



Federal Reserve Bank of Dallas

The Future of the Payments System

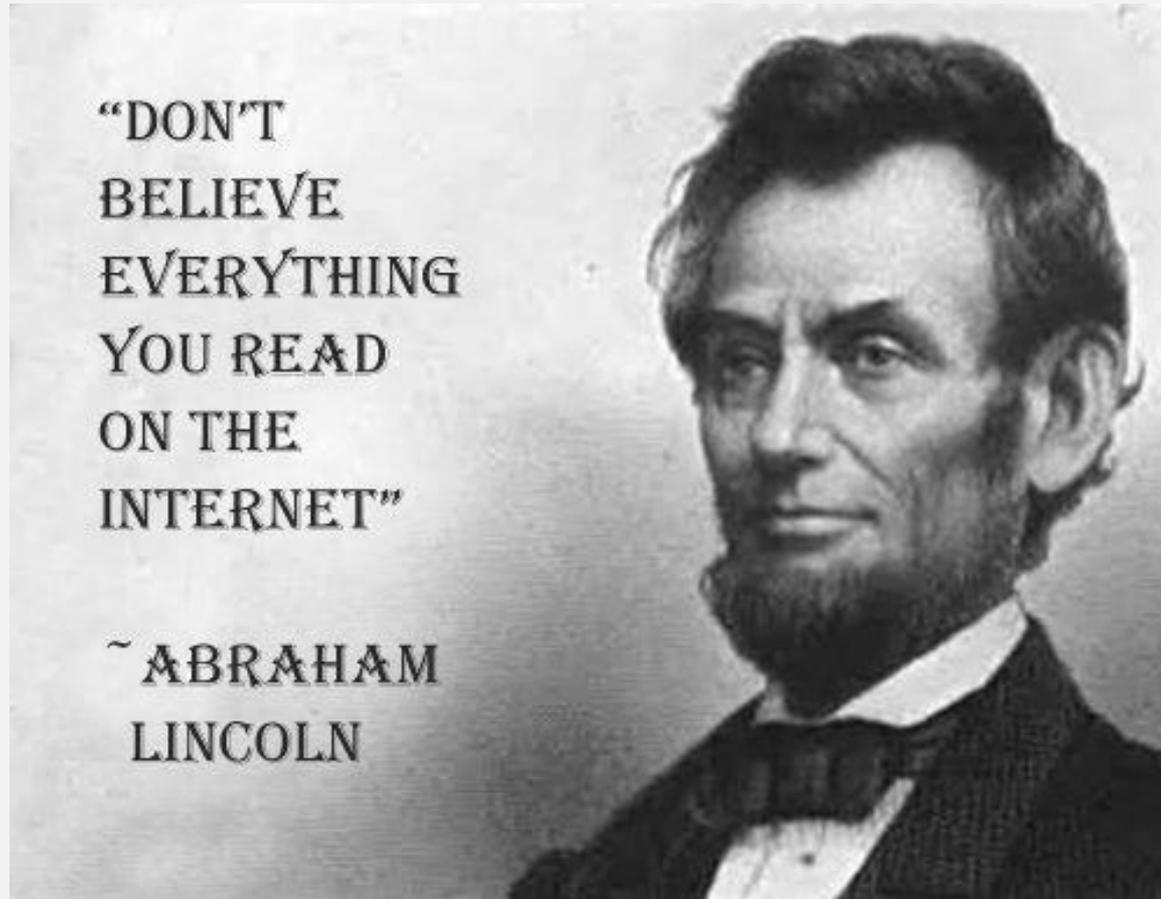
CFMA

August 15, 2019

Quotes from the Internet

“You have to know the past to understand the present.” —Carl Sagan (1934-1996)

Quotes from the Internet?



“DON'T
BELIEVE
EVERYTHING
YOU READ
ON THE
INTERNET”

~ ABRAHAM
LINCOLN

The views expressed are my own and do not necessarily reflect official positions of the Federal Reserve System.

The Role of the Federal Reserve



- Ensure the safety, efficiency, and accessibility of the U.S. payments system
- “Bank for banks”
 - Currency and coin ordering
 - “Wholesale” payments (Fedwire and book-entry securities)
 - “Retail” payments (check clearing and ACH)
 - Settlement
- “Fiscal agent” for the U.S. Treasury
 - Maintain accounts for the U.S. Treasury
 - Process government checks
 - Disburse electronic Social Security benefits, tax refunds, etc.

Seven Payment Types

- Cash
- Check
- Wire
- ACH
- Real Time Payments
- Credit Card
- Debit Card

Business E-mail Compromise

Business E-mail Compromise

- July 2019: FinCEN: Financial Trend Analysis: Manufacturing and Construction Top Targets for Business Email Compromise
- 1,100+ SARs in 2018 made reference to BEC
- ~20% of those related to manufacturing and construction
 - Avg. fraudulent transaction amount = \$53,728
- BEC is estimated to cost ~\$310m/month
- Drastic increase from data recorded as recently as 2016

Business E-mail Compromise

- The number of fraudulent emails purporting to be from a company's CEO decreased significantly between 2017 and 2018...
- ...but more attacks impersonated an outside entity.
- Cybercriminals continue to use fraudulent invoices as a tool to bypass security measures and convince corporate personnel to click on malicious links.

The Fed & Faster Payments

The Fed & Payments

- The Fed's mission in payments: *Foster the integrity, efficiency and accessibility of the U.S. payment system*
- In support of that mission, we provide ACH, wire transfer and check clearing services to financial institutions
- The Clearing House (TCH) also offers each of these services
- We also serve in a leader/catalyst role within the industry

The Evolving Payments System

- Disruptive technologies have “reset” end-user expectations
- Payment systems are changing globally (e.g. U.K., Australia)
- Settlement Risk is increasing
- The Clearing House Real Time Payments (RTP) launched Nov. 2017
- As faster payments initiatives ramp up in the U.S.:
 - What role can/should/will the Fed play?
 - What will the impact to the Fed be?

The Federal Reserve's Faster Payments Journey

2013: The Fed published a Public Consultation paper

2017: The Faster Payments Task Force published industry roadmap with 10 recommendations

In this report, the task force asked the Fed to develop a 24x7x365 settlement service to support faster payments and to explore other operational roles

2019: Public Comment on the FedNow Service

2015: The Fed convened the Faster Payments Task Force

2018: Public Comment on potential services

- 1) 24x7x365 real-time interbank settlement
- 2) Liquidity management tool to support real-time interbank settlement

Real-Time Gross Settlement

- The Fed believes **real-time gross settlement (RTGS)** would provide the safest and most efficient infrastructure for settlement of faster payments
 - Funds and settlement are immediate and irrevocable
 - Avoids interbank settlement risk

But, is it necessary for the Fed to operate an RTGS service?

Federal Reserve's Planned Actions

1) The Board determined the Reserve Banks should develop the FedNowSM Service, a new interbank 24x7x365 real-time gross settlement (RTGS) service with integrated clearing functionality for faster payments.

Determining factors:

- Analysis of public comments received from the 2018 *Federal Register* notice
- Board's policy assessment that such a service would meet the requirements of the Monetary Control Act and the Board's criteria for new or enhanced Reserve Bank payment services

2) In addition, the Federal Reserve will explore the expansion of Fedwire[®] Funds Service and National Settlement Service hours, up to 24x7x365, subject to further risk, operational and policy analysis.

- Expanded Fedwire Funds Service and National Settlement Service hours could support a wide range of payment activities, including liquidity management in private-sector RTGS services for faster payments.

"FedNow" and "Fedwire" are service marks of the Federal Reserve Banks. A complete list of marks owned by the Federal Reserve Banks is available at www.FRBservices.org.

Settlement Assessment Conclusions

The Federal Reserve Board of Governors believes...

- Existing market landscape is likely to face significant obstacles for other providers alone to implement an RTGS infrastructure
 - The Federal Reserve is in a unique position to overcome challenges associated with achieving nationwide reach
 - The Federal Reserve has an established nationwide network with customer relationships
- The FedNow Service can help create, alongside the private sector, an accessible, safe and efficient RTGS infrastructure for faster payments
 - Operational role for the Federal Reserve would provide resiliency through redundancy and support in times of crisis



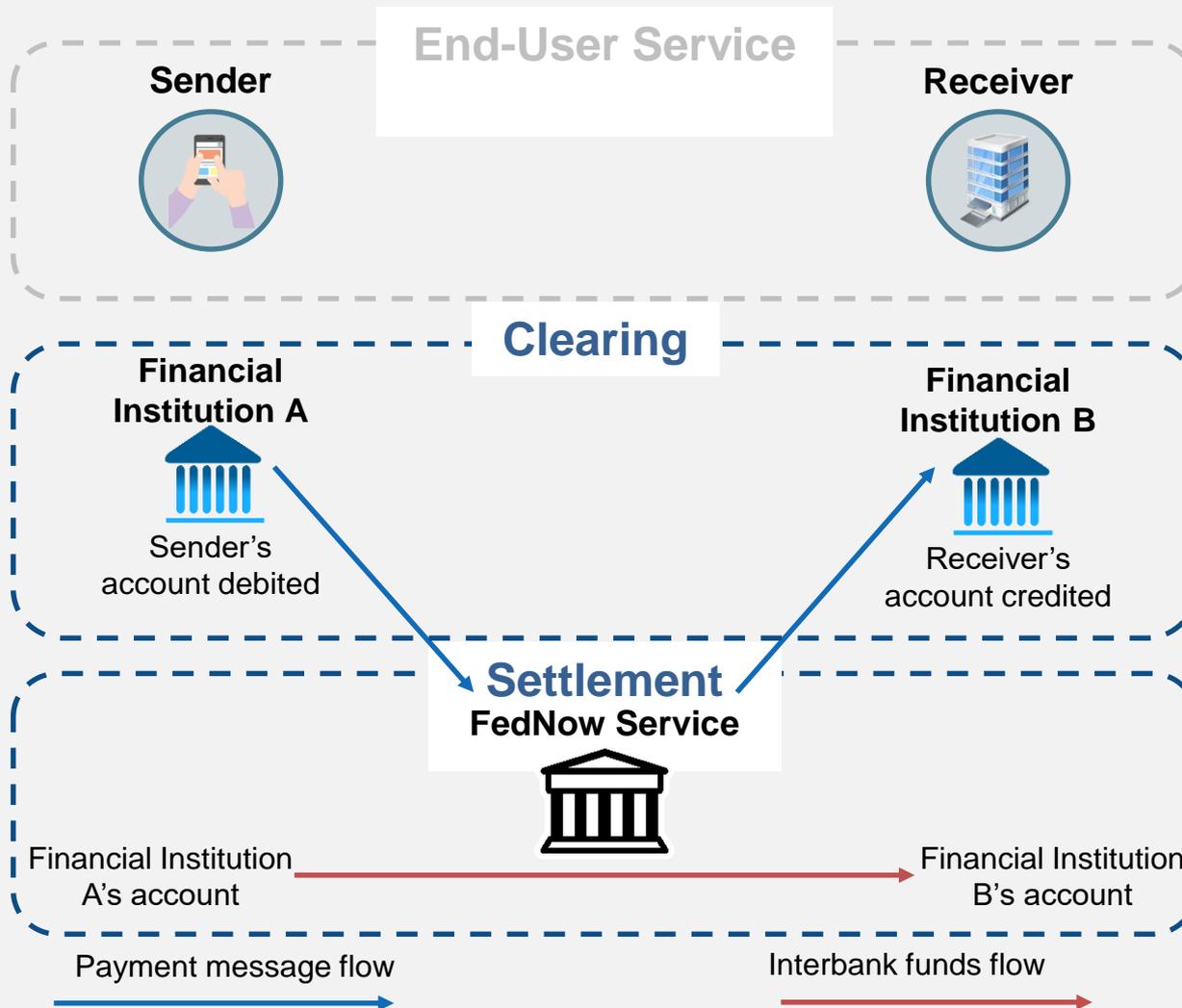
FedNow Service Description

FedNow Service features under consideration include:

- ❑ Processing individual credit transfers valued at \$25,000 or less in real time (within seconds) on a 24x7x365 basis
- ❑ Settling payments through debits and credits to balances in financial institutions' master accounts at the Reserve Banks, with an end-of-day balance recorded for each day of the week
 - The Board is also considering the impact of providing credit on a 24x7x365 basis under the same terms and conditions as for current Federal Reserve services
- ❑ Adhering to the ISO[®] 20022 standard and providing access through FedLine[®] connections, which would be enhanced to support the service's 24x7x365 processing
- ❑ Allowing participating financial institutions to designate a service provider to submit or receive payment instructions on their behalf and settle payments in the account of a correspondent bank

"ISO" is a registered service mark of the International Organization for Standardization.

24x7x365 RTGS Service Process Flow



Comment Period and Next Steps



- The *Federal Register* notice is seeking public comments on all aspects of the FedNow Service
 - ✓ The comment period is running 90 days from the publication of the *Federal Register* notice
- Throughout the comment period, the Federal Reserve will engage industry stakeholders to gather input on all aspects of the service
- Following the comment period, the Federal Reserve will review feedback gained through written comments, industry groups and forums to finalize the design and features of the planned service
 - ✓ The Board will publish a final FedNow service description in a subsequent *Federal Register* Notice

How to Submit your Comment on the *Federal Register* Notice

The public comment period will run 90 days from the publication of the decision in the Federal Register. Only formal comments submitted during this period will be considered by the Board.

Formal comments may be submitted only in the following ways:

- Board website:** Follow the instructions for submitting or viewing comments on the [Proposals for Comment](#) page
- Email:** Send an email to regs.comments@federalreserve.gov and include the docket number, OP-1670, in the subject line
- Fax:** (202) 452-3819
- Mail:** Ann E. Misback, Secretary, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue, N.W., Washington, DC 20551

Learn More

To learn more about the planned service features, as outlined in the *Federal Register* notice



Review the *Federal Register* notice

- For details of the Board's analysis and the planned FedNow Service, view the Board's [press release](#).



Visit FedPaymentsImprovement.org



Attend an educational webinar

- Register on the [Fed events page](#) on FedPaymentsImprovement.org

“...you can’t please all of the people...”

- The extended timeline sparked barbs that the central bank’s service, which is being dubbed ‘FedNow,’ should instead be called ‘Fed Five Years from Now.’”
- “Sensible policymakers and economists agree: “FedNow” should be “FedNever.” —*Thomas Aiello, policy and government affairs associate, National Taxpayers Union, Aug. 14, 2019*
- **Even spawned a conference, *Paythink: FedNow or FedLater?* The Fed's Real-Time Payments Network and the Market Impact**

SOURCES: “And now, the hard part of the Fed’s path to real-time payments,” by Kevin Wack, *PaymentsSource*, Aug. 5, 2019; “PayThink: The Fed’s public option for faster payments does more harm than good.” By Thomas Aiello, *PaymentsSource*, Aug. 15, 2019

“Faster Payments”: Industry Initiatives

Faster Payments: Zelle



- ❑ f.k.a. clearXchange
- ❑ Parent company: Early Warning Services (EWS)
- ❑ **“alias-based payments” (using mobile phone # or e-mail address; a.k.a. “token”)**
- ❑ As of 4/2019: Zelle is live in the banking apps of 107 FIs, with 377 more under contract
- ❑ 1Q2019: 147m transactions; \$39b in value

SOURCE: “Zelle Posts \$39b in P2P Payments on a 72% Transaction Increase,” by Jim Daly, *Digital Transactions News*, April 24, 2019

Zelle Partnerships



Processor & Technology Partners



Credit Union & Bank Partners



Faster Payments: Zelle



- Re: “monetization” of faster payments?
- **Zelle Disbursement Service**
 - e.g., BofA’s “Digital Disbursements”; BNY Mellon Treasury Services’ “BNY Mellon Tokenized Payments”
 - No need for clients to store/process payees’ bank account info
 - Reduced costs: paper check \$3-6; electronic payments \$1 or less
 - American Red Cross recently used to distribute financial aid to individuals

“Early Warning’s Zelle and other payment tools allowed the Red Cross to distribute emergency financial assistance donated by the general public in a fraction of the time.” — Steve Casey, Treasurer, American Red Cross

The Clearing House: Real-Time Payments

- The Clearing House (TCH)
 - Owned by 25 US banks
 - Currently settles nearly \$2tn in payments daily (½ of all commercial ACH and wire volume)
- 2014: Announced plans to build a Real Time Payments (RTP) platform
- Using “backbone” technology from VocaLink
 - Built UK Faster Payments
 - Now a Mastercard subsidiary



TCH RTP



- **Nov. 13, 2017:** RTP went live
 - Open to all US depository institutions
 - “Credit-push” model (good funds)
 - 24 X 7 X 365
 - Banks/corporates: What happens when there isn’t an “end of day”?
 - In addition to making payments, users can:
 - Send a “Request for Payment” and
 - Provide info about payments to help ease back-office reconciliation issues

TCH RTP



- Provides immediate confirmation notices that payments have been sent, received and settled
- First transaction on 11/13: Real-time transaction between BNY Mellon and US Bank
 - Transaction settled in **3 seconds**
 - Carried the message:

“Exploration is in our nature” – from *Cosmos*, by Carl Sagan (1980)
- June 2019: ~ 15 banks live (incl. BNY Mellon, US Bank, Citi, JPMC, PNC and SunTrust)

Real-Time Payments = Real-Time Fraud?

- Negative press for Zelle...
- Zelle “warns each new adopter [financial institution] up front that their attack rates will be highest at launch”
- Early Warning has a long list of items banks need to tick off on a readiness assessment before they can go live on the Zelle network. Roughly 30 of those are about fraud.
- EW blocks the tokens [e-mails/mobile phone #s] used in fraud so they can’t be used in future attacks.

SOURCE: “How Zelle, banks combat real-time payment fraud,” by Penny Crosman, AmericanBanker.com, Oct. 10 2018

Real-Time Payments = Real-Time Fraud?

- Zelle banks use stronger authentication, device binding and malware detection tools to try to prevent account takeover fraud.
- Some use one-time passwords to improve authentication.
- EW tries to match the user's address against what the card networks and the banks have for that person.

SOURCE: "How Zelle, banks combat real-time payment fraud," by Penny Crosman, AmericanBanker.com, Oct. 10 2018

Real-Time Payments = Real-Time Fraud?

- Zelle banks are all making a few changes toward further security:
 - Including messaging a customer sending money to a new contact asking if they are sure about the transaction.
 - By end of 4Q, banks will start sending users the name of the person they're sending money to
 - Helps avoid the problem of people sending money to the wrong person by mistakenly typing in an old or incorrect cell phone number or email address.
- Caution: “delicate balance of security versus convenience”

SOURCE: “How Zelle, banks combat real-time payment fraud,” by Penny Crosman, AmericanBanker.com, Oct. 10 2018

Credit & Debit Cards

Happy Birthday, eCommerce!

- ❑ Aug. 2019: “Visa...reported in a blog post that first e-commerce payment was made on Aug. 11, 1994, on its network.
- ❑ The transaction was a purchase of Sting’s ‘Ten Summoner’s Tales’ album...The amount of the purchase was not available.”
- ❑ Amazon.com Inc. sold its first books online in July 1995.
- ❑ 2018: Global online retail sales, \$2.8t (Visa)
- ❑ Projections: Growth of up to \$4.8t by 2021 (Visa)

SOURCE: “After a Quarter Century, E-Commerce Heads into New Territory,” by Jim Daly, *Digital Transactions News*, Aug. 14, 2019

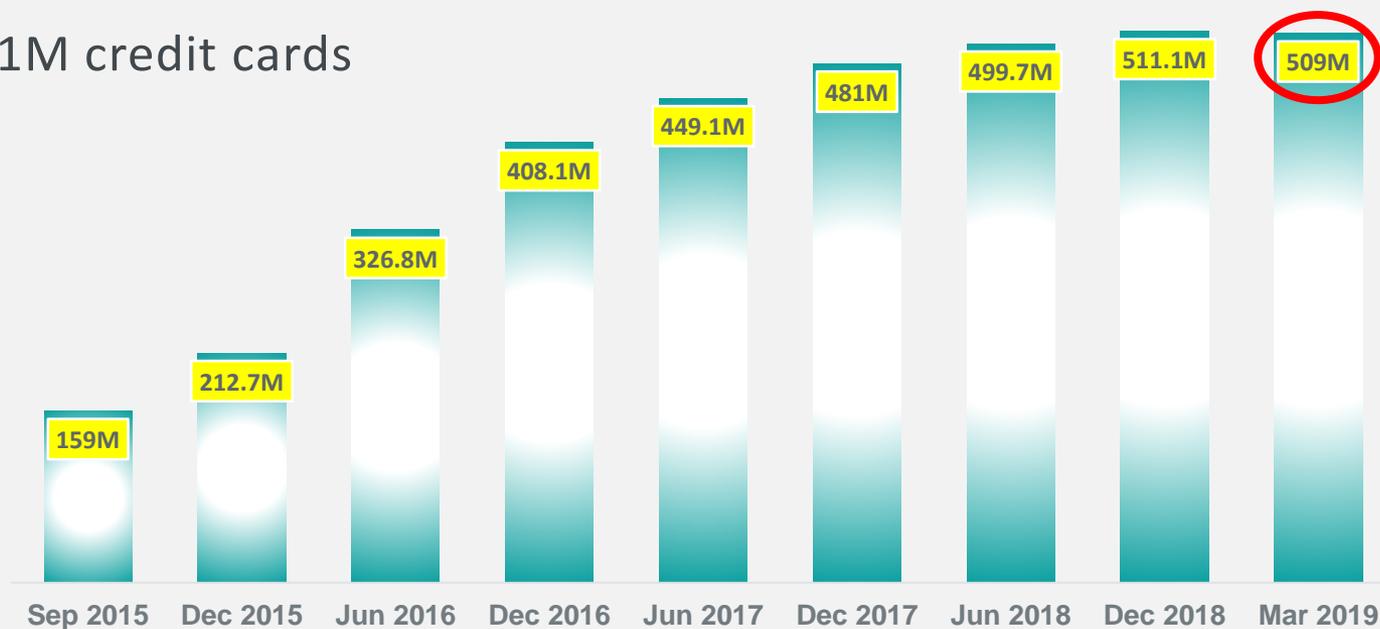
EMV Update: Card Issuance

Number of Visa Chip Cards (millions)

- 220% increase since Sep 2015
- 71% of all U.S. Visa cards are chip cards
 - 303.9M debit cards
 - 205.1M credit cards



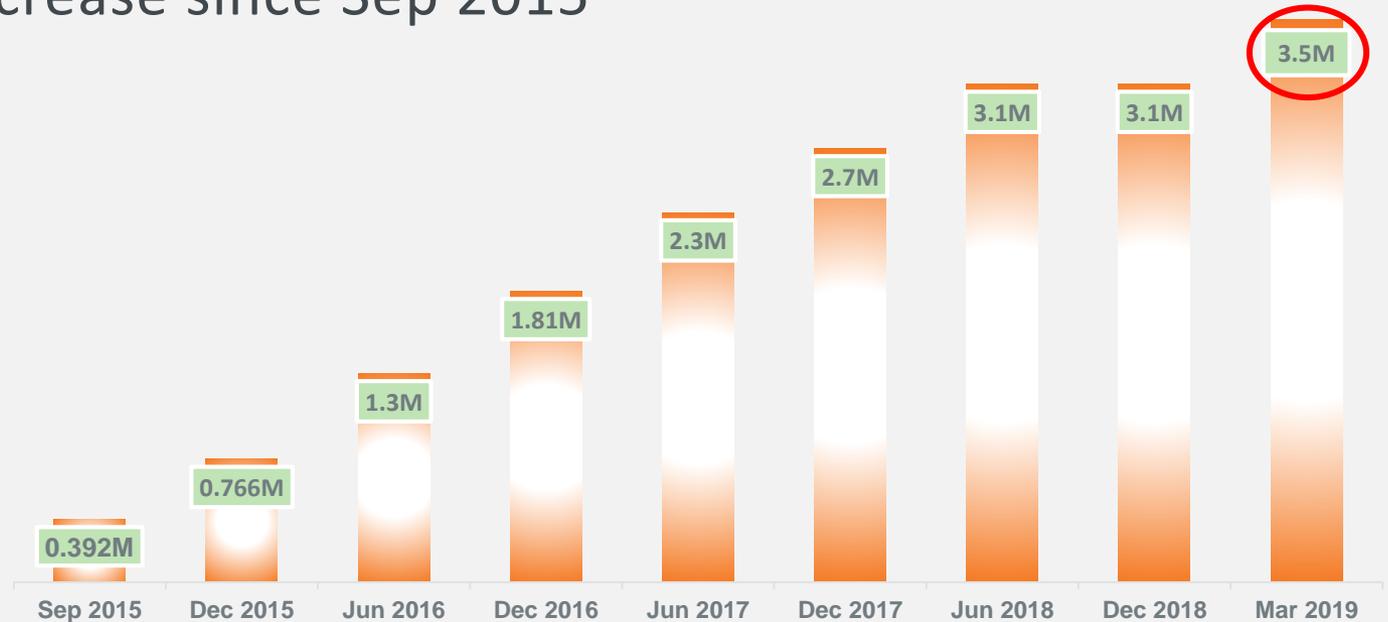
SOURCE: Visa.com



EMV Update: Merchants

Merchant Locations Accepting Chip Cards (millions)

- 75% of U.S storefronts now accept chip cards
 - 99% of top 200 merchants now chip-enabled
- 792.9% increase since Sep 2015



SOURCE: Visa.com;
US Payments Forum

EMV by the Numbers

	# Visa Chip Transactions (M)	Visa Chip Payment Volume (B)
Dec 2015	230.7	\$15.9
Jun 2016	482.6	\$27.9
Dec 2016	945.3	\$53.8
Jun 2017	1.21B	\$58.4
Dec 2017	1.5B	\$78
Jun 2018	1.7B	\$76.7B
Dec 2018	1.9B	\$88.9B
Mar 2019	1.94B	\$81B

- ❑ **Dec 2018:** Counterfeit fraud dollars have dropped 76% from Sep 2015 for merchants who have completed the EMV chip upgrade
 - Counterfeit fraud dollars declined 49% for all U.S. merchants

SOURCE: Visa.com