

SMARTER PAYMENTS TRACKER™

AUGUST 2018

FEATURE STORY

How a common standard for payment rails could help financial services players reach ubiquity – **p. 8**

NEWS AND TRENDS

SWIFT receives certification to provide access to the Eurosystem's TIPS platform – **p. 14**

DEEP DIVE

Why banks and FIs are considering blockchain as a potential new payment rail – **p. 21**

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WHAT'S INSIDE

AS MORE COMPANIES ENGAGE IN CROSS-BORDER TRADE, trading partners around the globe want to be able to send money and settle transactions as quickly as possible – and vast payment rail networks are now in place to facilitate these demands.

Regardless of which side the transaction they are on or what part of the world they are in, companies and consumers want their money fast. Paper checks can take too long, and delays can cause problems with companies' liquidity. Over the years, several payment rail solutions have emerged that aim to push the speed of transactions forward and better serve consumers and companies alike.

One of the most utilized payments networks in the U.S. is that of the [Automated Clearing House \(ACH\)](#). According to NACHA - The Electronic

Payments Association, the organization that monitors ACH, approximately 25 billion transactions, valued at \$43 trillion, move across the ACH payment rails each year. These include direct deposit, Social Security, electronic bill, person-to-person (P2P) and business-to-business (B2B) payments.

These rails were first put in place by large financial players, including credit card issuers like Visa, Mastercard, Discover and American Express. Such financial networks work to quickly connect



consumers, merchants, processors and banks in several different markets.

Modern consumers and businesses have come to expect faster payments, and stakeholders have been working to make same-day ACH a reality since 2016. The first two stages, implemented in September 2016 and September 2017, introduced same-day ACH for credits and debits, respectively. The final stage, which requires receiving depository financial institutions (RDFIs) to make funds available by 5 p.m. in recipients' local times, went into effect in March 2018.

Other active payment rail players in the U.S. include Fedwire, the Clearing House Interbank Payments System (CHIPS) and electronic funds transfer (EFT).

Emerging technologies could spur investment and development in new types of payment rails with blockchain, however. This edition of the Smarter Payments Tracker™ examines the evolution of both payment rails and networks.

Around the smarter payments landscape

A major cross-border messaging service provider is preparing to expand its European footprint. SWIFT was certified by the Eurosystem earlier this month, allowing it to provide access to the TARGET Instant Payment Settlement (TIPS) platform. The company also announced it would [launch](#) its SWIFTNet Instant solution by Nov. 30, which will give financial services customers a

single access point to multiple instant European payment systems.

SWIFT is also facing increased [competition](#) from emerging FinTech players, including those that offer similar services at lower prices. Ripple, for example, claims it can facilitate cross-border payments within two minutes, as opposed to two-to-three days. Meanwhile, digital currency Stellar (XLM) has secured funding from Stripe to create its own global payments network – and it's not alone in its efforts or funding success.

Logos Network recently [announced](#) it had received \$3 million in seed funding. It plans to create a blockchain-based payments network with the infusion, and expand said platform's ecosystem by creating blockchain explorers and apps that enable P2P transfers.

Deep Dive: Blockchain And Payment Rails

The financial services space is eagerly looking to blockchain for potential disruptions. Its use cases are still being explored, but the technology is at the forefront of many financial leaders' minds. In fact, a recent survey found nine out of 10 bank executives are exploring potential use cases for blockchain.

EXECUTIVE INSIGHT

How are payment rails making payments smarter?

"Real time touches everything. It's imperative to understand the end-to-end impacts of a solution that never stops. This shift drives the transformation of not only payment rails, but also practically every adjacent function. From channels that initiate payments, to posting, reconciliation and customer support – all processes [that] take place 24/7, in a real-time environment. Despite these demands, consider how life-changing faster payment rails can be for users when they offer contextual relevance and a frictionless experience that solves real problems.

Think of Rob, a small business owner who has cash flow top of mind – especially when customers are slow to pay. With real-time invoice requests for payment, Rob can get confirmation that an invoice was received, and that funds were credited to his business' bank account immediately. Thanks to real-time payments, Rob no longer has to struggle to pay his bills.

Now he has a different financial reality. Using that same example, real-time payments can also mean a real-time payroll option for [Rob] and his employees – eliminating the need for checks or payment delays with an ACH transaction.

As faster payment rails become more ubiquitous, and new use cases emerge, the fact that payment speed isn't the end game will become even more evident than it is today. The payment rails become a means of delivering a smarter payment experience that adds real value to a user's life."

ESTHER PIGG,

strategic planning director for banking and payments at [FIS](#)

What's Inside

Blockchain as a payment rail solution is being closely watched for its transparent nature and capability to move funds from point A to point B. There's reason for skepticism, however, as 90 percent of such experiments never actually roll out.

There's still plenty to be learned, and perfected, about blockchain as a payment rail. This month's Deep Dive (p. 21) looks at how blockchain could reshape the payment rail ecosystem.

funds and reach business partners across borders. According to Manish Kohli, global head of payments for [Citi's Treasury and Trade Solutions](#), the increasingly global nature of business requires a new perspective on payment rails. For the August Smarter Payments Tracker™ feature story (p. 8), he spoke with PYMNTS' Karen Webster about the five pillars of payment rails and how banks and clearing systems that fail to meet customers' expectations could risk falling into irrelevance.

Citi Urges Payments Infrastructure Ubiquity

Increased global trade is creating demand for payments infrastructure that can quickly settle





90%

Share of blockchain technology experiments that ultimately never go live



53%

Portion of Canadian consumers who abandon an in-store or online purchase due to payment friction



\$27
BILLION

Estimated amount banks could save on cross-border settlements by 2030 using blockchain-based deployments



52%

Portion of mid-sized firms in the U.K. making cross-border payments in Q2 2018



\$5.7
BILLION

Total number of credit and debit transactions reported in Q2 2018 – a 6.2 percent year-over-year increase

FIVE FAST FACTS



FEATURE **STORY**

Searching For Payments

Infrastructure Ubiquity

Searching For Payments Infrastructure Ubiquity

From processing payroll for employees overseas to delivering payments and trading with partners in their local currencies, companies struggle with a host of challenges when it comes to taking business to the global stage. They must use the right set of underlying payment rails if they want to quickly deliver and settle funds.

But it isn't just speed that matters, according to Manish Kohli, Citi's global head of payments and receivables for its [Treasury and Trade Solutions](#) division. Businesses eager to participate in the global economy look for payments infrastructure that can deliver a consistent experience, while reducing or eliminating the pain points associated with making payments across borders. Kohli recently spoke with PYMNTS' Karen Webster

about how the shifting nature of cross-border trade calls for a payment rail that can ensure consistency in varying global regions.

Need for (more than) speed

As the need for faster payments has increased, clearing systems that are incapable of operating on a 24/7 basis could quickly lose their relevance.

"Whoever hasn't evolved in this new paradigm is at risk of being left behind," Kohli said.

In the U.S., a new expedited payment method has already taken effect. The first of three same-day ACH phases were rolled out beginning in 2016. With same-day ACH available, legacy batch systems used by banks and financial institutions (FIs) can deliver payments at a much faster rate,

“

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and I see more
systems adopt a
common protocol,
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of time before [others]
can connect, too.

”

settling any ACH payment — credit or debit — on the same day it's submitted.

One of the largest benefits of these faster payment rails is that they can quickly move money between parties, making them preferable to paper checks or costly wire transfers.

Speed is actually less important in the grand scheme of payments, compared to other factors like lower costs, greater transparency, convenience and security. Businesses participating in the global economy have come to expect payment rails to deliver on all five of these payment “pillars,” as Kohli calls them. Banks and other financial players that fail to meet these standards could be undercutting their clients' abilities to compete in the broader digital economy, and therefore could end up being



abandoned by clients who want a more efficient payment infrastructure.

"[If] I'm only doing one or two of these things, then I am significantly underleveraging [payment rails] potential," he said.

A move to a common payment standard

To keep up with the competition, players in the payments space must work toward using common payment standards.

Kohli pointed to the financial industry's adoption of the ISO 20022 message dashboard as a step in the right direction. ISO 20022 supports better connectivity, improves messaging and can include information that helps with reconciliation-related tasks.

"The move to ISO 20022 is very positive," he said. "We're seeing it happen in more and more markets and real-time payment systems."

Many instant messaging systems are being created using the ISO 20022 standard, which could expand the use of instant payments globally. The adoption of a common protocol potentially opens new doors for more players to expand their reach, participate in cross-border commerce and improve interoperability between systems.

UNDER THEHOOD

Manish Kohli, Citi's global head of payments and receivables for its Treasury and Trade Solutions division, discusses the issues about which its clients are most concerned in an increasingly global economy.

"The common thread is they want us, as banks, to solve the problems they see in the world of payments. This is cost, speed, transparency, convenience and security. That's clearly the common theme we [hear] when we speak to them.

The other theme ... is consistency across markets. Most clients we speak to are multinational, whether they are traditional or digital customers. ... If their treasury says, 'I'm going to send money to Australia, it should be like this. If I send it to Hong Kong, it's going to go through faster payments. If it goes here, it goes a more conventional way.' That's another large ask we hear from clients.

In most cases, the [payment] schemes want to hear, from Citi, the good practices that are happening elsewhere. That's where, in addition to the government channels and the infrastructure channels of interconnectivity, we often say, 'Hey, this good stuff is happening in India. This good stuff is happening in Australia. We want to make you aware of it.'"

"If I look at the future and I see more systems adopt a common protocol, then it's only a matter of time before [others] can connect, too," Kohli said.

The players that will develop this standard remain to be seen. If the financial services industry does not take the lead, new offerings might end up being developed by non-bank players, such as FinTechs.

"If clearing systems do not evolve and become faster, then you'll see ... alternative clearing systems that might be bank-led, [or] might not be bank-led, gain prevalence because money is going to find a way to settle faster," he added.



Building a ubiquitous payment rail

In the long run, Kohli is confident that banks and the financial industry at large will move toward faster payment and settlement solutions that meet consumers' expectations.

"My fundamental belief is that problems will always chase solutions," he said. "Ubiquity will [happen] if the underlying solution is [one] that solves the problem."

A possible solution that provides consistency and integration to 20,000 global banks and clearing systems could require a new payment rail and infrastructure network that could take decades to create. But, a system that strives



to deliver a common financial language in global payments is a worthwhile endeavor — especially if it improves customer experiences.

“Until the world becomes absolutely globally consistent, our role is to make this simple for our customers, build the intelligence into our

platforms and deliver a simple, global and digital experience for them,” Kohli said.

As businesses and consumers become more active on the global stage, they will expect their banks to not only give them faster access to funds, but also ensure their payment experiences are as smooth as possible.

NEWS

AND TRENDS

A SWIFT UPDATE

SWIFT clears Eurosystem's TIPS requirements

Financial messaging services provider SWIFT is expanding its reach after receiving Eurosystem certification, announcing earlier this month that it would be providing users access to the Eurosystem's TARGET Instant Payment Settlement (TIPS) platform later in 2018. It also announced that it will launch its SWIFTNet Instant solution by Nov. 30, 2018, giving customers a single access point

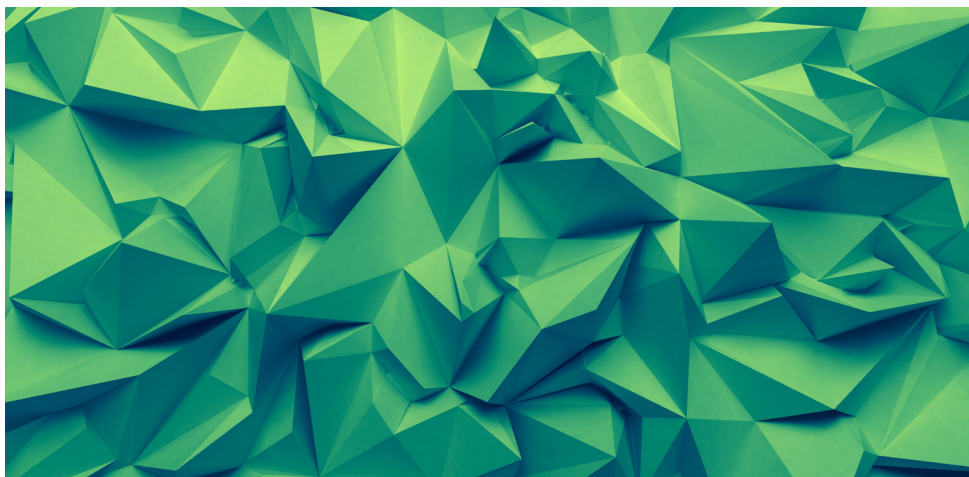
to multiple instant payment systems in Europe, utilize their existing investments in SWIFT infrastructure and transitioning to instant payments.

A company [news release](#) claimed SWIFTNet would prevent customers from having to tailor links to each system, instead linking them to multiple instant payment schemes in Europe for both domestic and cross-border payments. Additionally, the initiative will enable connectivity to both TIPS and EBA CLEARING's RT1

scheme. The solution is seen as a key building block that will provide access to the Eurosystem Single Market Infrastructure Gateway (ESMIG), which is intended to be the common point of entry for all interactions with the Eurosystem Market Infrastructures, including RTGS, T2S and TIPS.

FinTechs take aim at SWIFT

While SWIFT is expanding, rival services are looking to give it a run for its money – as well as that of its customers. A group of emerging





FinTech companies are looking to challenge SWIFT's grip on the payments industry – but these [companies](#), realizing they will need help in the endeavor, are turning to banks as partners. These FinTechs could pose a legitimate threat to SWIFT, [finews.asia](#) claims, offering similar services at both faster speeds and cheaper prices. Ripple claims its solution can be used to enable cross-border payments within just two minutes, for example, instead of the standard two-to-three days.

Banks are also developing their own utility settlement coins (USCs) backed by central banks. Last year, six FIs – Barclays, Credit Suisse, Canadian Imperial Bank of Commerce, HSBC, MUFG and State Street – joined a USB-led group that

aims to build a digital cash system, thus enabling financial markets to use blockchain solutions to quickly make payments and settle transactions. Payment services provider Stellar is looking to create its own global payments network, and has the backing of some big financial industry players, including a \$3 million investment from Stripe. It partnered with several banks and technology provider IBM last year to use blockchain to transfer money between South Pacific nations.

Stellar helps Tempo launch global cryptocurrency payments network

Stellar is also helping a new payments network take shape. Cryptocurrency payments network Tempo is creating its own payments [exchange](#), using Stellar's Decentralized Exchange (DEX) to simplify transfers. This will make transacting easier for users, shortening the process that requires backers to transfer tokens to either bitcoin or Ethereum before cashing out in a fiat currency. Tempo also uses the Stellar Network, an



open-source distributed ledger that facilitates P2P payments, to enable faster cash outs. Additionally, the company offers a debit card enabling users to make cryptocurrency purchases, and provides crypto remittance services in approximately 100 global markets.

CORPORATE PAYMENT TRENDS

Citi launches Payment Insights

Visibility into the cross-border space, especially in B2B [payments](#), is a pain point that some financial services providers are trying to address. Corporates need to understand payments' statuses if

they want to better manage their own cash flows, after all.

Manish Kohli, global head of payments and receivables at Citi Treasury and Trade Solutions, recently told PYMNTS' Karen Webster that the FI was an early adopter of SWIFT global payments innovation (gpi). Citi was eager to explore how a tracking system — one that provides transparency at every point in a payment's journey — could address corporate pain points with cross-border payments at scale, he said. It recently launched Payment Insights, which uses SWIFT gpi and is designed to offer clients updates on where their money is and when it will reach their accounts.



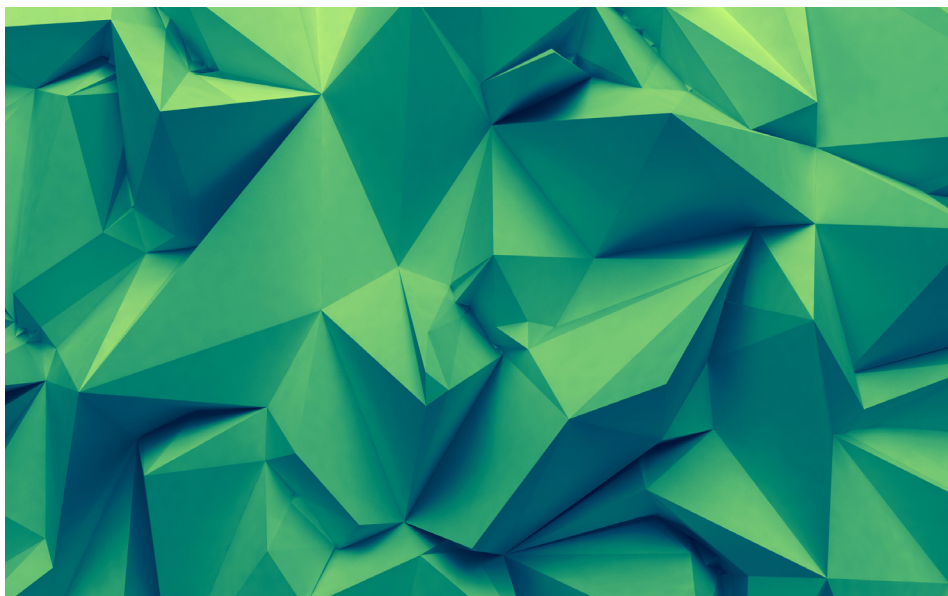
"It is a more valuable alternative to build something and improve messaging and payments capabilities on existing rails," Kohli noted, adding it's why the bank became an early gpi backer. Like other FIs, Citi is currently experimenting with technologies like blockchain, but its efforts focus on what already exists in the ecosystem.

What drives corporates to ditch some payment tech, flock to others

As companies expand, financial executives are forced to track accounts payable (AP) volumes and chase expense reports.

What's more, the [diversity](#) of spend categories means corporate leaders and chief financial officers (CFOs) must choose from a wide range of payment rails.

Sterling Snow, vice president of marketing at corporate spend management company Divvy, recently told PYMNTS that businesses are turning to virtual cards to help employees appropriately spend company cash. Virtual cards aren't necessarily the payment rail of choice for all company spend aspects, but they can be applied beyond corporate travel to reach recurring payments,



accounting for 50 percent of spending on the Divvy platform. Companies are turning away from paper checks, he added, but virtual cards might not be the best match for all of them. In fact, ACH is on track to surpass checks as the most popular payment rail for larger payments.

NEW NETWORKS ON THE BLOCK

Logos secures \$3M in seed funding

Logos Network recently [announced](#) it had secured \$3 million in seed funding, and that it has plans to create a scalability- and security-focused payments network based on the blockchain. The company's solution will combine aspects of other protocols, too, including proof-of-stake and sharding. The latter involves segmenting larger databases into smaller "shards" that are typically easier to manage.

Logos' new funding will be used to build that network and expand its ecosystem through the creation



of blockchain explorers and P2P transfer-enabling apps. The round saw participation from AlphaBlock Capital, AlphaCoin Fund, Blockwater Capital, Digital Currency Group, Global Blockchain Innovative Capital, INBlockchain and ZhenFund.

CARD PAYMENT CHANGES

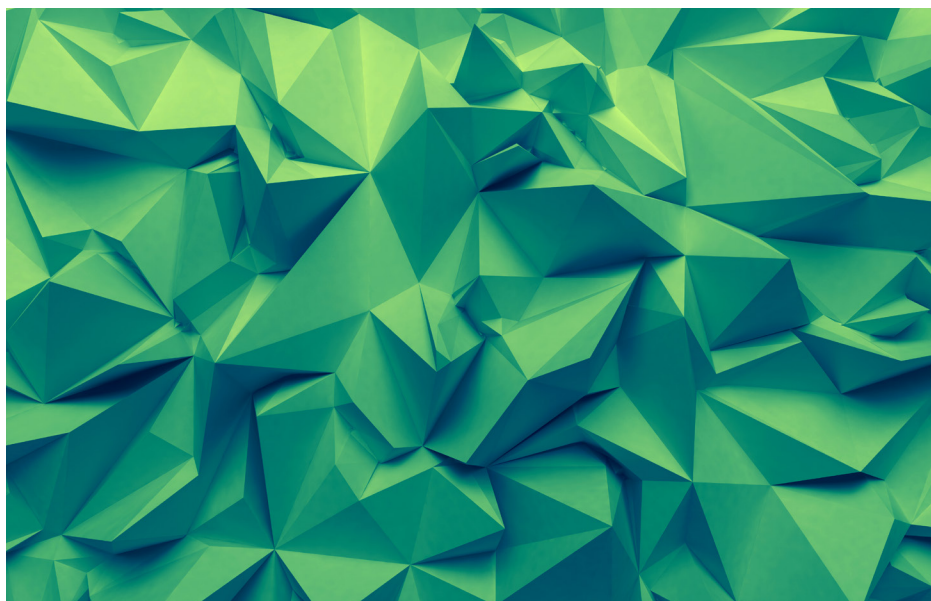
Mastercard working on bitcoin credit card transactions

Another major financial services player is close to developing its own blockchain solution for bitcoin-based transactions. Mastercard has [announced](#) a new patent for

a method it says will manage "fractional reserves of blockchain currencies," enabling quick exchange between legal tender and cryptocurrencies at the point of sale. Such transactions would use the fiat currency's payment rails and security features, but each would represent a cryptocurrency.

Along with other card issuers, acquirers and merchants, Mastercard is paying close attention to blockchain-based solutions' potential as they become more popular among consumers. The company is still considering how to improve related transactions' processing capabilities, however, many of which can take 10 minutes rather than a few seconds like traditional payment methods.





Bitcoin Cash takes aim at PayPal, Visa

While Mastercard bolsters its blockchain offerings, other companies could face increased [competition](#) from recent bitcoin developments. It appears Bitcoin Cash, a cryptocurrency offering “peer-to-peer electronic cash” capabilities, is preparing to take on companies like Visa and PayPal.

Bitcoin Cash first [broke](#) off from the original bitcoin network in August 2017, and has since become one of the most dominant and valuable bitcoin forks. A recent [blog post](#) from BTC.com noted the payment method initially had a block size of 8MB, later upgraded to 32MB and enabling Bitcoin Cash to process

92 to 227 transactions per second. This puts it in a better position to challenge PayPal’s 193 transactions per second, but rivaling Visa will be more difficult. The payments giant processes roughly 2,000 transactions in the same time frame.

Bitcoin Cash sees app surge

Bitcoin Cash is also seeing a rise in developer-related activity, thanks to its unique selling proposition and additional space. A slew of apps have been [developed](#) specifically for it in the year since its launch, many of which are closely tied to bitcoin-specific social media services.

One example, Meme.cash, is designed to function as a social media platform like Twitter, enabling users to post short, permanent messages on the Bitcoin Cash blockchain. Meanwhile, digital wallet Centbee was recently launched in alpha on the Google Play store, allowing users to send, store and receive bitcoin payments. Yet another, GitCash, offers similar P2P features for developers on the GitHub platform.

B2B COLLABORATIONS

Ticking off the boxes on the Fed’s B2B payments checklist

A host of U.S. businesses still make payments to suppliers using paper



checks, despite advancements in digital technology, but a U.S.



institution is working to change that. The Federal Reserve Bank of Minneapolis's Business Payments Coalition – formerly known as the Remittance Coalition – relies on corporate collaboration to promote electronic B2B payments adoption, and recently [gained](#) momentum by joining the B2B Payments Directory Association (BPDA). The BPDA has emerged as part of the government's efforts to create a digital "phone book" of information corporates need to pay suppliers.

The directory also aims to be "payment agnostic" and support

transfers made via a variety of rails, according to BPDA chair Lawrence Buettner, including FedWire, ACH, SWIFT, lockbox and even paper checks. Providing this information could make it easier for payers to quickly and efficiently pay their suppliers. Payees are responsible for maintaining their data, though, and taking control of their information as they seek to reduce the number of "days sales outstanding," or days a company takes to collect a payment following a sale. Many other directories are "single-focused," Buettner noted in a recent interview with PYMNTS, meaning they do not contain enough information to support B2B payments on a variety



of rails for an array of payment preferences.

PayStand gets active in B2B payments space

Payments platform PayStand recently [announced](#) an integration with accounting and bookkeeping software solutions provider Xero. The former's Xero plugin will now be available in the Xero Marketplace, enabling the latter's approximately 1 million small and medium-sized business (SMB) users to accept ACH, Smart ACH/eCheck and a variety of bank payments. It also [allows](#) these businesses to accept debit and credit card payments, and

aims to improve cash delivery speeds, boost accounting process automation and lower SMBs' transaction costs.

That's not the end of PayStand's collaborative efforts, however. The company also [announced](#) it had partnered with Silicon Valley Bank and First Data on an accelerator program to promote financial services growth and innovation. Commerce.Innovated acts as an incubator for finance, commerce and FinTech companies, providing mentoring to improve consumer

and business experiences and offer more secure transactions.

Blockchain meets creative content

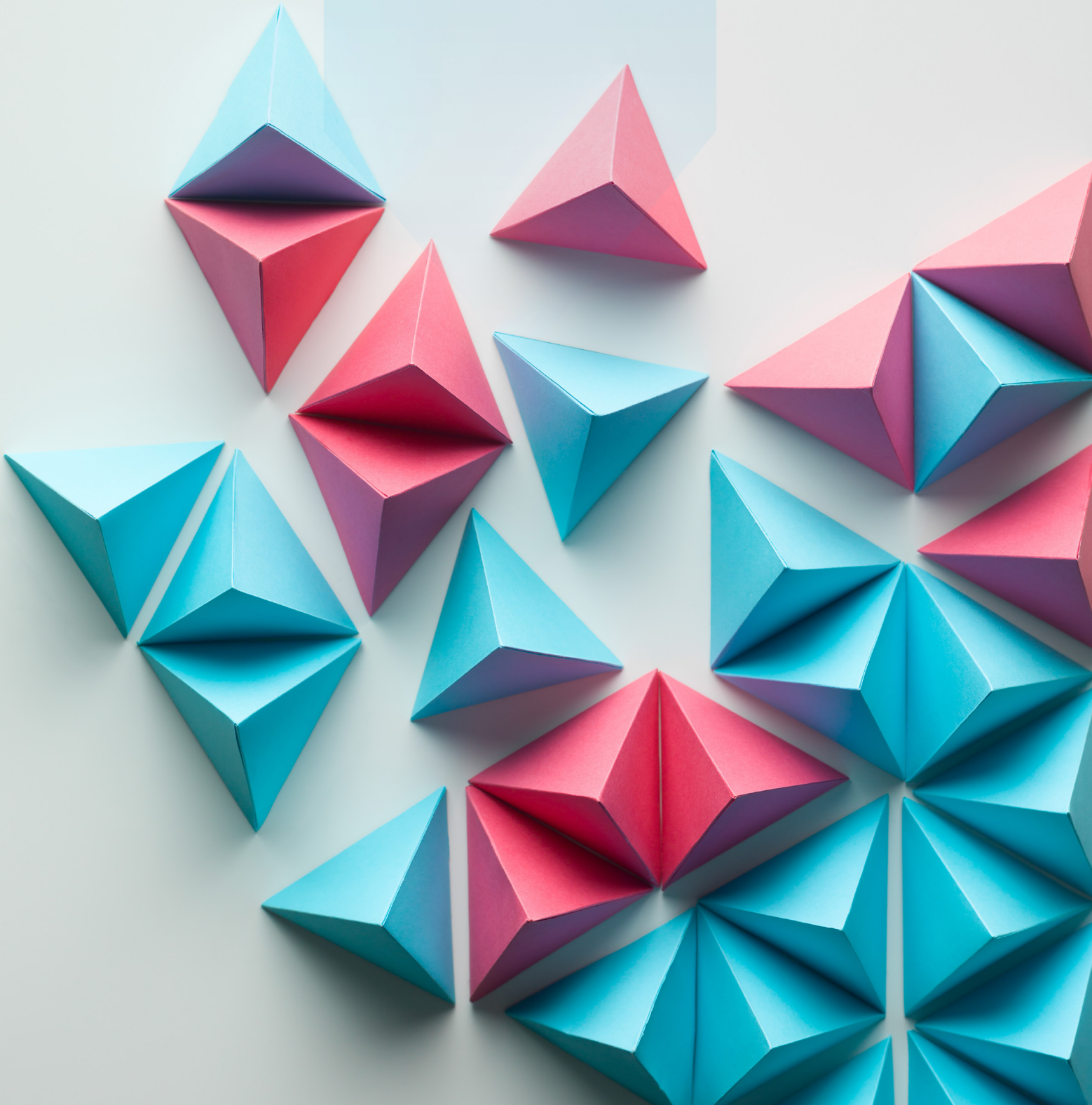
In other integration developments, two companies have [announced](#) they are working together to support blockchain-based payments in the creative content market. Under the agreement, blockchain-as-a-service (BaaS) solutions provider Bezant will collaborate with Asia-based media

startup Six Network to develop a secure ecosystem specifically for digital and creative content professionals. The partnership aims to empower these global content creators through supported blockchain payments. Bezant's BaaS platform will operate a private network enabling the swift, transparent and cost-effective global payments, as well as digital content purchases.



DEEP DIVE

A Blockchain-Based Payment Rail?



COULD BLOCKCHAIN BE THE NEXT BIG THING in payment rails?

U.S. corporates currently have a range of options available when they need to send funds, including ACH, Fedwire, The Clearing House (TCH) and credit card networks. ACH is the most popular, according to a recent PYMNTS [survey](#) of 500 corporates and government agencies, with 59 percent of respondents planning to increase their same-day ACH (SDA) credit usage and 48 percent saying the same for SDA debit.

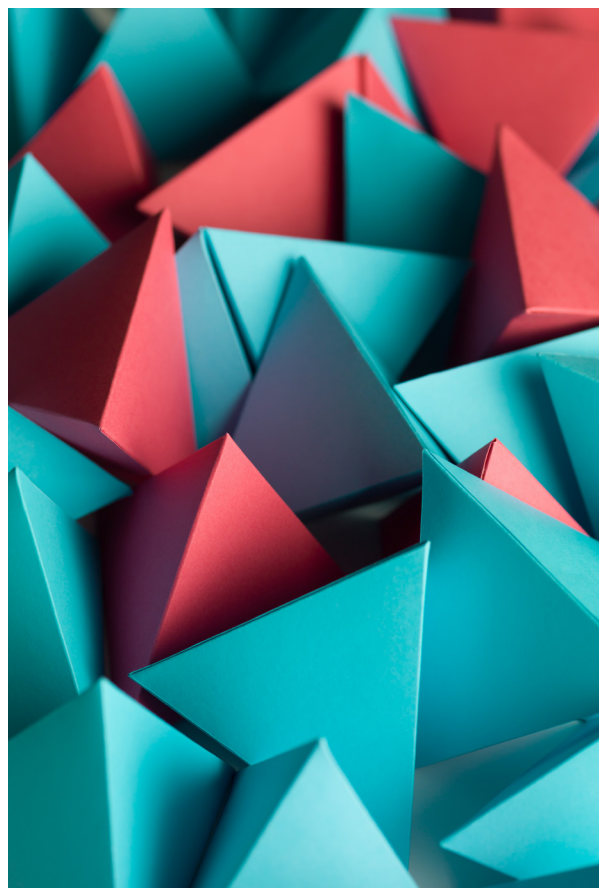
Blockchain's entrance may cause a potential shakeup in the payment rail market, which operates via distributed ledger technology. It offers several features that make its payment settlement role appealing, too, including those related to security. After all, blockchain solutions use cryptography to protect the funds being transferred.

The following Deep Dive examines the ways blockchain could prove transformative, offering banks, FIs and other players greater transparency into how transactions are executed, which parties are active on the service and how data is being altered.

What do banks want from blockchain?

A recent survey found that nine of 10 bank executives are exploring potential blockchain use cases, but the right infrastructure must be in place for banks to utilize them. FIs will need to build a global network using blockchain-based solutions, a move that will assist them in transforming payments at scale.

It's currently unclear how such a global network will look, but executives agree it should meet two key [criteria](#) to be effective.





First, the network should outline participants' defined rights, obligations, controls and standards. Second, it must offer efficient onboarding that will allow FIs to "plug and play" into it. These two points are the only ones upon which the industry presently agrees, but related players will need to reach consensus on how to structure the rules of engagement before a blockchain-based network can be put to use.

Decentralized appeal

Blockchain's decentralized nature reveals plenty of potential to disrupt the payment settlement ecosystem. That the ledger is not stored by a central institution, like a bank or a government agency, is a key selling point for blockchain-based solutions. It is instead stored in multiple locations across a decentralized network, meaning data cannot be changed by a single party. This makes it nearly impossible for the information to be adjusted or manipulated without detection.

Ledger-connected computers can only make alterations that align with "consensus protocol," an algorithm requiring a majority of computers on the network to agree with the proposed change. Attempted changes that fail to reach consensus are rejected.

These rigid requirements make blockchain-based solutions more secure. The technology relies on algorithms to verify the identities of involved parties — rather than tapping into FIs or clearing houses to act as intermediaries — providing a transparency level that ensures the transaction is trustworthy.

A potential safeguard against economic instability

The benefits of a more reliable settlement system are outlined by an [example](#) from more than 10 years ago. Lehman Brothers, backed by auditor Ernst & Young, reported record-high profits in 2007. Its success was short-lived, however, as the value of its assets collapsed nine months later – an event central to the 2008 financial crisis.

The collapse produced many key lessons, including that figures cited in the preceding year's reports were untrustworthy. Lehman Brothers was not alone in learning this, as banks in both the U.S. and Europe were forced to dole out billions in fines and settlements to cover losses from inflated balance sheets. It can be extremely risky to rely entirely on data from a centralized entity like an auditor. The decentralized nature of blockchain could have provided greater transparency and insight into Lehman Brothers' condition, thereby potentially avoiding these problems.

Blockchain is both distributed and public, meaning its alterations can easily be recorded and viewed. Its system data can also be downloaded and distributed with involved parties' identities shielded by cryptography, while still making all other data widely available.

The technology is still
in its early stages,
**WITH A LOW
IMPLEMENTATION
RATE OF JUST**

10%.

An anti-fraud safeguard?

Blockchain's transparency and trustworthiness could also prove helpful in fighting fraud, a top concern for many FIs now that SDA is a reality in the U.S. Such [transactions](#) may offer faster payment capabilities, but they also give FIs less time to mitigate fraud before a transaction clears and settles. That said, there is no evidence that SDA has led to a rise in fraudulent activities.

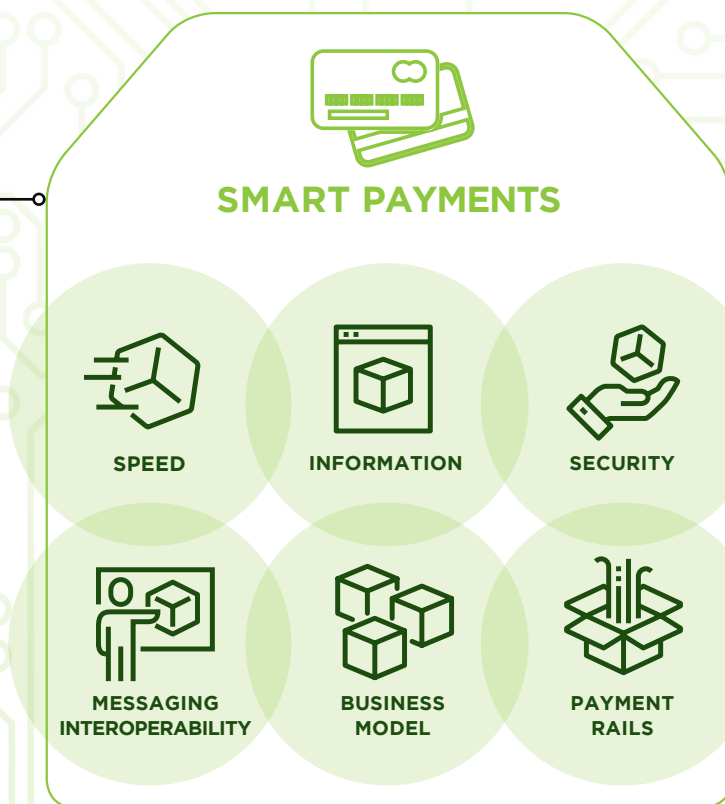
Banks and FIs would have access to an open record of who was active on the service with blockchain systems in place, making it more difficult for fraudsters to hide their activities without attracting the attention of other computers on the system. The technology is still in its early stages, though, with a low implementation rate of just 10 percent. As a result, financial services players will likely have to wait a few more years before blockchain-based systems become more mainstream.



\$MARTER AYMENTS ARCHITECTURE

THE ANATOMY OF SMARTER PAYMENTS ARCHITECTURE

The Smarter Payments Tracker highlights the latest trends at the intersection of smarter payments and authentication. Each monthly report explores one of the six tenets of the Smarter Payments Architecture, including messaging interoperability, speed, information, security, payment rails and the modality of B2B and B2C payments and their value.



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