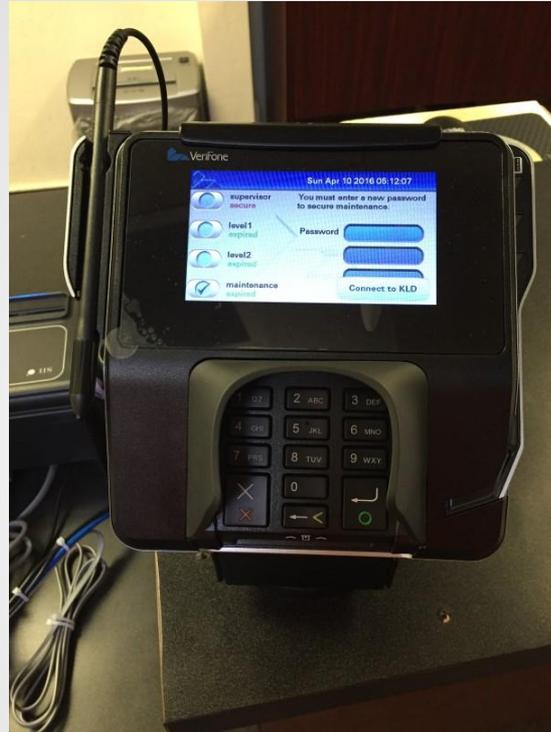
- Pacific has 5 merchant accounts
 - EMV migration affects 4 of them
 - First Data is merchant acquirer
- Low hanging fruit first
 - On The Spot (OTS) devices replaced
 - FD130 Duo
 - Analog for PCI Compliance
 - 2 merchant accounts migrated
 - Dental & Hearing clinics
 - 11 machines total



Photo courtesy of First Data

Pacific Progress

- For POS Units @ Food Service/Aux



Can EMV, but not P2PE. Vendor estimates May 2016 readiness. P2PE part of Pacific scope reduction, protects against non EMV card

Pacific Progress

- For Student Payments @ Cashier's



Photo courtesy of Ingenico

Mobile Terminal



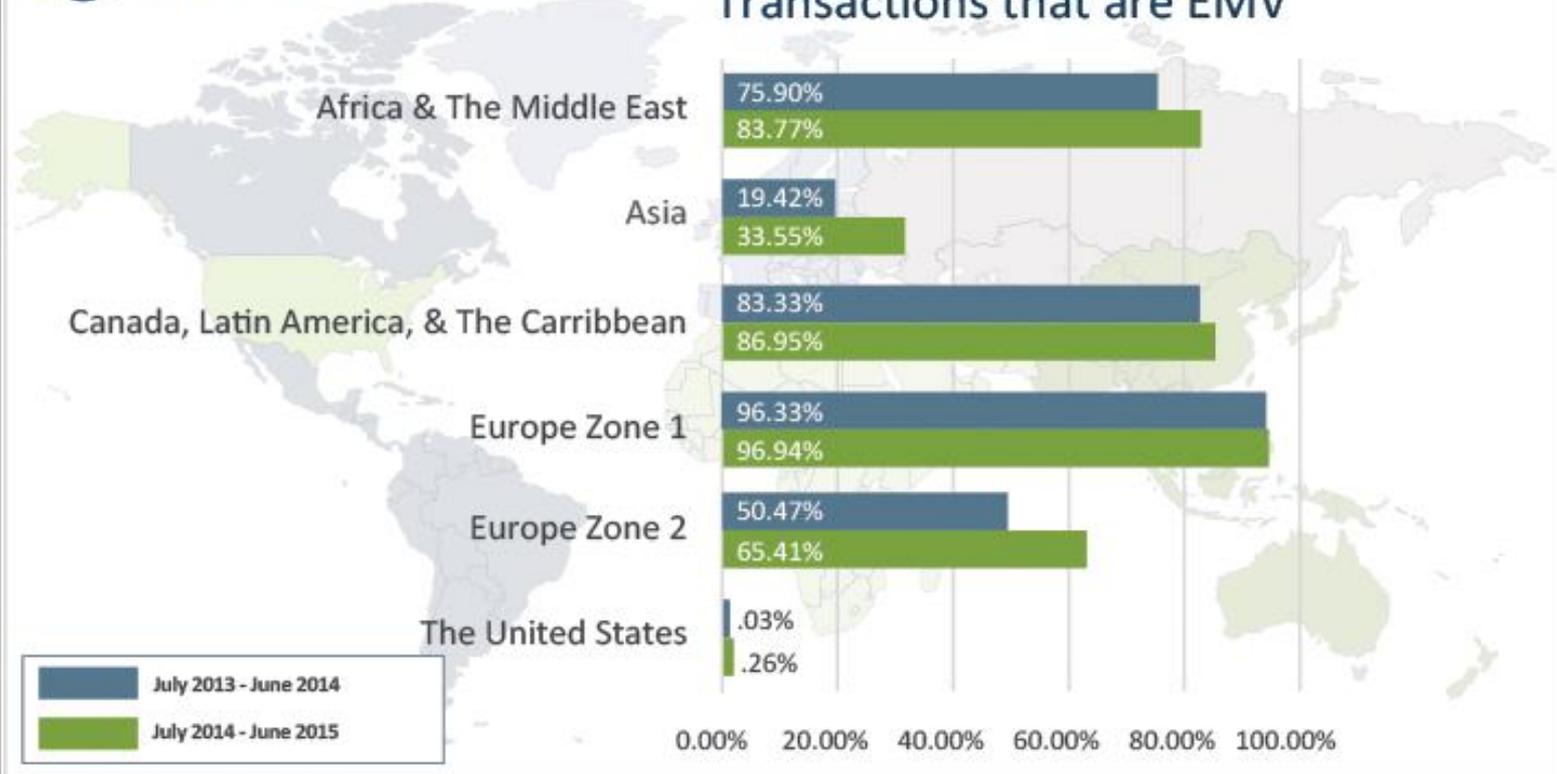
Pacific Progress

- Success at Pacific is getting EMV deployed, but also reducing scope.
- So far 2 chargebacks related to non EMV transaction fraud.

Pacific Progress



Percentage of Card-Present Transactions that are EMV

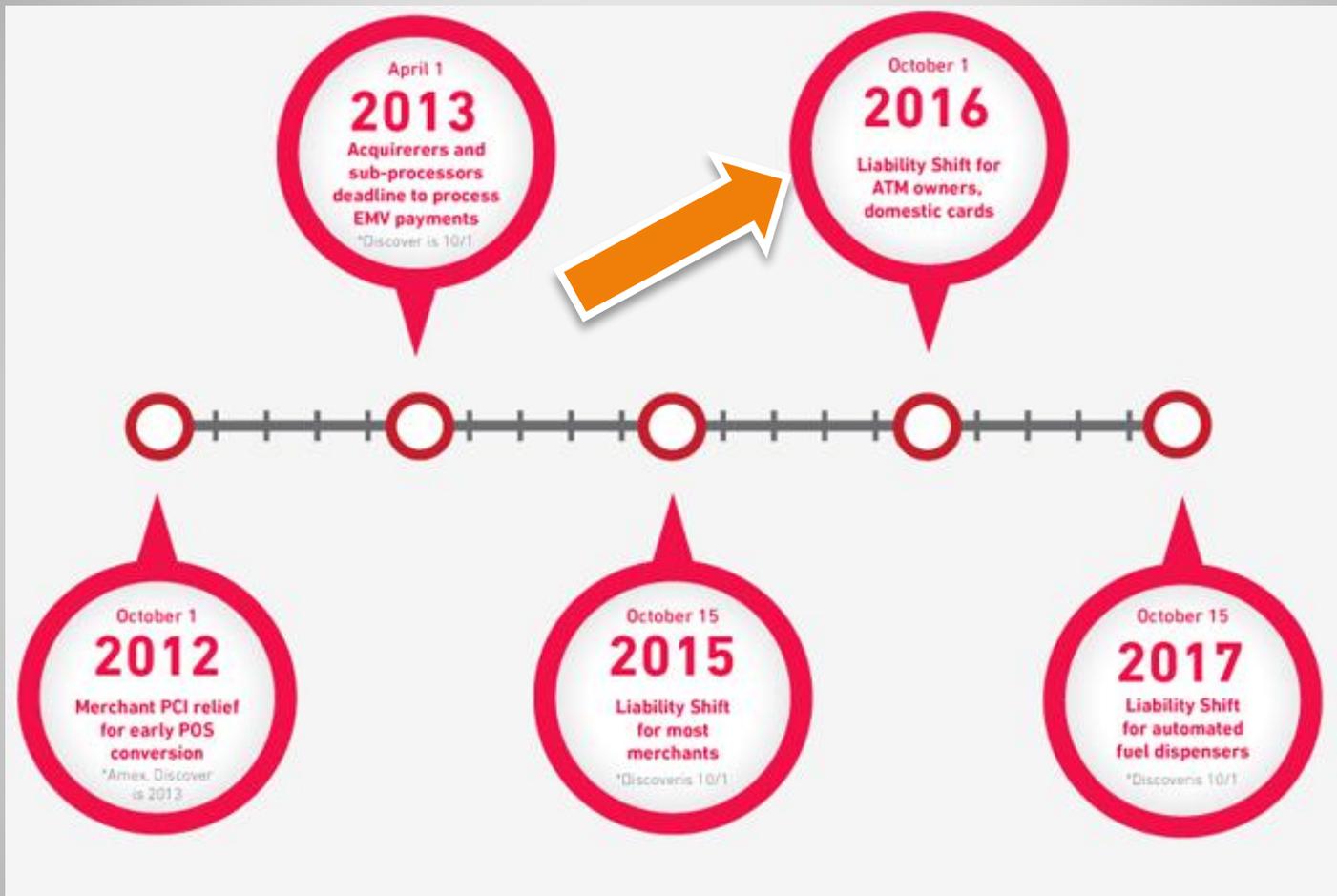


Figures represent the percentage of all card-present transactions processed by each member institution that are EMV transactions (Contact or Contactless). The reported data (blue bar) is from the twelve months of July 2013 through June 2014 and (green bar) the twelve months of July 2014 – June 2015; the data represents the most accurate possible data that could be obtained by American Express, Discover, JCB, MasterCard, UnionPay, and Visa during this period. To qualify as an "EMV transaction" for the purpose of this methodology, both the card and terminal used during a transaction must be EMV-enabled. Data is reported from the acquirer perspective. These figures do not include offline transactions, "on us" transactions (defined as a transaction handled exclusively by another processor), and/or transactions processed by non-EMVCo-member institutions, such as local schemes.

Industry/Next Steps

- Evaluate your input locations
 - What is your easy transition point
- Talk to your merchant bank
 - Discuss options/evaluate chargeback risk

Industry/Next Steps



Industry/Next Steps

www.EMVCo.com

<http://krebsonsecurity.com/2016/02/the-great-emv-fake-out-no-chip-for-you/>

<http://paymentsviews.com/2016/02/09/fake-out-you-cant-put-your-card-in-that-emv-slot/>

<http://www.theatlantic.com/business/archive/2016/03/us-determined-to-have-the-least-secure-credit-cards-in-the-world/473199/>

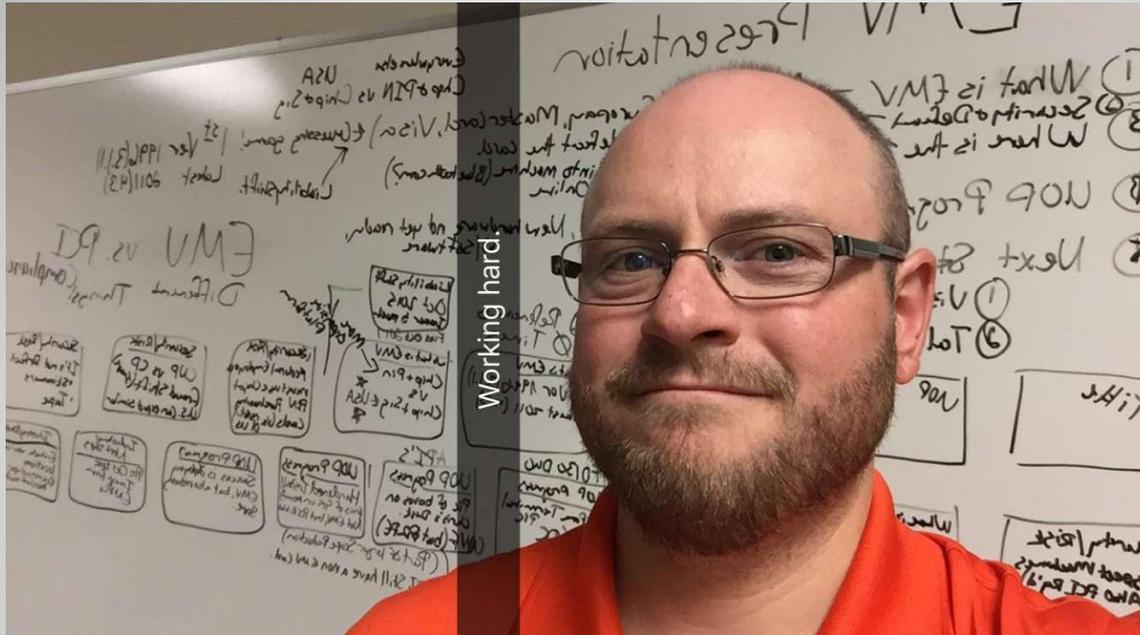
<http://blogs.creditcards.com/2016/03/retailers-fight-back-against-emv-fraud-liability-shift.php>

Resources



**KEEP
CALM
AND
ASK
QUESTIONS**

Questions/Cross Examination



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**Who the heck does this
guy think he is?**