# BLOCKCHAIN PAYMENTS TRACKER®

JUNE/JULY 2022




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■ MAY 2022

Expanding Payments Choice Playbook

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ACKNOWLEDGMENT

The Blockchain Payments Tracker® was produced in collaboration with Algorand, and PYMNTS is grateful for the company's support and insight. PYMNTS.com retains full editorial control over the following findings, methodology and data analysis.

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# EDITOR'S LETTER



While a growing number of consumers are either trading or using cryptocurrencies, blockchain payments remain in a nascent stage as a replacement for fiat currencies. While some merchants may be hesitant to deal directly in blockchain payments due to volatility in the value of some cryptocurrencies, the benefits of a faster and more reliable payment method that removes intermediaries are driving interest in the potential of blockchain payments.

Assisting in this revolution is the growing use of proof-of-stake protocols, which are faster, more efficient and, as a result, less costly than the traditional proof-of-work protocols that were the early standard for blockchain technology. In addition to providing less expensive and faster transactions, proof-of-stake also enables greater throughput, permitting more transactions to take place on the network within a given time frame and reducing the problems proof-of-work systems may encounter during times of high demand. This also makes scalability simpler for proof-of-stake systems, which is a significant component for larger organizations considering whether to invest in developing blockchain payments.

Cryptocurrencies are already seeing significant gains in cross-border transactions in the form of remittances as workers seek a swifter method for sending money home while also avoiding high transaction fees. With the promise of scalability, institutional and corporate entities can realize the same benefits by investing in cross-border blockchain payment capabilities. Even governments have taken advantage of crypto's ability to overcome hurdles that would have kept money from moving across borders easily, and that has helped generate greater interest from major global suppliers looking to sell to those entities.

High-friction transactions such as cross-border payments could offer the incentive for more industries to take a serious look at developing blockchain payments. This edition of the Blockchain Payments Tracker®, a PYMNTS and Algorand collaboration, examines how improvements to speed, throughput and scalability are creating added value for payors eyeing blockchain payments as a means of conducting faster, more reliable and less expensive transactions.

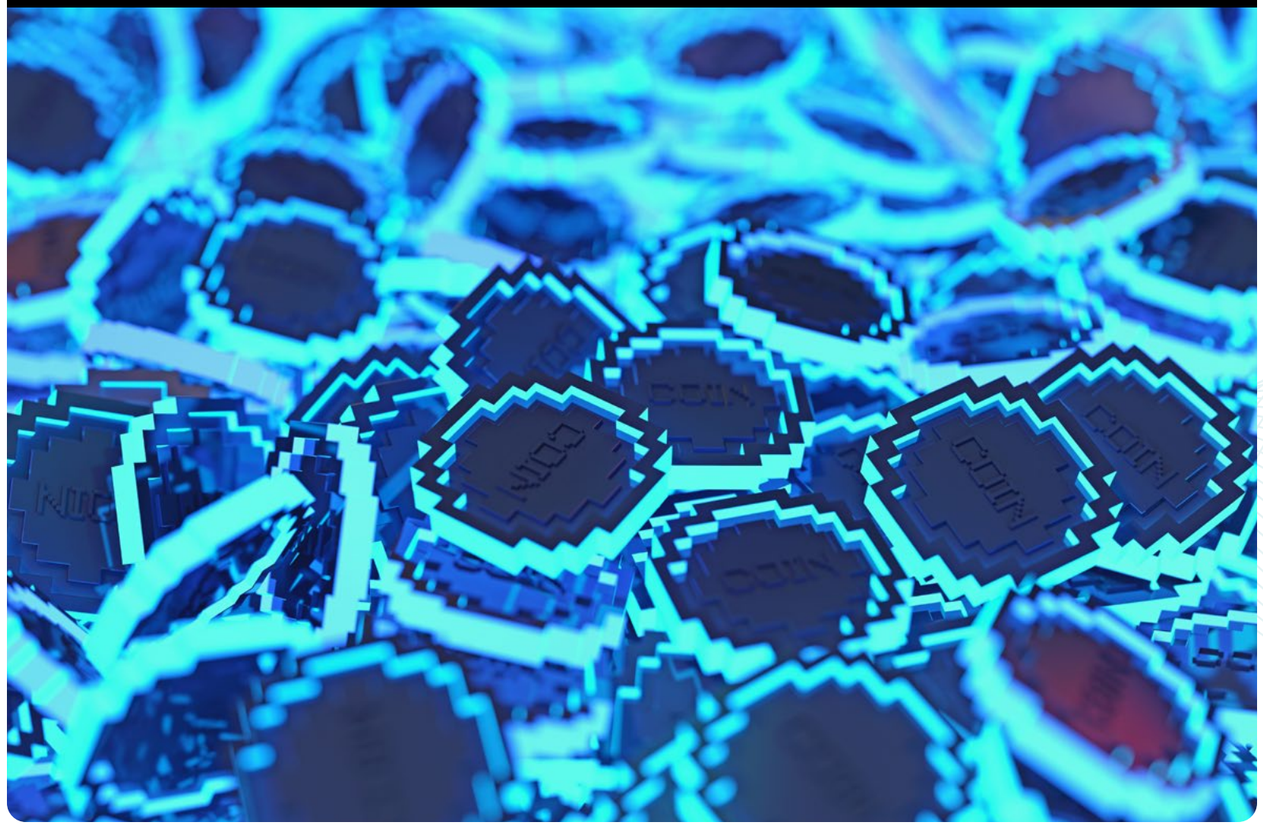
**Thought Leadership Team**

PYMNTS.com

Feature Story

ConnectOne Bank On

# How Blockchain Tokens Are Revolutionizing Transactions



## WHILE THE LATEST ON CRYPTOCURRENCIES MAY GRAB HEADLINES, THEY REPRESENT ONLY A SLICE OF THE LARGER BLOCKCHAIN PAYMENTS PIE.

The use of blockchain technology as a distributed digital ledger — a database of transactions nearly infallible by nature — promises to revolutionize how transactions are conducted and verified.

"In theory, it's infallible," said Frank Sorrentino III, chairman and CEO at ConnectOne Bank. "If the transaction is recorded on the blockchain, it's near-impossible to undo that transaction. Whatever information was input becomes reality."

Sorrentino compared a blockchain transaction to handing someone a gold coin: once money has changed hands, the transaction cannot simply be reversed. This is a good thing, he said, because it adds to the infallibility of blockchain payments. At the same time, blockchain payments are superior to hard currency because they are instant, transparent and unhindered by distance. Additionally, the blockchain creates a permanent chain of custody.

"I think it's a fascinating evolution to almost get back to where we started, but in a much more frictionless environment," Sorrentino said.

## BRINGING BLOCKCHAIN BENEFITS TO FIAT CURRENCIES

The concept of a “token” as it exists in the world of blockchain is nothing new. On a very basic level, a property deed or stock certificate invokes the same principles as a tokenized asset on the blockchain: something that is either intangible or too big to carry is represented by something that is simple to exchange. So long as all legal requirements are addressed, a digital token brings all the benefits of that paper form of tokenization, but with the added benefits of blockchain technology.

“We can move dollars today, for instance, utilizing a tokenized deposit to facilitate a transaction across the blockchain network,” he said.

Sorrentino acknowledged that tokenization has risks, but they are no different from those involving hard currency.

“You take a $20 bill out of your pocket, and you hand it to the wrong person, or put it in the mail and it gets intercepted by the wrong person, too bad,” he said. “There’s no way to get that back. My mother always told me, ‘Don’t put money in the mail.’”

Unlike physical money or a bearer bond, tokenized assets have a chain of custody. That ultimate “paper trail” is decentralized, encrypted and nearly impossible to interfere with.

## A TOWN HALL THAT WILL NOT BURN DOWN

From the earliest buzz around blockchain, some have understood the potential for the technology to serve a much more comprehensive role than just enabling cryptocurrencies, Sorrentino said.

“You think about titles for homes, you think about anything where there’s a chain of title, where multiple people will be engaged through ownership of a particular asset over time. Blockchain is just a more efficient way of dealing with that,” he said.

With paper-only transactions, records are held in some sort of central repository. For home titles, that might be a city or county administrative building. Not only is this less convenient, as records have to be accessed and recorded at a central location, but it also adds the risk that if anything should happen, such as a fire, all that information and proof of ownership could be lost.

“If your house was part of a registry on the blockchain forevermore, that transaction resides in a place where everyone can see it and understand it,” Sorrentino said. “We don’t have to wait for the town hall to open. I can transfer the title to my home to you right now on this call, as opposed to going down to the town, getting a certified copy, giving it to your attorney and having him review it.”

These principles apply to anything with a chain of ownership, from insurance contracts to stock certificates and even tokenized currency. Additionally, the immutable and transparent nature of blockchain tokens could even eliminate the need for such things as title insurance by removing the potential for human error, Sorrentino said.

“It’s a digital process, as opposed to depending on a human being to go look at those records going back over time,” he said.

## BLOCKCHAIN PAYMENTS INDEPENDENT OF CRYPTO

Sorrentino said he does not think cryptocurrencies will ever fully replace currencies backed by a central banking system. Ultimately, there must be a lender of last resort to weather a tough economic crisis. At the same time, blockchain technology can enable many of the benefits associated with cryptocurrencies within established economic systems.

Users can finalize transactions with blockchain tokenization regardless of location or currency in use. If someone in Paris wants to make a payment to another person in New York whose bank will not open for another six hours, a blockchain-enabled transaction can be finalized with all the relevant details recorded. Regardless of currency, time zones and markets, a tokenized transaction can take place instantly, transparently and irreversibly when it suits those involved in the transaction.

# Q&A

**PAUL RIEGLE**
Chief product officer

Algorand

**How significant has the development of PoS protocols been for making blockchain payments more viable for business needs?**

The significance cannot be understated. The shift to PoS protocols allows for the throughput and capacity needed in payment scenarios, but more importantly, the latency and finality. For the payments use case, round trip time can directly correlate to user monetization and churn. Only PoS protocols can provide the latency and finality needed to provide an acceptable blockchain payments solution for both the end user and the vendor or retailer.

**Is there an upper limit on throughput for blockchain payments, and how much do you expect throughput to further improve in the coming years?**

The upper limit for throughput is equivalent to the upper limit for throughput of the blockchain itself. Fortunately, this is currently high enough to handle any reasonable adoption rate, and I believe that throughput improvement will follow a trend similar (though not identical) to Moore's law. We will see continual increases in throughput over time as blockchain infrastructure evolves to meet its usage needs and new techniques and architectures are developed and adopted by leading blockchain protocols.

**How important do you think greater regulatory certainty will be for greater acceptance of blockchain payments?**

Greater regulatory clarity will certainly increase acceptance and, frankly, is a primary factor. The benefits of the technology are obvious — we have moved past the innovators, and now the early adopters are working to support blockchain-based payments. These early adopters want to take advantage of the benefits, and they want to 'do the right thing.' One example of this is the widespread adoption and usage of the collateralized stablecoin USDC for payment use cases, an asset that has high transparency and oversight. It is a clear attempt to mix blockchain advantages with the lower risk and greater regulatory clarity of traditional assets.

**Do you think blockchain payments have reached a point at which the benefits in speed and direct transaction capabilities are beginning to offset concerns regarding volatility? How do you expect things to progress from here?**

I expect that acceptance of crypto assets for payments will continue to increase, particularly within the band of assets that do not require the tradeoff in volatility and work to reduce their overall risk. Blockchain payment technology adds real value and functionality over traditional payment technologies, and that means companies will find ways to insert blockchain into their technology stack even if it is transparent to their end users. The slow but steady move away from hype and toward enduring value and ongoing utility will result in a shift in perspective, changing the way businesses will approach blockchain decisions bringing it in line with any other major technology stack or vendor decisions.

PYMNTS Intelligence

# The Promise Of **Faster Transactions Using Blockchain Technology**


## A RECENT NBC POLL SHOWED THAT 21% OF SURVEYED CONSUMERS IN THE UNITED STATES HAVE TRADED OR USED CRYPTOCURRENCY, INCLUDING HALF OF MEN BETWEEN THE AGES OF 18 AND 49.

In addition, 40% of Black Americans surveyed have used crypto, as have 42% of all consumers between ages 18 and 34. Some of the selling points, according to crypto advocates, include transaction speed, cost, privacy and the perception of crypto as a means for unbanked consumers to access financial services. In addition, 23% of online businesses plan to offer crypto and stablecoin payment options by 2024, and 36% of CEOs say they are ready to accept stablecoin payments now.

Among those who have experience with cryptocurrencies, 68% say they are a faster payment option than alternatives, and 37% of the total population believes blockchain technology makes payments faster. In practice, the speed of a blockchain transaction depends on the mechanism behind it. A consensus mechanism — such as the proof-of-work or proof-of-stake protocol — ensures that each transaction is genuine and unique. Proof-of-work has been around since the early days of blockchain technology and is the part of cryptocurrency transactions responsible for the high energy consumption commonly associated with cryptocurrency due to the complex computational processes involved. Each transaction can take 10 minutes or more, and costs per transaction can greatly increase when there is significant demand. In contrast, proof-of-stake uses a randomly selected validation method that requires less energy and fewer resources. As a result, proof-of-stake also yields faster transactions and, typically, lower fees. Proof-of-stake blockchains can also process hundreds of times as many transactions per second as proof-of-work blockchains.

This month, PYMNTS Intelligence examines the promise of faster transactions using blockchain technology and how markets and stakeholders are responding to the benefits blockchain offers.

## TAKING THE PAIN OUT OF TRANSACTION SPEEDS

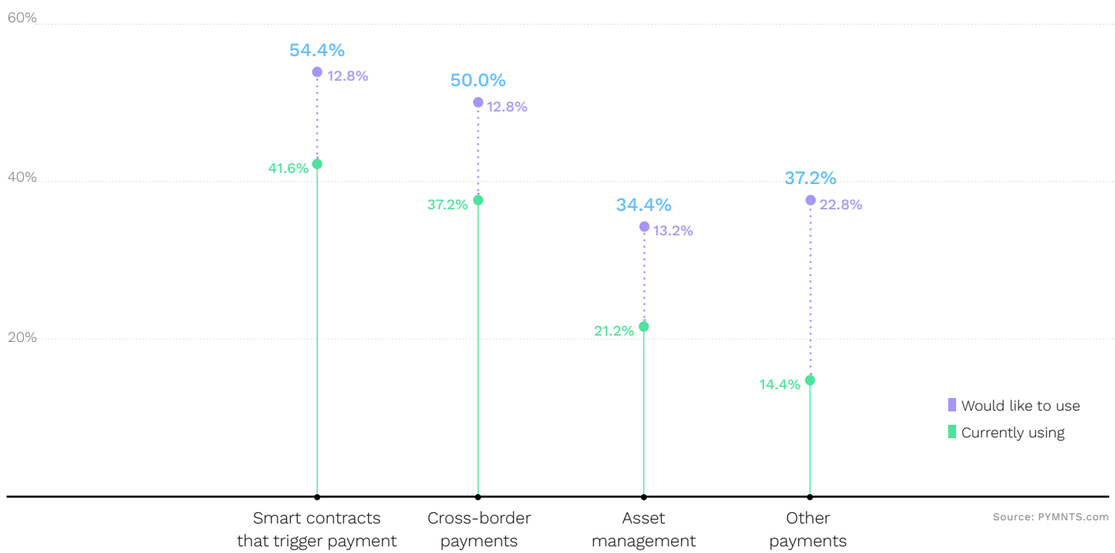
With rare exceptions, even slow crypto transactions are fast compared to many of the other payment methods most commonly relied on. Most blockchain transactions are completed in minutes, rather than hours or even days, and are able to provide assurances against error or fraud through the transparency of distributed ledger technology (DLT). A recent survey of transaction speeds showed 67 cryptocurrencies with transaction speeds of five minutes or less, with another 16 cryptocurrencies having speeds of more than five minutes. Ethereum Classic was the far outlier, with transactions taking almost a week, but on the other extreme, five other cryptocurrencies — Algorand, Avalanche, Flow, TRON and Energy Web Token — recorded transaction speeds of less than a minute, and another 12 had transaction speeds approaching instant.

Merchants see the potential in that speed, with 70% of those surveyed saying faster crypto payments could revolutionize their businesses. Among merchants already accepting crypto payments, 80% said they find it easier to settle using crypto than in fiat currencies. In another survey of businesses already conducting crypto transactions, 82% of chief financial officers and finance chiefs said they are seeing faster settlements for crypto payments compared to non-crypto, and 88% of merchants reported the same.

FIGURE 1:

**Business uses of blockchain and cryptocurrency**

Share of firms that currently use or would like to use these technologies for select purposes




## BRINGING DOWN BARRIERS WITH BLOCKCHAIN

This added speed becomes particularly important for cross-border transactions. In a PYMNTS survey, more than 37% of businesses said they are currently using blockchain and cryptocurrencies for cross-border transactions, while almost 13% said they would like to use crypto for that purpose. Moreover, more than 14% of businesses said they are using blockchain and crypto for other payments, while nearly 23% said they would like to use crypto for that purpose as well.

Between early 2020 and early 2021, the value of remittances sent to Latin American countries using crypto exploded from approximately $100 million per month to nearly $400 million per month. This was likely fueled in large part by the desire to avoid high transaction fees, but crypto cross-border payments also offer clear advantages in terms of predictability and speed. Even the Ukrainian government has seen the benefits of crypto cross-border payments, as international aid has flowed into the country through crypto transactions, unhindered despite the country being in the middle of a war. That same event also pushed major global suppliers that had not been accepting crypto payments to develop the capability rapidly.

Richard Walker, principal at Deloitte Consulting LLP, said that crypto cross-border payments could dramatically alter the cross-border payments ecosystem. The current ecosystem is rife with inefficiencies and friction due to the need to navigate disparate point solutions and pull them together into a single chain that delivers money across the globe. Payments move not directly from payor to payee but from node to node throughout a chain, with various steps requiring fees and each additional transaction taking time. In contrast, just as consumers have discovered, crypto payments present the potential to completely disrupt business cross-border payments by making them faster and cheaper as well as by introducing the ability for self-service and greater control.

Those same benefits apply whether blockchain payments are crossing the globe or crossing the street, though they are most obvious in more complex transactions. By speeding up transactions both through faster mechanisms and by removing intermediaries, blockchain payments have the potential to completely change the nature of payments.

# NEWS & TRENDS

## THE EXPANDING **POTENTIAL OF BLOCKCHAIN USE CASES**

### BUSINESSES EXAMINE BLOCKCHAIN'S POTENTIAL FOR PAYROLL AND DATA STORAGE

Blockchain technology, which enables transparent and immutable ledgers, presents a number of opportunities for businesses beyond cryptocurrency payments. Employers in various industries have found several uses for blockchain in managing their data. Blockchain can enable the creation of an indisputable log of payroll-related transactions, for example. It also has the potential to replace other forms of payroll-record storage and retention, not just for tracking payroll itself but also for data related to taxes and timecards. In addition, the blockchain that underlies cryptocurrencies could simplify payments to contractors or employees living in other countries by removing the need to exchange currencies.

At its heart, blockchain is essentially a decentralized database that requires a new entry for any change to the information, meaning that every action is permanently recorded. This has applications for retaining an easily accessed and immutable data record. The decentralized nature of blockchain also helps prevent data loss.

### BLOCKCHAIN MAKING INROADS INTO MORTGAGE LENDING

Mortgage lenders are among the growing number of businesses investigating the potential of accepting cryptocurrency payments, but perceived volatility problems and lack of knowledge about the underlying blockchain technology may be causing hesitation. Just 25% of lenders said they are familiar with blockchain technology and potential uses within mortgage lending, and only 20% said they have begun looking into blockchain. At the same time, 41% of lenders that have looked into blockchain said they plan to adopt it within the next four years. Ryan Jackson, director of the Fannie Mae Enterprise Innovation Team, said that approximately one-third of all lenders are likely to begin accepting crypto payments within the next three years. There are some ongoing developments in the use of blockchain technology for other purposes within mortgage lending as well, with potential applications including tracking orders, payments and accounts, even outside of crypto payments.

## PROGRAMMERS FOCUS ON BLOCKCHAIN TECHNOLOGY FOR PROFESSIONAL DEVELOPMENT

As interest in potential use cases for blockchain technology beyond cryptocurrencies continues to grow, 30% of software developers in a recent survey said they are educating themselves about those use cases, with 12% of developers currently working on blockchain technology projects. At the same time, the potentially lucrative areas of cryptocurrencies and non-fungible tokens (NFTs) are attracting the most attention from developers. Thirty-four percent of developers said they are learning about cryptocurrencies, and 16% said they are actively working on crypto-related projects, while 32% said they are trying to learn more about NFTs and 11% reported active engagement with NFT-related projects.

Blockchain currently has the greatest developer interest of any technology, with 30% of developers actively learning about each of the blockchain-related areas. In comparison, the next highest level of interest was in learning more about artificial intelligence-assisted software development, an area about which 28% of developers said they were learning more.





# GOVERNMENTS **TAKING CRYPTO REGULATION MORE SERIOUSLY**

## U.S. CONGRESS TAKES STEPS TOWARD CODIFYING CRYPTO REGULATION

Congress is taking early steps toward answering some of the lingering regulatory questions surrounding cryptocurrencies. A bipartisan group of U.S. senators recently released draft legislation intended to serve as a legal framework for regulating cryptocurrencies. Sen. Cynthia Lummis, a member of the bipartisan group sponsoring the bill, invited stakeholders to contribute to the discussion during the 30 days following release of the draft. The bill deals with such areas as where crypto assets fall in terms of the definitions of securities and commodities and whether the Securities and Exchange Commission or the Commodity Futures Trading Commission will have oversight. It also includes provisions regarding consumer protections and taxation.

Crypto regulation has become more of a priority for national governments following recent events surrounding the collapse of Luna and TerraUST, with French central bank head Francois Villeroy de Galhau stating that crypto regulation would be discussed among the G7 heads of finance. European Union Commissioner Mairead McGuinness has called for the EU and the U.S. to lead the way on regulation in the interest of creating a shared, international approach.

## NEW INTERNATIONAL REGULATORY FRAMEWORK PROPOSED AS SOLUTION FOR CROSS-BORDER CRYPTO

Cross-border cryptocurrency payments have presented difficulties for governments seeking to establish regulatory safeguards, and some are advocating an entirely new regulatory framework. Collecting and sharing know your customer data, in particular, is a problem when dealing with cryptocurrencies. For existing cross-border transaction methods, the businesses serving as financial intermediaries have the dual role of ensuring compliance with anti-money laundering regulations. With crypto payments, the underlying blockchain technology cuts out those intermediaries. As a result, some are suggesting that the regulatory framework be entirely redesigned to focus on DLT itself.

Such an approach would distribute accountability across participants, making all involved entities subject to regulation rather than the current node-based focus. There would be benefits as well in regard to relying on DLT for tracing transactions, but such an approach would require a much more widespread level of cooperation, both from cross-border payment platforms and from governments.

# BLOCKCHAIN PAYMENTS TRACKER®

## ABOUT

PYMNTS.com

PYMNTS.com is where the best minds and the best content meet on the web to learn about “What’s Next” in payments and commerce. Our interactive platform is reinventing the way in which companies in payments share relevant information about the initiatives that shape the future of this dynamic sector and make news. Our data and analytics team includes economists, data scientists and industry analysts who work with companies to measure and quantify the innovation that is at the cutting edge of this new world.

Algorand

Algorand is transforming economic models and economies of all kinds. Founded by Turing Award–winning cryptographer Silvio Micali, Algorand’s high–performing Layer-1 blockchain is unparalleled for bringing fast, frictionless and inclusive technologies to everyone. Algorand is reshaping every industry — from TradFi and DeFi to new creator economies and beyond. With an extraordinary commitment to interoperability and consistent delivery, our sustainable technology powers more participation, transparency and efficiency for all. As the technology of choice for more than 2,000 global organizations, the Algorand ecosystem is transforming the next generation of financial products, protocols and exchange of value. For more information, visit www.algorand.com.

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