The Evolution of Alternative Payments

Peter Andrew Davey, AAP

VP, Payment Strategy & Industry – Capital One

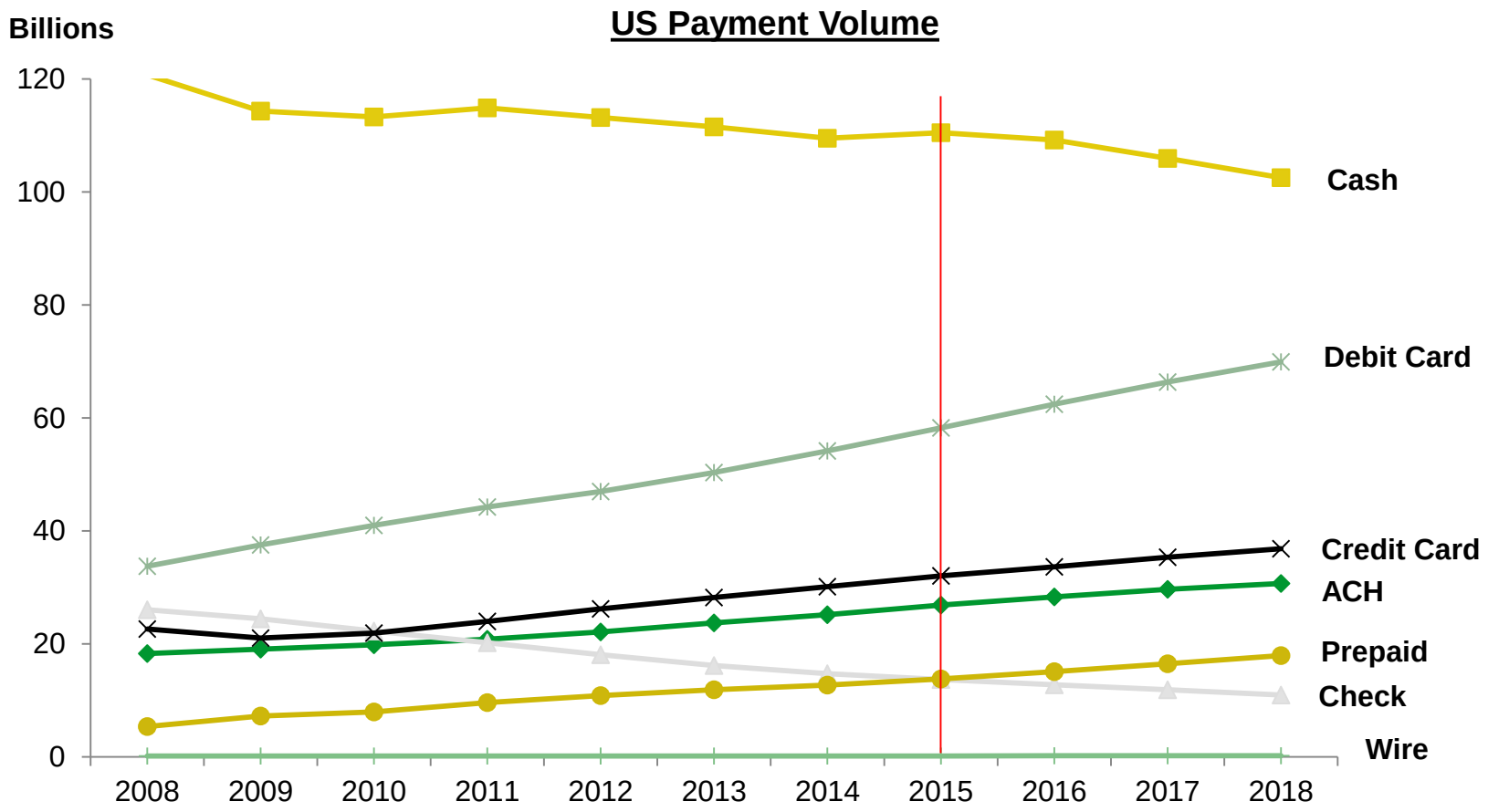
March 18, 2015

Mid-Atlantic Association for Financial Professionals

Annual Financial Forum

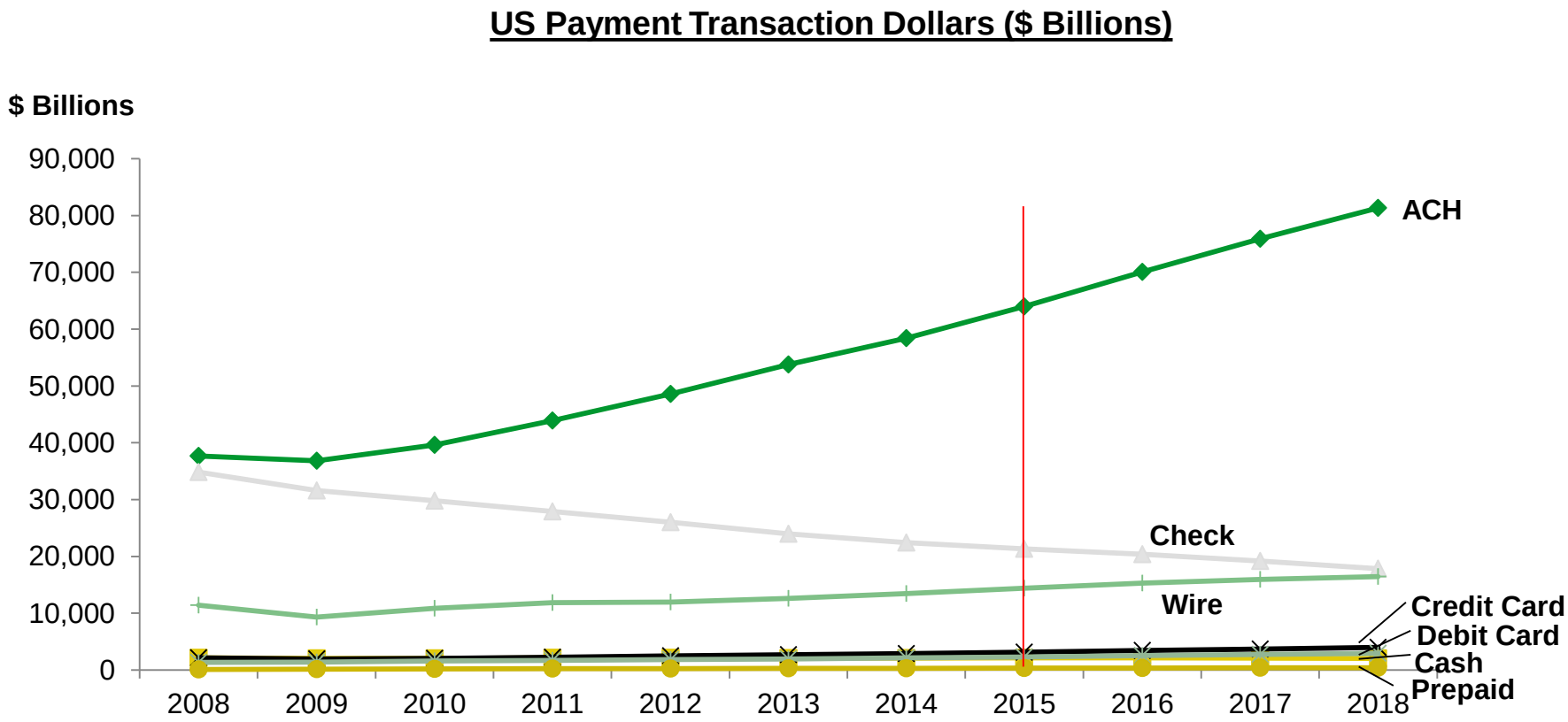
Confidential

In the US, Cash is still king when it comes to the volume of payments



Source: McKinsey 2015 Q1 US Payment Map

Payment transaction dollars are dominated by ACH and Check



Average dollar amount per transaction by payment type (2015)

Cash	Debit Card	Credit Card	ACH	Check	Prepaid	Wire
$19	$40	$98	$2,382	$1,557	$24	$72,928

Source: McKinsey 2015 Q1 US Payment Map

The payments industry is undergoing an unprecedented amount of change that will impact all end users

- Faster Payments and Payment System Modernization
- Same Day ACH
- "Uberization" of Payments
- Changing Face of eCommerce
- Mobile Payment Technologies
- Blockchain Technology & Digital Currency
- Generational Dynamics & Differences
- Payment Security/Tokenization
- Disruption by Non-FI's

Non-financial institutions are playing a larger role in payments with a different set of strategies (1/2)

Company	Core business	Strategic enabler	Networks leveraged
PayPal	▪ P2P ▪ BillPay ▪ Merchant Services ▪ Lending	▪ Build a network of on-us payments ▪ FX revenue ▪ Utilize purchase data for marketing	▪ Credit ▪ Debit ▪ ACH ▪ On-Us Network
DWOLLA	▪ P2P ▪ Merchant Services	▪ Build a network of on-us payments ▪ Utilize purchase data for marketing	▪ ACH ▪ On-Us Network
Google	▪ Software provider (search, maps, smart phone) ▪ Mobile, online and physical wallet ▪ P2P	▪ Drive ad spend and marketing opportunities ▪ Further reliance on android and other Google software ▪ Primary Wallet	▪ Credit ▪ Debit ▪ ACH ▪ On-Us Network
Square	▪ Merchant Services ▪ Inventory Management & Fulfillment ▪ P2P	▪ Build a network of on-us payments ▪ Utilize purchase data for marketing	▪ Credit ▪ Debit

Non-financial institutions are playing a larger role in payments with a different set of strategies (2/2)

Company	Core business	Strategic enabler	Networks leveraged
	▪ Hardware & software provider ▪ Mobile, Online Wallet ▪ Digital Commerce Ecosystem ▪ Pass through Merchant Services	▪ Own the customer experience ▪ Sell more handsets ▪ Attract different customers (e.g., merchants) ▪ Build an on-us network	▪ Credit ▪ Debit
amazon payments	▪ Seller and re-seller of goods and services ▪ Merchant Services and fulfillment ▪ Ecommerce front end ▪ Marketing engine ▪ Online wallet	▪ Enable eCommerce and dominate sales ▪ Make revenue on transactions and order fulfillment	▪ Credit ▪ Debit ▪ On-Us ▪ ACH
	▪ Social network of consumers and businesses ▪ Marketing engine	▪ Utilize consumer data to monetize business relationships ▪ Facilitate social commerce transactions (P2P)	▪ TBD

Infrastructure players are evolving while new alternative networks are gaining momentum

- Non-FI's like Fiserv and FIS have leveraged their size and position in the payment ecosystem to build their own private networks
- Traditional networks are evolving their offerings beyond credit and debit card payments
- Others like Coinbase and Ripple have developed networks leveraging leaner technology stacks and more sophisticated security features

"About a year ago, we started working with MasterCard and Amex to reinvent the account number, known in the industry as tokenization"

- Ryan McInerney, President Visa, Nov 2014

"Today we're simplifying access for our traditional partners but we're also enabling a much broader set of partners to access these platforms in ways we have not allowed historically so, they can build experiences that use our payment of capabilities"

- Charles Scharf, CEO Visa, Nov 2014

"There are more than 2 billion people in the world, and 70 million in the US, that are poorly served by the traditional financial system"

- Dan Schulman, AMEX, Oct 2014

Crypto currencies like Bitcoin provide an entirely new approach to payments

Bitcoin is a **currency**

- Is used to conduct transactions across the globe largely by US, China, Germany and UK
- Daily transaction volume of ~$70M[1]

Bitcoin is a **secure,** distributed public **ledger**

- All bitcoin transactions are maintained in a public ledger called the "block chain"

Bitcoin is a **transaction network**

- Merchants and consumers can directly transact
- Exchanges facilitate purchases/sales into other currencies

1 2014 average daily volume in USD, blockchain.info 7/8/2014

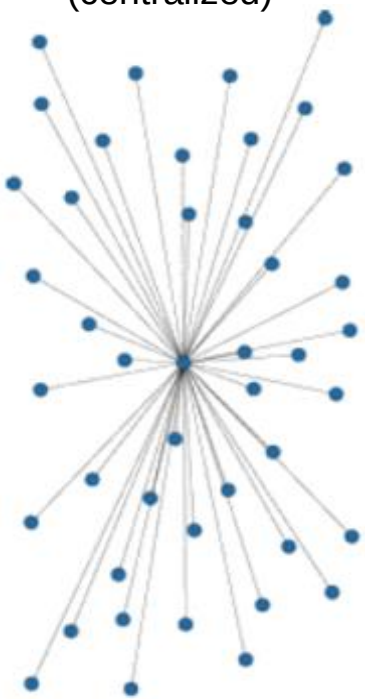
SOURCE: McKinsey

Blockchain technology presents a possible solution to trust problems that exist in transactions today

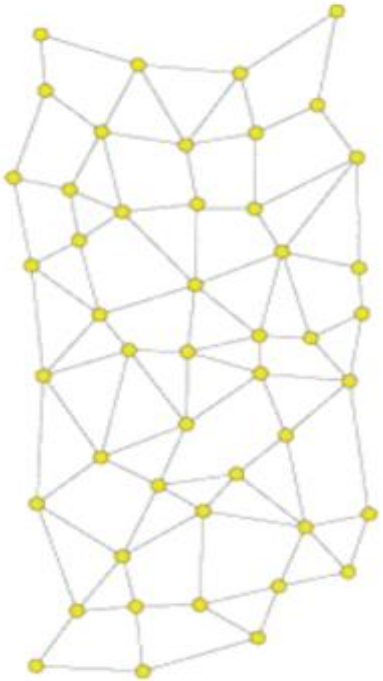
Today we overcome the problem of trust between market participants by using trusted third-parties (intermediaries)
(e.g., banks, attorneys, governments)

Blockchain technology eliminates the need for third-parties by creating a real-time, shared digital record of all transactions (shared public ledger)

Current payment processing network
(centralized)



Blockchain-based network
(distributed)

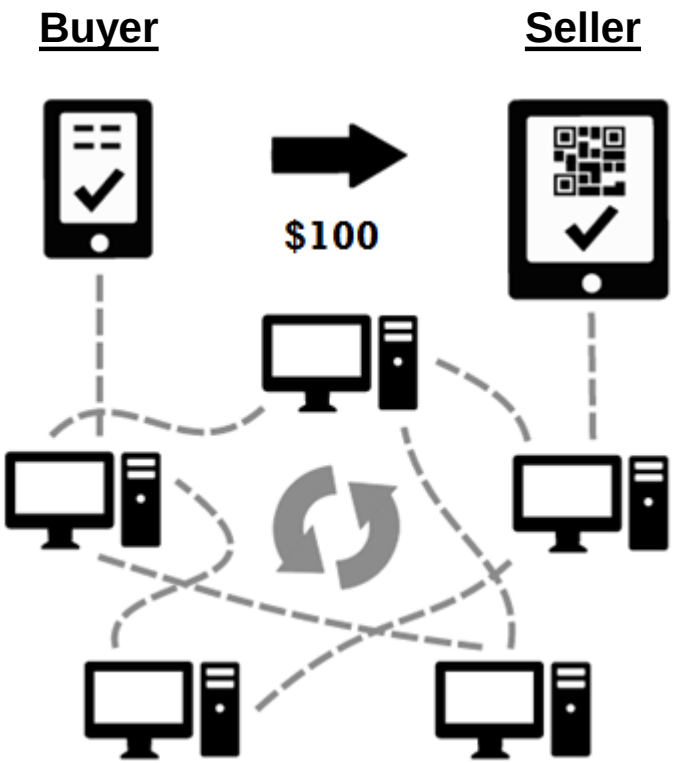


A blockchain is a public ledger shared by all nodes in a network, used to track and verify transactions

What is a blockchain?

- A blockchain is a public ledger that records transactions
- Maintenance of a blockchain is performed by a network of communicating nodes running open source software
- In order to independently verify transactions, each network node stores its own copy of the shared ledger
- Network nodes can validate transactions, add them to their copy of the ledger, and then broadcast these ledger additions to other nodes
- At fixed time intervals, a new group of accepted transactions (a “block”) is created, added to said blockchain, and quickly published to all nodes

Two parties agree to an exchange of $100 for a product or service



The nodes in the network individually verify that this transaction is legitimate, and then record the transaction in the ledger

There are many companies who are looking to leverage the blockchain technology for different purposes

IBM

Proof of Existence

ripple

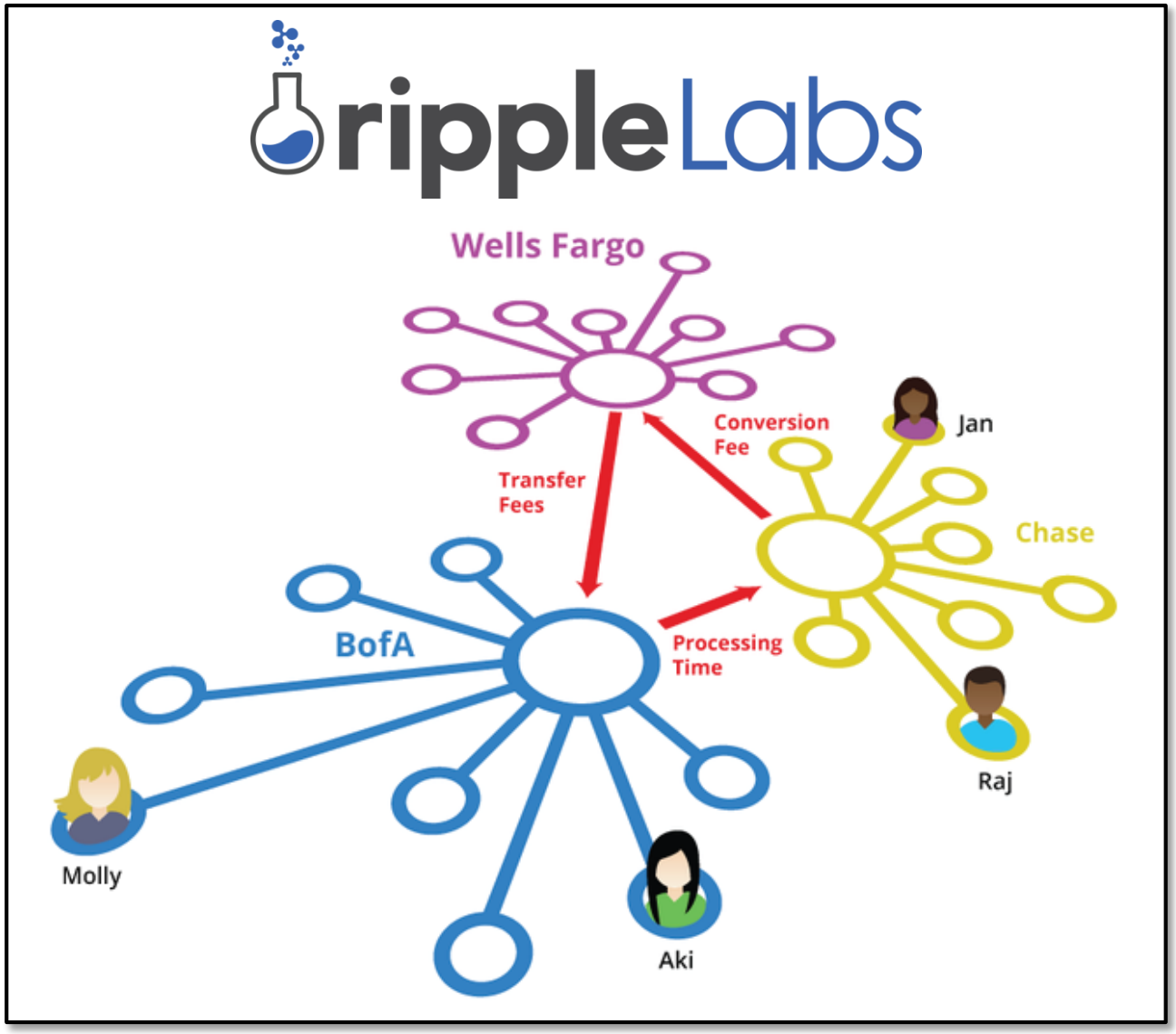
ethereum

coinbase

Bitnet

stellar

Ripple labs has taken the blockchain concept and developed a different take on distributed network and ledgers that is FI centric



SOURCE: Ripple Labs

Traditional players are making investments in these new networks based on the promise of the technologies

WASHINGTON, Feb. 10, 2015 /PRNewswire/ -- UATP has teamed up with Bitnet as a payment processing partner. This relationship will allow UATP to offer its Network of 260+ airlines the ability to accept bitcoin payments in a simplified manner.

"We are very happy to be partnering with Bitnet to add bitcoin to our payment platform. We are always looking for skilled partners to bring additional forms of payment to the UATP processing platform and Bitnet fits the bill well," said Ralph Kaiser, president and CEO, UATP.

"It's a new disruptive technology, so, yeah, we're looking at Bitcoin closely." – John Donahue CEO, Ebay

Coinbase Raises $75M from DFJ Growth, USAA, NYSE, and More

Today we are pleased to announce that Coinbase has raised $75 million in Series C financing, the largest funding round to date for a Bitcoin company. This brings our total capital raised to $106 million.

The round was led by DFJ Growth, with participation from our existing investors, including Andreessen Horowitz, Union Square Ventures, and Ribbit Capital.

Who accepts Bitcoins?

Over 30,000 merchants accept Bitcoin including companies with ~$1B in revenue

overstock.com®

DELL

newegg.com

REEDS Jewelers

PayPal™

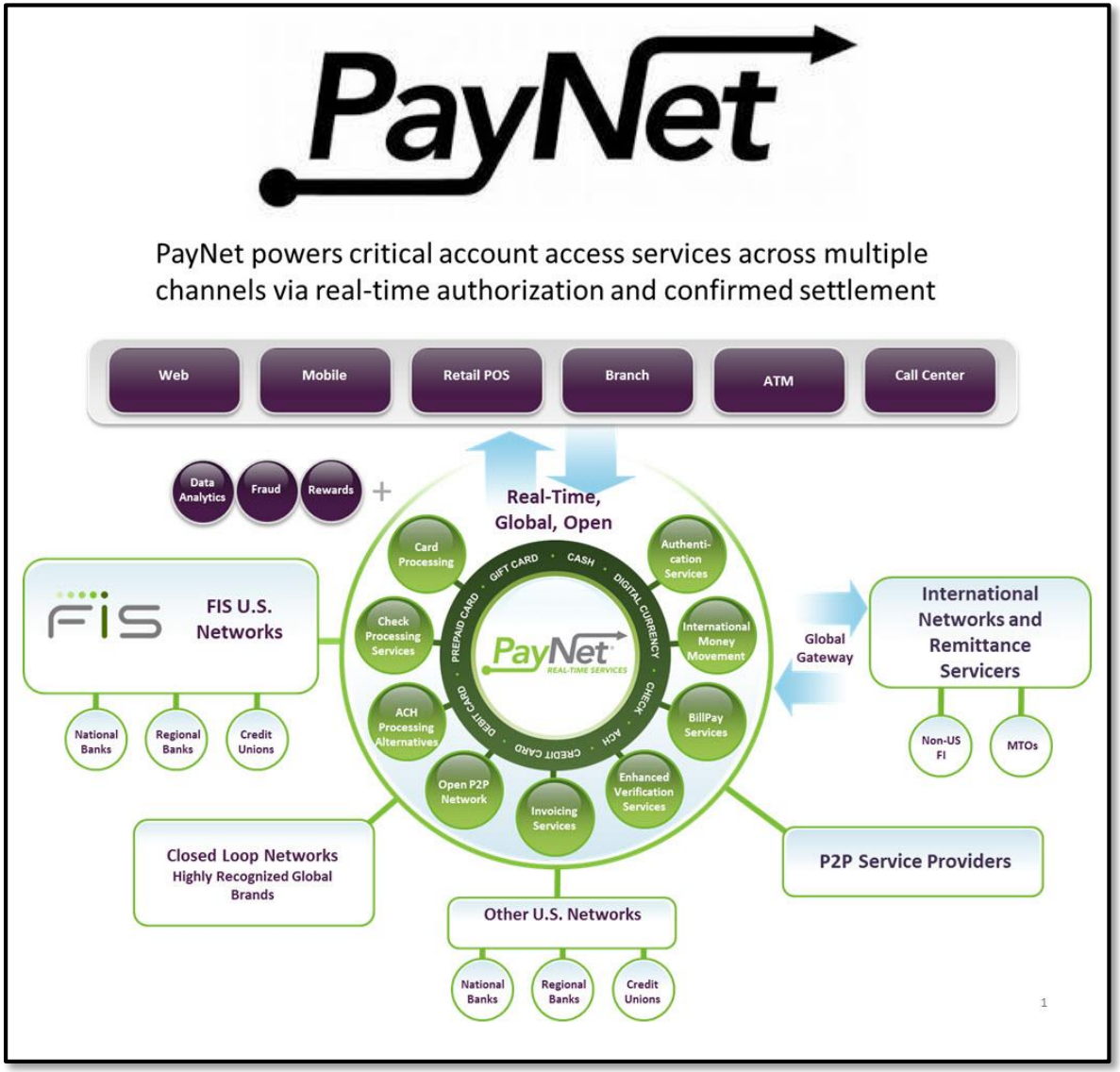
gyft

SACRAMENTO KINGS

Expedia

1-800 flowers.com

Other established providers like FIS, FiServ, Visa and MasterCard have been evolving their products and networks as well



SOURCE: FIS