DIGITAL TRANSACTIONS®

Trends in the Electronic Exchange of Value

PRIME TIME FOR REAL TIME

New national systems, the card networks, and blockchain operations are all piling into real-time payments. What's going on, and why?

Volume Eighteen, Number One • DigitalTransactions.net • January 2021

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the gimlet eye

GODADDY GETS THE POYNT

YOU MAY HAVE READ LAST MONTH that the huge Web domain registrar and hosting service GoDaddy is buying a POS terminal startup called Poynt. The deal calls for $320 million in cash upfront and another $45 million in cash down the road. That's not a bad payday for a company that started only seven years ago in a highly competitive business facing a wave of change.

But Poynt is more than payments hardware. It also invested heavily in software development to process the transactions that flow through its devices. The company's founder, Osama Bedier, knows payments processing—and the data that processing can throw off—intimately, having held senior-level positions first at PayPal and then at Google. You may recall him introducing the first version of Google's mobile wallet back in 2011, fully three years before Apple Pay came along.

So what is an Internet business like GoDaddy doing buying a firm like Poynt? The transaction is interesting on two levels. First, it allows GoDaddy to offer processing capability to the 20 million businesses on its platform, many of which, as GoDaddy's top brass point out, also run physical stores. But on a deeper level, it also gives GoDaddy the ability to attract more businesses with the proposition that the Web-services firm can now smooth their way into digital-payments acceptance.

How does that work? It turns out Poynt is what the industry calls a payments facilitator. The term doesn't roll trippingly off the tongue, but what it means is that Poynt can recruit small merchants and let them run transactions on Poynt's merchant account. The merchants save a lot of time and effort, and Poynt adds to its merchant base. The technique has been around for a while. Firms like Square and Stripe have used—and prospered—with it for years

Now, GoDaddy, with its global reach, figures to join in. Its chief executive, Aman Bhutani, is ready to start using that payfac capability to expand his company's reach. "We get customers asking all the time for seamless integration," Bhutani told equity analysts last month on a call to discuss the Poynt deal. "They want online and offline together."

So if you're wondering what a Web company like GoDaddy is doing doling out big bucks for a POS device maker like Poynt, that's the rationale. It's on a different plane from Worldline snagging its fellow French enterprise Ingenico, which to most observers seemed almost a matter of routine. Instead, it's a testament to what Bedier and his crew have built, a salute to the payfac model, and a clear indication of GoDaddy's ambitions in acquiring—and not just in North America.

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Trends in the Electronic Exchange of Value

PAYSAFE'S $9 BILLION GO-PUBLIC GAMBIT

A relatively novel method for private companies to go public gained momentum in the payments industry last month with the announcement that London-based processor Paysafe Group Holdings Ltd. will be acquired by a group put together by Las Vegas-based Foley Trasimene Acquisition Corp. in a deal valued at approximately $9 billion.

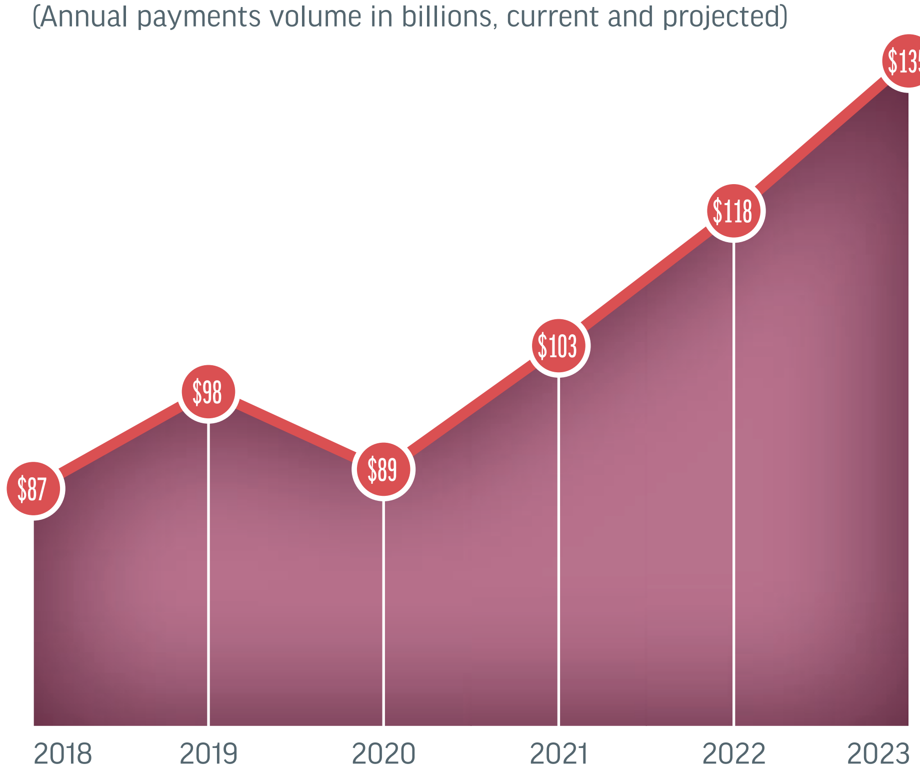
The transaction, which is expected to close by June, will result in Paysafe's listing on the New York Stock Exchange under the symbol PSFE. Las Vegas-based Foley Trasimene, a special purpose acquisition corporation, or SPAC, headed by veteran businessman William Foley, will own approximately 4% of the resulting company. The remainder of the equity will be held by shareholders including Blackstone Group and private investors.

The Paysafe deal represented the third major SPAC transaction in payments announced in 2020, with Atlanta-based Paya Inc. having clinched a deal in August with FinTech Acquisition Corp. III. Software provider Billtrust announced its SPAC in October. A SPAC is a company formed for the purpose of acquiring or merging with another business and taking it public.

"We looked at hundreds of transactions and narrowed our focus to a few companies. That led us to Paysafe, an attractive high-growth company with scale," Foley said last month during a conference call with investors. He underscored the opportunity by calling Paysafe a "scarce" buy with high growth prospects across markets in digital wallets, online gaming, and traditional payment processing. Foley was among the founders of Fidelity National Financial, the one-time parent of processor FIS Inc.

PAYSAFE'S GROWTH STORY

(Annual payments volume in billions, current and projected)



Note: Figures for 2020-23 represent projections Source: The company

"We have plenty of areas for growth," added Philip McHugh, Paysafe's chief executive, during the investor call.

Paysafe's business includes traditional merchant acquiring, where it serves more than 250,000 merchants, as well as stakes in digital wallets, where it claims 3.8 million active users. But it sees especially fast growth in the U.S. online-gaming market, where it projects volume growing to $24 billion by 2025 from $3.4 billion last year.

Paysafe has been processing gaming transactions since 1999, with an entry in the U.S. market in 2013. "I-gaming is in our blood," McHugh said during the call.

Across all its markets, the company estimates it will process $89 billion in volume in its fiscal 2020, down from $98 billion in 2019. But it expects to rebound to $103 billion in 2021. Traditional processing accounts for 72% of its business, with digital wallets taking a 24% share and so-called e-cash accounting for the remainder.

The Paysafe SPAC transaction is at least the fifth that has taken place in the payments business in the past three years, estimates Peter Michaud, director of consulting for The Strawhecker Group, an Omaha-based consulting and research firm. The attraction for firms is "speed to market," he says, as executives can bypass the regulatory workload imposed on firms looking to go public via a traditional initial public offering.

"It eliminates a lot of legwork," Michaud says, allowing firms to take advantage of a market where valuations are rising. "People are trying to get into the market as quickly as possible," he adds.

—John Stewart

MAGICCUBE GETS AN ASSIST FROM VISA

The Covid-19 pandemic is driving consumers and merchants to opt for contactless options, and now software that can enable an ordinary smart phone to accept cards via near-field communication is moving faster toward the point of sale.

Visa Inc. in December granted a so-called security compliance allowance to MagicCube Inc.'s iAccept technology, a move that MagicCube's chief executive, Sam Shawki, says has moved up his expectations for the Santa Clara, Calif.-based company.

"It's accelerated our market by a couple of years," Shawki says of Visa's move. "I wasn't anticipating traction in the United States in 2021." But now, he says, he is.

Visa's decision follows an investment the company made in MagicCube in August as part of a larger funding round. The size of the funding was not announced. Visa had also invested in MagicCube in 2015, a year after the technology company's founding. Shawki worked at Visa for two years, leaving in 2014 to start MagiCube.

With iAccept, a seller can equip an off-the-shelf mobile device to accept NFC cards and process PINs with nothing more than software. Now, with Visa's certification, the technology can work on all four major payment networks, Shawki says.

Visa's move also means clients can speed up certifications of their equipment, he adds. "My certification lets you get certified really quickly," Shawki says. How quickly varies, but it can now be a matter of "several days instead of the usual several months," he says.

MagicCube in 2019 announced its app, which is based on a virtual trusted execution environment, or vTEE, had been certified by EMVCo, the international payments standards body controlled by six global payment card networks, including Visa and Mastercard Inc. This move followed a new standard for the method issued in January 2018 by the PCI Security Standards Council, the Wakefield, Mass.-based organization that establishes rules for payment card security.

Shawki: Visa's move has "accelerated our market by a couple of years."

MagicCube's technology, which works with Android devices, is running transactions in the United Kingdom, and with last month's development could be doing likewise in the U.S. market by the end of March, Shawki says. Spain is another country he expects to come on line "early next year," as is the Middle East.

The latter market is one MagicCube highlights as one for which it has near-term plans, working with Areeba, an acquirer based in Lebanon.

"Areeba plans on expanding its partnership with MagicCube to all the countries it has a presence in," said Maher Mikati, the company's chief executive, in a statement. Areeba's plans include extending its operations into Egypt, Iraq, and the rest of the Middle East and North Africa region.

—John Stewart

BAD PORTENTS AND RANSOMWARE

The recent ranswomware attack on the big payments processor TSYS could portend worse to come for the payments business as cyber criminals seek vulnerabilities in the industry and carry out new tactics to squeeze out ransom payments from their victims.

More attacks on credit and debit processors are "absolutely" coming, says Julie Conroy, research director at Aite Group, a Boston-based consultancy. "It's definitely an increasing attack vector," for ransomware, she adds.

While TSYS, which became part of Global Payments Inc. last year, is a major processor in its own right, smaller payments firms could be especially at risk to sustain these attacks, in which the invaders use encryption technology to lock up the victim firm's data and then demand a ransom—typically in Bitcoin—to deliver the decryption key.

In the TSYS incident, the attack was specifically directed at Cayan, a payments company TSYS bought early in 2018 for just over $1 billion. "We're going to see attacks poking and prodding at startups that get acquired," warns Conroy.

According to a report by the online site KrebsOnSecurity, which first disclosed the TSYS incident, the attack was launched early in December and involved a relatively new tactic in which the criminals posted online some of the data they accessed and threatened to release more if not paid.

The site, which reported the attack was specifically directed at Cayan, said it "did not affect systems that handle payment card processing," citing a statement Krebs received from TSYS. The processor did not respond to a request for comment from *Digital Transactions*.

"We experienced a ransomware attack involving systems that support certain corporate back office functions of a legacy TSYS merchant business," the TSYS statement said, as quoted by the Krebs article. "We immediately contained the suspicious activity and the business is operating normally."

A walling off of payments data is what would be expected from any company following the requirements set by the PCI Security Standards Council data-security standard, Conroy says. "You would expect [TSYS] would be exercising those PCI best practices," she adds.

Other experts agree. "I would imagine that if the ransomware gang did get any payment data that it was minimal, aged, and/or was a remnant of undiscovered and unsecured files from an acquired company's systems," says Al Pascual, chief operating officer and co-founder of security firm Breach Clarity.

But the incident shows how ransomware criminals are increasingly willing to post samples of the data they've accessed in an effort to force their victims to pay up.

"We've seen that as an increasing tactic over the last nine months or so," says Conroy, who adds the move can be effective in goading companies that can't afford the legal liability involved in a data leak. "It ups the ante from a reputation point of view," she says.

—John Stewart

BEHIND LIGHTSPEED'S DEAL FOR UPSERVE

'This acquisition gives us scale, and scale matters in this industry.'

—**DAX DASILVA**, CHIEF EXECUTIVE AND FOUNDER, LIGHTSPEED

Canadian processor Lightspeed POS Inc. expects its acquisition of Upserve Inc., a Providence, R.I.-based provider of cloud-based restaurant-management software, to make it more competitive in the highly competitive restaurant point-of-sale business in the United States.

The acquisition of Upserve for a combination of cash and stock totaling $430 million comes hot on the heels of Lightspeed's acquisition last month of ShopKeep Inc. and expands Lightspeed's modest footprint in the U.S. hospitality industry, bringing to its portfolio an additional 7,000 customer locations generating more than $6 billion in revenue.

Overall, the deal raises Lightspeed's merchant base to more than 100,000 locations globally.

Montreal-based Lightspeed is paying $123 million in cash and up to more than 5.8 million shares of its subordinate voting stock to acquire Upserve, which generated $40 million in revenue for the twelve months ended Sept. 30. Upserve, originally called Swipely, was founded in 2009.

"This acquisition gives us scale, and scale matters in this industry," says Dax Dasilva, chief executive and founder of the 15-year-old Lightspeed. He adds that ShopKeep also has a strong presence in the hospitality industry. "With most of our hospitality merchants in Australia and Europe, this deal makes us a player in the U.S. hospitality market overnight," Dasilva says.

Lightspeed intends to leverage Upserve's technology and analytics to help restaurants, especially upscale establishments, to improve management of operations and its workforce, provide more contactless payment and ordering options, and gain deeper insights into customer behavior that can be used to create targeted marketing campaigns to build repeat business.

"Restaurants today have a deep need for workforce management software, analytics, and applications that connect all channels including delivery, e-commerce, and payment," says Dasilva. "The companies we acquire serve merchants with more complex needs, and there are a lot of legacy systems in restaurants that don't meet those needs by connecting the physical and digital channels."

Looking ahead, Dasilva says that the changes in consumer dining habits and expectations since the Covid-19 pandemic hit are creating a greater need for commerce platforms that meld restaurant management, insights into customer behavior, and payments. He argues that, with these deals done, Lightspeed will be well-positioned for accelerated growth in the hospitality industry once the pandemic subsides.

Acquisitions are expected to continue playing a key role in Lightspeed's growth strategy. In a conference call with stock analysts last month, Lightspeed executives acknowledged that the company will continue to target companies it sees as a good fit.

Acquisitions such as that of Upserve are also expected to enable Lightspeed to expand beyond the role of a technology partner into that of a financial-services provider through offering funding to merchants.

In August, Lightspeed launched Lightspeed Capital, in conjunction with payments provider Stripe Inc., to provide merchants with funds to buy inventory, invest in marketing, or manage cash flows. Retailers can receive up to $50,000 in financing per location. "We aim to become a one-stop technology and financial-services partner," Dasilva says.

—Peter Lucas

CLOVER BRINGS CONTACTLESS TO BUSINESS CUSTOMERS

With merchant demand for contactless payments rising fast in the face of the Covid-19 pandemic, Verizon Communications Inc. announced in December its Verizon Business unit will begin offering Fiserv Inc.'s Clover Flex mobile point-of-sale device to its business customers.

The deal gives Verizon clients access to Fiserv's merchant services for online, mobile, and in-person payment acceptance, as well as debit and credit processing. Key business categories for Verizon include restaurants and retailers.

Clover Flex, which is a handheld point-of-sale terminal, accepts all forms of payment, including contactless scan-and-go and tap-and-go transactions. Verizon Business will equip the device with a Verizon SIM card to facilitate payment acceptance through the Verizon telecommunications network.

Merchant demand for contactless payment options has been increasing in recent months as infection-wary consumers look for ways to avoid touching surfaces at the point of sale. A recent survey among small businesses by Verizon Business reveals that 55% of the firms are concerned with delivering services efficiently amid social-distancing regulations put in place to control Covid-19.

"Businesses are investing in technologies to advance and grow their businesses, address customer needs and adapt to today's environment," says TJ Fox, president of business markets for Verizon Business, in a prepared statement. "Providing a touchless experience is another example of our dedication to empowering small businesses with the tools they need to succeed and meet customer demands."

In addition to contactless payment, restaurants will be able to use the Clover platform to accept online orders for carryout or curbside pickup and offer a touchless ordering and payment for customers dining at a table. Mobile wallets supported by Clover, which processes more than $130 billion in annualized payments, include Apple Pay, Samsung Pay, and Google Pay. In 2019, Verizon generated $131.9 billion in revenue.

"We continue to broaden our distribution network in tandem with trusted service providers like Verizon that want to make it easier for small and mid-sized businesses to access modern solutions like Clover that can help them adapt and grow," Devin McGranahan, Fiserv's head of global business solutions, said in a prepared statement. DT

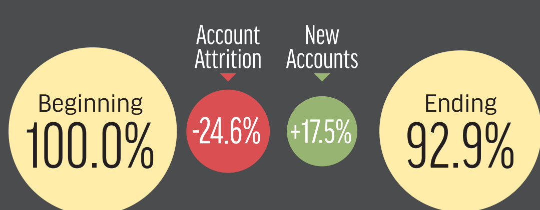
—Peter Lucas

MONTHLY MERCHANT METRIC

Q3 2020 Account Attrition And Growth

Account Attrition:
Total attrited accounts in given period divided by total portfolio active accounts from same period of the prior year.

New Accounts Added:
Total new accounts in given period divided by total portfolio accounts from same period of the prior year.



Note: This is sourced from The Strawhecker Group's merchant data warehouse of over 3 million merchants in the U.S. market. The ability to understand this data is important as small and medium-size businesses (SMBs) and the payments providers that serve them are key drivers of the economy. All data are for SMB merchants defined as merchants with less than $5 million in annual card volume.

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DEFUND FINANCIAL CYBER SECURITY

BY GIDEON SAMID
gideon@bitmint.com

CYBER FRAUD IS ENDEMIC. No one is immune. The Federal Office of Budget and Management, the National Security Agency, political campaigns, all have been victimized. It's the same for financial institutions—but with one subtle distinction that makes all the difference in the world.

Let me explain. No harm is inflicted on me on account of my Social Security number having been exposed. Unlike a hidden bad habit or an embarrassing criminal record, a piece of financial data does not reflect ill on me. I am okay with you knowing my account number, even my password, as long as you cannot use this knowledge to harm me.

So, instead of piling up technology to protect my financial data from exposure, why not invoke technology to make it impossible for a fraudster to use this exposure to steal my identity? Once such a solution is deployed, the multi-billion dollar cyber security industry, or the part thereof that preys on fear, will dissolve and disappear.

To explain the concept, let's invoke a well-known tale from the world of espionage. Storied spies were instructed to introduce one or two spelling errors into their radioed reports. When they were caught and forced to send false messages, they sent error-free scripts, thereby signaling to the home base that they had been compromised.

Now suppose information submitted by a customer to a merchant is ever so slightly different from the respective data held by the merchant. In the event the merchant is hacked, and the hacked credentials are submitted to steal an identity, then the submission will look exactly as the data kept by the merchant. Instantly, the merchant will recognize it has been hacked and prevent the attempted identity theft.

Financial hackers are not ideologues. They are businessmen. One of the hackers in the 2009 Heartland break-in intimated to me the sizable investment the hackers had made, based on their expectation for a return on that investment. Once hackers realize that penetrating thick security walls yields useless gain, they will never again waste their effort on anyone similarly protected. That makes it unnecessary for the protected merchant to surround its data with super costly security.

Several technologies like this are being developed. One of them is called Nooance (see details at bitmintalk.com/nooance). Let two people jot down the same phone number. One can dial the right number reading from either note, but the handwriting will not be identical. A similar distinction has been developed for bit-wise computer language. When a hacker steals financial data from the merchant's database, he gets the right data, but not an exact copy of the same data as entered into the customer's phone. If the stolen data is submitted to claim a false identity, the merchant will spot the fraud.

The hacker will soon realize that the data he stole has no value in the marketplace. Moreover, he implicates himself and is likely to get caught. With so many vulnerable merchants relying on security walls for protection, it would be stupid for a hacker to waste his effort on an "unproductive merchant."

The Nooance technology is a simple add-on, requiring no internal changes to financial software, no refreshing of credentials, no new parameters, no interference with the prevailing financial protocols. If it's widely deployed, hackers will no longer be able to violate millions of victims via one merchant. They will have to hack the same data phone by phone.

Once a merchant becomes unattractive to cyber fraudsters, it is due time to consider defunding some unnecessary (and burdensome) cybersecurity walls, simplifying the payment process. DT

A NEW SHERIFF IN TOWN

BY BEN JACKSON

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WITH ALL THE CHANGES COMING to Washington D.C., the payments industry's focus will largely be on one appointment: the new director of the Consumer Financial Protection Bureau.

The current director, Kathy Kraninger, was appointed by President Donald Trump and confirmed by the Senate in December 2018 to serve a five-year term. The Supreme Court ruled in June in the Seila Law vs. CFPB case that the president could replace the director of the Bureau but said the Bureau itself was Constitutional.

So, President-elect Biden will be free to remove Kraninger and replace her with a new director, though that person must be approved by the Senate.

Despite not being the most-discussed appointment, the future director of the Bureau is on the mind of Maxine Waters, the chairwoman of the House Financial Services Committee. In a letter to President-elect Biden on Dec. 4, she recommended that his first action in regard to the agency be to fire Kraninger.

As of mid-December, there were no names put forward as a potential replacement—though that choice could well prove crucial to the payments industry.

Whoever the director is, one of the first things he or she will face is PayPal's lawsuit challenging the CFPB's prepaid rule. If PayPal were to prevail, that outcome likely would lead to the deregulation of a broad swath of the payments industry, including prepaid cards and accounts. The bureau would confront a lot of work in writing new rules for prepaid accounts, digital wallets, and other fintechs. So defending this suit will be high on the list of the agency's priorities.

Regardless of what happens with the PayPal case, the current upward trend of enforcement actions is likely to continue. In Richard Cordray's last year as the CFPB's first director, the Bureau filed 38 enforcement actions. In 2018, when the Bureau was being run by Mick Mulvaney, new enforcement actions dropped to 11. Since then, they have climbed to 43 as of November. Total relief provided to consumers has also soared, from $356 million in 2017 to $669 million as of November.

Chairwoman Waters recommended that Biden direct the CFPB "to aggressively protect consumers by enforcing the law, including protections provided under the CARES Act, as well as other consumer financial protection laws, such as the prohibition on unfair, deceptive, or abusive acts or practices (UDAAP)." Kraninger faced a number of heated meetings in front of the Financial Services Committee, and the scrutiny will no doubt continue as the committee expects a new direction at the bureau.

The bureau probably will expand its enforcement focus from technical violations to include more violations related to UDAAP, as provided for under the Dodd Frank Act. It will look to show its effectiveness in protecting consumers, especially as more people face pressures as a result of the Covid-19 pandemic.

Between now and the new director's appointment, there may also be a rush to resolve any outstanding issues by companies fearful of a more stringent bureau imposing harsher penalties in the future.

As it steps up its enforcement, one thing that might slow the bureau's efforts is staffing. Over the past four years, a number of people have left, creating a need to fill the vacancies.

Once new investigations are started under a new director, it might be a year or more until we see them publicly. So it will take some time before we know the full effects of the change in directors. But we can be sure that the payments industry will be supervised much more closely than in the past four years. DT


DIGITAL TRANSACTIONS
Trends in the Electronic Exchange of Value
News

WORLDLINE/INGENICO IS JUST GETTING STARTED

Its big merger behind it, the new Worldline is flexing its muscles in the global market for processing and point-of-sale technology.

BY **KEVIN WOODWARD**

AS WITH SO MUCH ELSE in the payments arena, scale is vital to continued success. That appears to be the case with Worldline S.A.'s $8.6-billion acquisition of Ingenico Group S.A.

The Worldline/Ingenico combination make it Europe's leader in payment services and provides Worldline with an international presence. Though both companies are known mostly for their point-of-sale terminals—Worldline started in 1973 and Ingenico in 1980—the two companies have been building up their payment processing capabilities over the last few years.

In 2017, Worldline purchased from First Data Corp., now part of Fiserv, subsidiaries in Lithuania, Latvia, and Estonia for $85 million, only to follow that in 2018 with an acquisition of card-processing businesses in seven other European countries, also from First Data, for $437.3 million.

And in 2015, Ingenico formed Ingenico ePayments, its brand built on prior acquisitions of processors. In 2017, Ingenico created the Retail and Banks & Acquirers business lines.

For many years, Ingenico, Verifone Inc., and Hypercom Corp. led the U.S. market. Verifone purchased Hypercom's international business in 2011 and that company's domestic business is now Equinox Payments.

Now, Worldline says it is the largest "European player in payment services" and the fourth largest globally. In December, Worldline struck another global deal, one that forges a commercial acquiring alliance with ANZ Bank in Australia.

"The Australian payment industry shows favorable dynamics with a sizable and growing addressable market and a high level of readiness and receptiveness towards cashless payment methods," a Worldline press release said.

'A VERY LOGICAL EVOLUTION'

The Worldline/Ingenico combo has approximately 35 million point-of-sale terminals deployed and works with more than 1,000 banks, acquirers, independent software vendors, aggregators, and fintechs, the company says. Ingenico had the bulk of the deployed terminals, at 30 million, it said in 2020.

The combo also processes payments for approximately 1 million merchants; Ingenico alone processed for 550,000 of them. The new iteration of Worldline acquired approximately 5.6 billion card transactions, based on 2019 data.

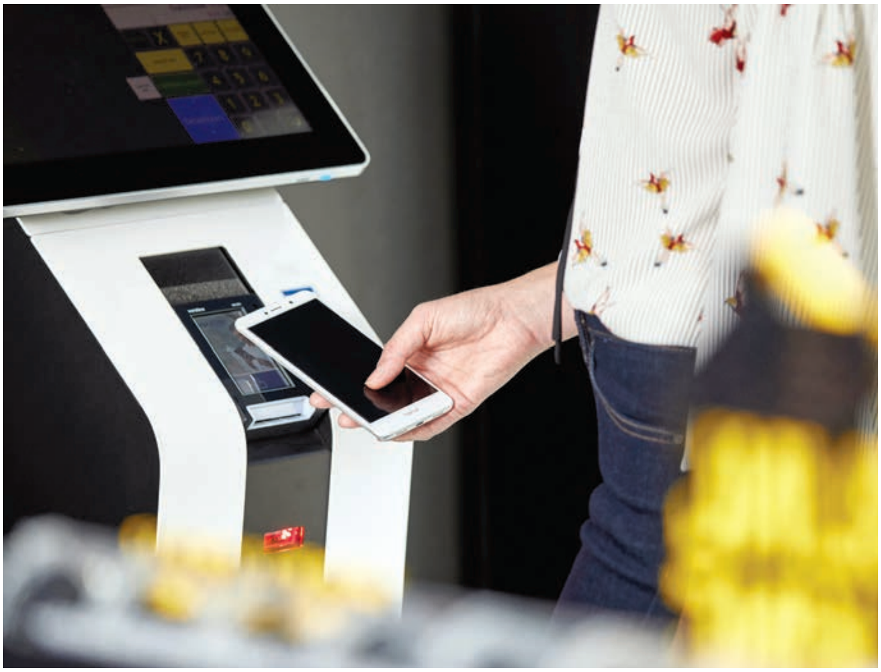
"Having the scale and now global capabilities, we have reshaped our group entirely in order to support, now more than ever, our clients, merchants, and banks in particular, enabling them to rely on state-of-the-art electronic payment services to accelerate their own growth as well as their digital transformation strategy," Gilles Grapinet, Worldline chairman and chief executive, said in a statement when the deal closed in October.

The combination now has a presence in 50 countries. Worldline gained broad access to the U.S. market, where Ingenico competes against Verifone Inc., other POS device providers, and cloud-based POS services.

And with the strong processing presence, most notable outside the United States, Worldline finds a host of other competitors, like FIS Inc.'s Worldpay, Square Inc., and PayPal Holdings Inc.

Two years ago, Ingenico prepared for a shift as it said it was considering "strategic options." That was in conjunction with the removal of long-time chairman and chief executive

> 'There will be challenges to the POS space going forward. Supermarket and other retailers will need relatively complex POS systems.'
>
> —**THAD PETERSON**, SENIOR ANALYST, AITE GROUP



A mobile payment at a Worldline kiosk: The combination with Ingenico brings new potential in a global market.

Philippe Lazare. That same year, rival Verifone Inc., based in San Jose, Calif., became a privately held company.

"The Worldline/Ingenico merger is indicative of payment companies needing to find scale in a digital, multichannel payment environment," says Krista Tedder, director of payments at Javelin Strategy & Research, a Pleasanton, Calif.-based advisory firm. "Uniting their business and technology will help them become more competitive with Worldpay, Square, and PayPal as each grows in the market."

That will take on greater importance as the industry collectively grapples with the increasing digitization of payments. Says Thad Peterson, senior analyst at Boston-based Aite Group: "There will be challenges to the POS space going forward. Supermarket and other retailers will need relatively complex POS systems."

At the other end of the spectrum, so-called PIN-on-glass technology could win adoption among small sellers, displacing traditional terminals. PIN-on-glass, sometimes referred to as PIN-on-mobile, is a standard that enables commercial, off-the-shelf devices, such as an iPhone or Android phone, to be used as a payment terminal with PIN entry.

Its potential to disintermediate conventional payment terminals is unknown. In 2018, Ingenico undertook a test of the specification with MyPINPad, a United Kingdom-based PIN-on-glass developer.

Ingenico, however, views merchants' smart phones as a complement, not a mortal threat, *Digital Transactions* reported in "Smart Phones Go Contactless" in the December 2020 issue.

"We want the customer to be able to choose what the optimal path is," Mark Bunney, Ingenico director of go-to market strategy North America, said then. Worldline did not respond to *Digital Transactions* for this article.

Bunney noted, however, that Ingenico in recent years has expanded its roster of processing and software-based products. "That's the path Ingenico has been going down, offering more software and services," Bunney said. "It's a very logical evolution."

'DRIVING REVENUE'

The task ahead won't be unique to Worldline and Ingenico, Peterson says. The move to digital technology and away from the physicality of payments is under way, but there is a very long tail to the payment acceptance technology already in place, he says.

POS terminals will remain a growth market, Javelin's Tedder says. "The POS terminal market will continue to expand as consumers come to expect contactless. QR code, and NFC payments will flourish, as well as the expansion of PIN-on-glass capabilities," she says. "The consumer expectations of ease of use and security will continue to trend."

That's something every POS device and software provider will have to

> 'We want the customer to be able to choose what the optimal path is.'
>
> —**MARK BUNNEY**, DIRECTOR OF GO-TO MARKET STRATEGY NORTH AMERICA, INGENICO

contend with. "Nobody wants to be just a black box any more," Peterson says. Worldline's acquisition of Ingenico is a reaction to that, he says. "Everybody is trying to find a way to create and add value because value creates revenue."

Providing POS terminals had been a cost-based business for a long time, he says. Most device manufacturers have outsourced their production; Ingenico began doing so in 2006, according to an online company history. "Now, it's more about driving revenue than it is about lowering costs," says Peterson.

One example is Worldline's deal to work with PayMyTuition, an international tuition-payments service, that sees Ingenico enabling international bank transfers for more than 600 Canadian higher education institutions.

Ingenico, too, sees value in providing more than an acceptance device. Last year, it debuted a service called Smart Self for Vending that includes the acceptance device, gateway access, detailed data reporting, and acceptance in more than 20 currencies.

'COMBINED POTENTIAL'

This speaks to the digitization of payments, too. Integrated payments is changing the industry, Peterson says.

Another trend is the disaggregation of payment nodes. An example is P97 Networks Inc.'s PetroZone platform that will tap into Cybersource's gateway connections to more than 140 acquiring banks. Another is voice assistants, such as Amazon.com Inc.'s Alexa used for voice-enabled payment, Peterson says.

Specific to the U.S. payments market, the combination of Worldline and Ingenico is sound, Peterson says. "Given their brand name and desire to increase their global presence, it's a great way to get introduced to the U.S. market," he says. "There are millions of merchants that may or may not have heard of Worldline."

Tedder says Worldline and Ingenico are better off together. "Combined, they are better positioned for growth. They each bring different core competencies to the market," she says. "Had they not merged, each would have needed to spend considerably on research and development to reach their new, combined potential. This is a smart move to expand services quickly and increase profitability." DT

strategies

WHAT'S IN THE CARDS?

Visa and Mastercard are the world's premier networks for card transactions. Can they afford to rest content with that distinction?

BY JOHN STEWART

IT'S SAFE TO SAY that most readers of this story have spent most of their adult lives with plastic tokens branded by Visa or Mastercard in their wallet. The two networks are colossi standing astride a seemingly endless flow of retail and business transactions initiated by swipes, taps, or clicks using physical or digital versions of those tokens.

Now, some observers argue, credible threats to that model have emerged, leading the networks to spend big on assets ranging from cross-border processing to fraud management to bill payments. Add to that real-time rails and, lately, data networking and aggregation.

Do the card networks still want to be card networks? More to the point, can they afford to be?

These days, network executives talk less about card transactions and more about "money movement"—the transfer of funds from one account to another, whether card-based or not. "We are increasingly using other networks to reach accounts we could not otherwise reach and/or enable new types of money movement," says Ansar Ansari, Visa's senior vice president for digital solutions and platform products, in an email response.

That's despite the massive global reach of the backbone VisaNet system, Ansari says, the central nervous system for some 3.5 billion cards.

Efforts by Visa and Mastercard to expand their money-movement capabilities include a willingness to lay out large sums for non-card payment networks.

In 2019, Visa aced out Mastercard and paid $320 million for Britain's Earthport plc to get into cross-border transfers in a big way. Mastercard answered last year by shelling out nearly $3.2 billion for the account-to-account business of Denmark-based Nets Group—the biggest M&A deal in Mastercard's history.

But these acquisitions are only two deals in an expensive three-year quest by both networks to move into payment flows beyond their foundational card businesses (chart). Mastercard spent nearly $1 billion in 2017 to move into real-time payments by snapping up the United Kingdom-based Vocalink. That move proved timely, as Vocalink is providing much of the technology for The Clearing House Payments Co.'s fast-growing fast-payments facility.

"We're focused on providing consumers, governments, and businesses choice in how they pay and get paid," says Ron Schultz, Mastercard's executive vice president for payment flows.

A 'MULTI-RAIL STRATEGY'

But the move triggering the most comment is Visa's $5.3-billion offer for Plaid Inc., a data network that connects fintechs with consumers' bank accounts. Data networking—or data aggregation, as some call the business—is a behind-the-scenes activity supporting some of the flashiest names in payments, allowing such services as Square and Venmo to access users' bank accounts to verify funds and move money.

Plaid is a crucial player in this business, reaching 10,000 financial institutions in the United States and 14,000 globally. Some 25% of all U.S. bank accounts are being accessed by at least one fintech app via its connective tissue—its application programming interface.

The business itself is nothing new, but Plaid and some of its competitors have launched APIs to replace an older and cruder method known as "screen scraping" to access accounts ("Open Banking And Its Friends," September).

That technical sophistication can make the authorization and process of money movement much slicker, particularly as more financial apps

BUYING THEIR WAY BEYOND CARDS

(Acquisitions of assets that are or could be deployed to support non-card transactions)

	YEAR	SPECIALTY	PRICE
VISA			
Cardinal Commerce	2017	Security	N.A.
Cybersource	2010	Security	$2 billion
Earthport	2019	Cross-border transfers	$320.4 million
Plaid[1]	TBD	Data networking	$5.3 billion
Verifi	2019	Chargeback resolution	N.A.
MASTERCARD			
Ethoca	2019	Security	N.A.
Finicity	2020	Data networking	$825 million
Nets[2]	2020	Account-to-account transfers	$3.19 billion
NuData	2017	Security	N.A.
Risk Recon	2019	Security	N.A.
Transactis	2019	Bill payment	N.A.
Transfast	2019	B2B/P2P transfers	N.A.
Vocalink	2017	Real time transfers	$925 million

1. Pending outcome of antitrust litigation 2. Account-to-account business only
Note: The Plaid and Finicity deals had not closed as of fall 2020; N.A. indicates terms were not disclosed
Source: The companies; *Digital Transactions*

access more accounts. But Visa wasn't the only party that noticed that angle. It announced the deal a year ago, and there things stood for months as the coronavirus ravaged much of the world. Then, in November, the Department of Justice filed suit to stop the transaction.

The government's case is that Visa wants to buy Plaid to stop it from potentially using its technology and connections to compete with Visa in debit networking. Visa denies the claim.

Mastercard soon countered with a similar gambit—an $825-million offer for a rival data network, Finicity Corp. That deal cleared the DoJ and the Federal Trade Commission and was expected to close by Jan. 1. After all, by definition there can be only one monopolist. "The acquisition of Finicity fits right into our multi-rail strategy. More to come over time," says Mastercard's Schultz.

Industry observers are split on whether a company like Plaid, with its extensive reach and API connections, could serve as a new rail for payment transactions. Some point to the direct access Plaid would provide to where the money is.

The Plaid deal "could help Visa tap into bank accounts," says Jared Drieling, senior director of consulting and

'Traditional financial institutions remain dependent on the networks, particularly in credit. So the networks have to walk a tightrope.'

—PATRICIA HEWITT, PRINCIPAL, PG RESEARCH & ADVISORY SERVICES

market intelligence at The Strawhecker Group, an Omaha, Neb.-based consultancy. Visa, he adds, is looking ahead and "hedging [its] bets, trying to hedge [its] current position."

That's what troubles retail executives, many of whom have long suspected Visa's motives. They are the likeliest to agree with the DoJ's case. By opening new channels for money movement, "open banking is probably one of the biggest competitive threats to Visa in quite some time," says an executive with a major retail chain who asked not to be named. Open banking is the general term for the business companies like Plaid and Finicity are in.

As for the DoJ's theory that Plaid could build a network that could compete for debit business, "I'm quite confident that was in the works," the executive says.

Others don't buy the contention that Visa enjoys an unassailable dominance in debit. So buying Plaid to stop it from using its technology to build a rival—albeit unprecedented—network wouldn't make sense, they argue. "It's a pretty aggressive case for the DoJ," says Eric Grover, principal at the Minden, Nev.-based consultancy Intrepid Ventures. "They'll have a hard time making it in court."

Time will tell who's right. What's clear is that Mastercard has acquired—and Visa may acquire—open-banking technology that can forge new routes for payments that can lie in tandem with the existing card rails.

'IT'S CONVERSATIONAL'

But it's not just in open banking that the two big networks see their future. They're also scrambling to carve out a big share of the rapidly developing market for faster payments, and specifically real-time processing (page 22). Mastercard, in particular, has staked a considerable claim in this market with Vocalink.

"They're in [real-time payments] now. They don't have the brand recognition, but they're in it," notes Aaron McPherson, an independent payments consultant.

Here, Vocalink's role undergirding The Clearing House's Real Time Payments service is crucial because what RTP represents is actual money movement in a matter of seconds via a rail distinct from the card networks. To be sure, Visa's Visa Direct and Mastercard's Mastercard Send are real-time services but they depend on the networks' card rails.

Real time payment processing via The Clearing House—and potentially via the Federal Reserve's FedNow service, which is expected to be commercially available by 2024—enables immediate funding across new rails.

That opens a wide vista of possibilities, from immediate payouts to multiple contractors to bill payments to fast cross-border transfers and refunds to consumers. Plus, "you can send data along with the payment," says Schultz. "It's conversational."

'A TIGHTROPE'

That may appeal to merchants and corporate clients, but the two big networks still have a core constituency to serve. Created and owned for decades by banks, they have now been publicly held for years. But financial institutions remain their primary clients. That could make it more difficult for the networks to stray far from their original remit.

"Traditional financial institutions remain dependent on the networks, particularly in credit," notes Patricia Hewitt, principal at PG Research & Advisory Services, Savannah, Ga. "So the networks have to walk a tightrope."

Still, both networks remain convinced they can pull off that balancing act. Indeed, they may have little choice.

"Visa and Mastercard are looking to a point in the future when the card is not central to payments but the networks they have bring something to the table," says Sarah Grotta, a senior analyst at Mercator Advisory Group, a Marlborough, Mass.-based consultancy. DT

PRIME TIME FOR REAL TIME

New national systems, the card networks, and blockchain operations are all piling into real-time payments. What's going on, and why?

BY JOHN STEWART, KEVIN WOODWARD, AND PETER LUCAS

IF THE TRAVAILS OF 2020 HAD ANY ADVANTAGES, they lay in how the struggle with the pandemic offered opportunities to demonstrate the vital utility of technologies like contactless payments and e-commerce.

But perhaps the technology that shone brightest was real-time networking, which could be harnessed to get much-needed funding into the right hands in a matter of minutes, if not seconds.

Real-time payments may not be quite as quick as handing a $20 bill to the person standing next to you, but it's plenty fast—lightning fast compared to the processing times of just a few years ago. And it could prove equally quick in establishing itself as the new normal for consumer and commercial payments.

In the pages that follow, we present a survey of three key segments of the real-time universe: the two big networks the banking industry is sponsoring through the Fed and through The Clearing House, a bank-owned service provider; the card-based systems Mastercard and Visa have leveraged for fast payments and payouts; and the potential represented by various efforts to leverage blockchain technology.

We make no claim about which approach is better than any other. Our only purpose is to draw out one overriding moral of the story. The question is no longer whether payments should be processed in real time. It's now just a matter of how soon these networks will commercialize, how reliable they will be, what the operating rules are, and how much users will pay for the service.

In other words, real time is much less a philosophical question and much more a matter of practical realities. Like it or not, money is closer and closer to moving at the speed of text messages and email. Hold on to your hat.

PRIME TIME FOR REAL TIME

THE NATIONAL NETWORK RACE

The nation's financial institutions are witnessing the construction of two nationwide networks to flow real-time payments. One of those networks, from The Clearing House Payments Co., has been in operation for three years and is still adding banks.

The other one, from the Federal Reserve, is organizing a pilot for its real-time rail, called FedNow, and doesn't expect it to be in commercial operation until 2023 at the earliest.

What some view as the Fed's dilatory pace has left the market—for now, a least—to TCH and its Real Time Payments platform. And New York City-based TCH, owned by most of the nation's biggest banks, is taking full advantage.

Directly and through core-processor connections, some 91 financial institutions were linked to the RTP platform as of early December. That number changes frequently as more banks sign on. "The pace has clearly picked up," says Steve Ledford, senior vice products of products and strategy at TCH.

Erika Baumann, a senior analyst at Aite Group, a Boston-based consultancy, estimates 51% of the nation's direct-deposit accounts are now linked to RTP. "We have a significant number of accounts that have been enabled for real-time payments," she notes.

Two applications have emerged that Ledford frankly says have surprised him: payroll and consumer bill pay. The former refers mainly to payouts to gig-economy workers, and it has picked up momentum with the onset of the Covid-19 pandemic. The latter has to do with a rising number of requests for payments that clients or customers receive and can use to trigger immediate payment into the service provider's account. "It includes everything you need to make a payment that will post without exception," Ledford says.

RTP has also gained share with peer-to-peer networks like Venmo and with digital-wallet providers. The Zelle P2P network is expected to come online with RTP soon. "We'll see meaningful volume [this year]," Ledford says.

At the Fed, more than 200 financial institutions expressed interest in participating in the pilot for FedNow, and the Fed expects to announce participants mid-January, according to Ken Montgomery, chief operating office at the Boston Fed and FedNow program executive. In the first phase of the pilot, these participants will advise the Fed on operating guidelines.

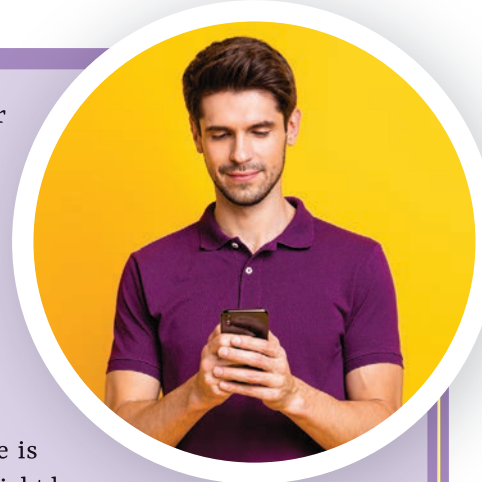
As of mid-December, the start of testing was a "yet-to-be-determined time frame," according to Montgomery. But, he says, "we won't wait for full functionality to begin testing." The Fed has no set number in mind for how many institutions will participate in the pilot, he says, though the central bank wants to include service providers and processors and ensure geographic representation.

'AN HONEST BROKER'

The Fed may be moving now, but critics would like to see more action—and sooner—to present a credible alternative to TCH. While TCH's RTP platform was expected to attract the banking giants, it has also enlisted a broad range of smaller institutions through the outreach to core processors. "I find it a bit disappointing the pace the Fed is moving at," says Baumann.

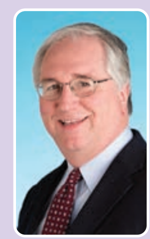
"I think the Fed missed a real opportunity. The handwriting was on the wall that this type of payment was needed," adds Jack Baldwin, chairman of BHMI, an Omaha, Neb.-based developer of back-office payment software.

Nothing stops banks from participating in FedNow when it goes live even if they're already linked to RTP, and in fact experts like Baumann expect some RTP participants will do just that to ensure maximum coverage. But RTP's headstart confers an advantage on TCH that the Fed will find it hard to surmount, she argues. Behind her reasoning is the settled processes RTP clients will have developed and so will be reluctant to modify for another network. "RTP has been very valuable for proven use cases. Once those are ingrained, there's no reason to change that," she argues.



This reluctance is most evident, as might be expected, among smaller institutions. And these are the very clients feeling the most pressure to move ahead with real-time capability. Aite research in the second quarter this year indicated just 10% of banks with $10 billion or less in assets were willing to wait for FedNow as opposed to moving ahead with another network.

'The pace has clearly picked up' for The Clearing House's Real Time Payments platform, which launched in 2017.



—**STEVE LEDFORD**, SENIOR VICE PRESIDENT OF PRODUCTS AND STRATEGY, TCH

This represents a sea change in a matter of two years. In what Baumann calls a "less formal" survey in the fall of 2018, the majority of banks were willing to wait for a Fed alternative. The Fed formally announced FedNow in August 2019.

Montgomery is not fazed. "We don't have a concern that there will be a loss of momentum" for FedNow, he says. "There's going to be a continued interest in instant payments." And, he adds, the Fed is acting on real-time transactions because "the industry wanted the Fed in."

And even critics like Baldwin point out that, once FedNow finally debuts, it's likely to be "well-considered." That will be an advantage. "People see the Fed as an honest broker," he says. "There's confidence."

—John Stewart

PUSH-PAY POWERHOUSES

How does a Mastercard- or Visa-branded payment card send a real-time payment? Until about five years ago, that notion was not yet reality. But Mastercard Send and Visa Direct debuted in the mid 2010s and changed that.

These two card brands are promoting their technology among a variety of partners, including issuers and acquirers. Acquirer EVO Payments Inc. is using Visa Direct as a tool to expedite merchant settlements. With Direct Deposit, merchants can register for the service with a debit card and then have funds credited to the card. Deposits can flow at any time, EVO says, including weekends and holidays.

For its part, Mastercard recently worked with TransferGo, a money-transfer company, to enable consumers in 20 European countries to send international money transfers from any payment card or bank account directly to a Mastercard debit or credit card, relying on Mastercard Send.

The expectation of real-time payments aligns with many other consumer expectations. "Consumers today experience most services in real-time—including from their financial providers," says Silvana Hernandez, Mastercard senior vice president of digital payments.

"They want to move money instantly to help them better manage their financial lives, whether that be paying for a coffee to settling their taxes online, and do so in a way that is most convenient for them," Hernandez continues.

Visa points to a fast expansion for its service as providers look for faster alternatives for moving money digitally. "We are seeing incredible growth across gig economy/work, cross-border, merchant settlement, and marketplace use cases, with these segments demanding faster payments solutions," says Tim Summers, vice president of Visa Direct global segments and market development. This digitally charged behavior has changed how we as an industry operate and the innovations we develop."

Visa Direct transactions, according to Visa's 2020 annual report, totaled 3.5 billion globally in the company's fiscal 2020 ended Sept. 30. It made payouts via Visa Direct to 2.4 million U.S. small businesses in the year.

On-demand is the byword for today's consumers. "Real-time payments have critical value as we live in an economy dominated by on-demand needs," Summers says. "It allows businesses to keep running, people to send money to a loved one in another country, or a frontline worker to have one less worry."

That kind of demand is part of the reason why Visa invested in Visa Direct, according to Summers. "Equally, there are undeniable benefits of real-time payments for financial institutions, remittance providers, fintechs, and other enablers beyond best serving their customers, as they look for operational and ecosystem-driven solutions that are streamlined, cost efficient, and competitive," he says.

> 'Real-time payments have critical value as we live in an economy dominated by on-demand needs.'
>
> —**TIM SUMMERS**, VICE PRESIDENT, VISA DIRECT GLOBAL SEGMENTS AND MARKET DEVELOPMENT

'AN URGENT NEED'

Particularly in 2020, the Covid-19 pandemic emphasized the need for digital, instant, and remote access to funds for everyone, Hernandez says, whether that be small to medium-sized businesses, gig workers, recipients of government benefits, or consumers.

Mastercard Send also eliminates the cost and complexities of traditional check payments, she says. "Send's [application programming interface] offers eligibility checks, which provides certainty before funds are pushed out, whereas ACH errors are hard to reverse. Along with a seamless user experience, Mastercard Send transforms the end-to-end user experience, in turn providing instant gratification for the cardholder."

The overall shift to digital commerce is accelerating the adoption of digital payments, Summers says. "Everything is connected. New and growing behaviors and segments are influencing innovation and innovation is influencing these factors," he says.

The two card brands view their respective real-time payments products as solving a lot of problems, though their competitors might think they have the better products.

Visa boasts its service puts the end-user experience at the core. Relying on a network-of-networks strategy, Visa leverages all of the available networks, which can include Visa Direct, Visa B2B Connect (a cross-border transfer network), and Visa RTX (a payments modernization service), Summers says. “The concept is that we leverage all available networks to optimize the speed, security, and price of a transaction for consumers, businesses, and governments around the world.”

The demand for payment digitization is growing, and Visa maintains that real-time payments are vital to fulfilling that need. “There are so many use cases and an urgent need for faster payments,” Summers says. “We’ll see an uptick in emerging uses like government disbursements and insurance, health care and education payouts, and concentrated growth in gig economy, earned-wage access, marketplace payouts and global remittance.”

Mastercard will continue to build its multi-rail payments strategy (page 18). “We’re looking at all the ways you may want to pay or be paid and have recently furthered our commitment to open banking with the acquisition of Finicity, which will, in turn, enhance how we support today’s digital economy,” Hernandez says.

Finicity is an automated clearing house transactions and real-time transfers provider Mastercard expected to acquire at the end of 2020. “As a part of this, we are building a roadmap to connect Finicity with other Mastercard assets, including Mastercard Send, which aligns with our multi-rail strategy.”

Hernandez says real-time payments eventually will become a service automatically expected virtually everywhere. “As more merchants and services offer real-time payouts, it will become table stakes, meaning that those who don’t offer it will be lagging compared to their competition,” she says. “The consumer demand for real-time services will remain, making it critical for us to deliver at scale.”

—*Kevin Woodward*

HAS BLOCKCHAIN’S TIME ARRIVED?

One avenue not fully explored when it comes to real-time payments is cryptocurrency. What makes it a good candidate for real-time payments is that blockchain technology moves its value instantly and directly between two parties without the need for a central intermediary. Plus, funds received are available for immediate use.

Central banks and merchants, however, have traditionally taken a dim view of Bitcoin and other cryptocurrencies as a payment option, because many are traded as an investment, making their value at any given time highly volatile.

But those viewpoints are starting to change as Facebook Inc., PayPal Holdings Inc., and Square Inc. have launched initiatives to bridge the gap between traditional payments and these chips off the old blockchain.

In 2019, Facebook launched Libra, now known as Diem, and created a corresponding digital wallet called Calibra, later rebranded as Novi.

From the get-go, global regulators were skeptical of Diem. They worried that a large tech company like Facebook having control over a digital currency could undermine traditional government-backed currencies.

To ease these concerns, Facebook formed a consortium to oversee Diem, and rebranded it and its wallet to distance them further from the Facebook brand. The Diem consortium includes such companies as Checkout.com, Shopify Inc., Lyft Inc., Uber Technologies Inc., and Spotify AB.

“Central banks do not want a big

tech company facilitating payments with crypto for a lot of reasons, disintermediation of banks for one, and the risk it could pose to consumers is another," says Talie Baker, a senior analyst for Aite Group.

But the strategy behind Diem keeps shifting. Lately, the idea is to develop multiple stablecoins, each tied to a different fiat currency. Stablecoins are cryptocurrencies pegged to national currencies, such as dollars, that do not fluctuate wildly in value.

Hence, Diem's new strategy is not just about stabilizing its value, but also satisfying regulators' concerns that most cryptocurrencies are not tied to fiat currencies, says Tim Sloane, vice president, payments innovation for Mercator Advisory Group.

'PayPal, Square, and Facebook have a chance to help legitimize crypto.'

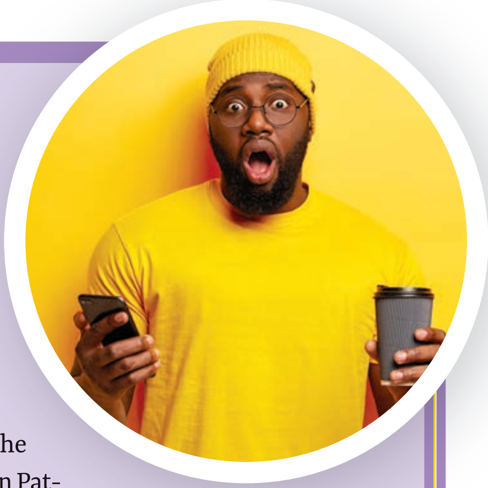
—**TIM SLOANE**, VICE PRESIDENT, PAYMENTS INNOVATION, MERCATOR ADVISORY GROUP

Diem is seeking licensing from the Swiss Financial Market Supervisory Authority, which oversees the supervision of banks and other financial intermediaries in Switzerland, where Diem is headquartered.

"Diem is working with Swiss regulators because they are more open to stablecoins than other regulators," Baker says. "If it gets approval, it could definitely become a serious player in the payments space, especially for cross-border P2P transactions. If that happens, I think more central banks will move to digital currencies."

DIVERGENT PATHS

In response to Diem, many central banks are now exploring their own digital currencies. "China is testing its own central bank digital currencies in response to the country being dominated by AliPay and WeChat, both of which will be required to transact using China's central bank digital currency," Baker says.



Concern over tech companies developing cryptocurrencies is the impetus behind Square Inc.'s formation of the Cryptocurrency Open Patent Alliance to prevent cryptocurrencies from being controlled by just one or a few companies.

COPA members pool cryptocurrency and blockchain patents into COPA's library, ensuring open access to technologies developed by participating firms.

"The fear is that companies will implement a cryptocurrency protected by patents, thereby limiting open access," says Sloane. "It is also an effort to stop patent trolls, although that may be harder to defend against."

Patent trolls typically bring infringement claims to win court judgments they can use for profit or to stifle competition.

PayPal is using a different tactic. In October, it announced a service that allows account holders to buy, hold, and sell cryptocurrency directly from their account. PayPal also plans to make cryptocurrency available as a payment option to the 26 million merchants in its network beginning in 2021. Account holders will spend crypto, but merchants will be paid in dollars.

The move is seen as a response to Square's CashApp, which facilitates crypto trading.

"PayPal is probably hoping they can attract users away from CashApp by promoting the e-commerce functionality, and attract new users that don't use CashApp," Baker says.

Despite the divergent paths taken by Facebook, Square, and PayPal, some payment experts are bullish on their efforts.

"PayPal, Square, and Facebook have a chance to help legitimize crypto and drive demand for new crypto use cases beyond being speculative assets, especially with younger generations," Sloane says. DT

—Peter Lucas

HOW FAR WILL PAY BY PALM GO?

Amazon's latest technology has the contactless trend on its side, but experts question its mainstream usefulness.

BY **PETER LUCAS**

"If the size of your failures isn't growing, you're not going to be inventing at a size that can actually move the needle."

*—**Jeff Bezos,** CEO, Amazon.com Inc.*

AMAZON.COM INC.'S CULTURE IS ROOTED in three primary principles: Don't be afraid to take risks; find new ways to engage with customers; and imagine what consumers want before they do.

Those principles have helped build Amazon.com into the preeminent e-commerce marketplace capable of introducing innovative technologies to grow its business—think one-click checkout, delivery drones, and Amazon Web Services.

Amazon One is undergoing testing in two Amazon GO stores.

(Photo: Amazon Inc.)

On the other hand, those same principles have led the company into some disastrous, and costly, technologies, including the Fire Phone, Amazon Register, and the Amazon iOS Kindle App.

It was no surprise, then, that Amazon in September officially announced its long-rumored biometric palm reader, Amazon One, to great fanfare. The technology, which is undergoing testing in two Amazon GO stores in Seattle, is being positioned as a cutting-edge way to authenticate consumers and introduce a new form of contactless payments.

Amazon wouldn't talk to *Digital Transactions* about Amazon One, instead referring us to its blog post announcing the technology. In the post, Amazon said the new technology was developed to further reduce friction and wasted time for customers when paying or presenting a loyalty card at the point-of-sale.

Indeed, Amazon One is intended to offer a "quick, reliable, and secure way for people to identify themselves or authorize a transaction while moving seamlessly through their day," Amazon said in the post.

The e-commerce giant also mused about eventually offering the technology to other retailers. It could become an alternative payment or loyalty card option at checkout, complementing a standard POS terminal. Other potential applications include ticketing and consumer authentication to enter a building or office suite.

Marketing Amazon One to other merchants would match Amazon's DNA. The e-commerce giant already offers Amazon Pay, a quick-click service, to other e-commerce sellers ("Primetime for Amazon Pay," February 2018).

As is the case with the introduction of any new technology, timing plays a role in how well it does. And the timing for the introduction of Amazon One couldn't be better, as merchants have fast-tracked the deployment of contactless technology in response to the Covid-19 pandemic.

"Amazon One is a contactless payment option that fits the contactless payment craze," says Nick Starai, chief strategy officer for NMI, a Schaumburg, Ill.-based provider of payment gateways for independent sales organizations, independent software vendors and payment facilitators.

'A PERCEPTION ISSUE'

To open an account and register a palm print on Amazon One, the consumer inserts a credit card into an Amazon One terminal. Next, the consumer waves her palm over the device so it can be scanned, and then follows the prompts to link her card to her palm print.

Since no two palm prints are alike, Amazon One analyzes all identifying characteristics of a consumer's palm using computer-vision technology and selects the most distinct identifiers to create a palm signature. Consumers can register one or both palm prints.

Once a consumer has registered her palm print, she can enter an Amazon Go store by scanning her palm at the entry turnstile, which lets the store know she is on premise and ready to shop. When she is finished shopping, she can exit the store and her credit card will automatically be billed for the items in her cart.

'Amazon One is a contactless payment option that fits the contactless payment craze'

—**NICK STARAI**, CHIEF STRATEGY OFFICER, NMI

Consumers also have the option to link their Amazon account to Amazon One, which will allow them to manage their account and see their purchase history online.

Prior to Amazon One, Amazon GO shoppers were required to open the Amazon GO app to enable cashierless checkout. Cashierless entry and checkout in Amazon Go stores is made possible by computer vision and sensors throughout Amazon Go stores that automatically detect when products are removed from the shelves and placed in a virtual shopping cart ("The Amazing Disappearing Checkout," April 2019).

While the concept of biometric authentication for payments is not new, one key advantage Amazon One has is that it does not require a facial scan, with which many consumers are uncomfortable, or scanning a fingerprint or thumbprint, which requires touching a surface.

"There is a perception issue that comes with biometrics," says Jacques Fu, chief technology officer for payment processor Fattmerchant Inc. "Consumers are sensitive to facial recognition, just as they are to touching screens in public in the midst of a pandemic. They may be more comfortable scanning a palm print because it's a contactless process."

The rapid adoption of contactless technology during the pandemic has provided merchants with a sales boost in certain markets and regions around the world.

"We've seen a lift in volume from contactless acceptance in other countries, such as Australia," Fu says. "Right now, contactless payments are a no-brainer for payments. Why not take a look at other contactless technologies that can speed transactions and potentially increase volume?"

'AN UPHILL BATTLE'

Experimenting with alternatives to established contactless payment technologies, such as tap-and-go and mobile wallets, makes sense. And Amazon certainly has the financial resources to push an alternative technology, payment experts say. But the big question is: Will consumers embrace Amazon One?

"There are going to be early technology adopters among consumers, but to reach mass adoption, at least 40% of the population needs to be using the technology," says Krista Tedder, director of payments for Pleasanton, Calif.-based Javelin Strategy and Research. "While biometrics are being tested outside of payment, I don't see Americans being comfortable enough to use palm readers at the point of sale. It can be perceived as a little Big Brotherish."

Another major question facing Amazon is whether other retailers would be willing to buy a payment technology from a high-powered competitor such as Amazon.

The answer is: Don't bet on it, according to at least some observers. "It's unlikely this technology will advance beyond Amazon stores, because there is really no incentive for other merchants to embrace it," Fu says.

Besides, other software developers could replicate the technology to compete with Amazon, says Raymond Pucci, director of the merchant services practice at Mercator Advisory Group, Marlborough, Mass. If that were to happen, Amazon still could make use of Amazon One between Amazon Go and Whole Foods stores, if they wanted, Pucci adds.

Whether Amazon intends to keep Amazon One strictly for in-house use remains to be seen. In the blog post announcing Amazon One, the company said it expects to add the technology to other Amazon stores beyond Amazon Go—Whole Foods has 400 locations—and that it believes the technology has broad applicability beyond its retail stores.

"We also plan to offer the service to third parties like retailers, stadiums, and office buildings so that more people can benefit from this ease and convenience in more places," Amazon said in its blog.

But if other retailers are unlikely to deploy the technology, the prospects for entertainment and sports venues adopting Amazon One for digital ticketing don't look much more promising. That's because consumers can already download event tickets to their smart phone in the form of a bar code or QR code.

"With what smart phones can do now in regard to ticketing and payment, it will be an uphill battle for Amazon One to overtake the phone," says Frank Pagano, executive sales director for VizyPay LLC, a processor for small businesses.

'I don't see Americans being comfortable enough to use palm readers at the point of sale. It can be perceived as a little Big Brotherish.'

—**KRISTA TEDDER**, DIRECTOR OF PAYMENTS, JAVELIN STRATEGY AND RESEARCH

OVERKILL FOR PAYMENTS?

But does Amazon One add value in the form of security, particularly for large-value payments, such as transfers between firms? "It could be a way to authenticate that the person initiating the [business-to-business] transaction is authorized to do so," says Tedder.

Concurrently, the technology could be adapted by airlines to validate the identity of consumers boarding a plane with an e-ticket, Pagano adds.

But, while security is a critical element of payments, card experts point out that payments security is more than sufficient, especially with contactless transactions. "While Amazon One offers a high level of security, it doesn't add much value from a payments perspective," says Pagano.

In fact, some payments experts argue Amazon One is overkill for payments. "Amazon One is probably more than consumers and merchants need for payment security and convenience, but testing it may open the door to other ways it can be used," says Mercator's Pucci. "Amazon has a habit of testing technology and using the knowledge gained elsewhere in its business."

Other observers agree. "Amazon is pushing the idea that Amazon One is a way for consumers to have their payment credentials with them at all times, but sometimes testing a technology is more about other uses it may have," says NMI's Starai.

And sometimes technology trials don't always bear fruit. While Amazon has successfully tested many new technologies, it has also had failures. But with Amazon One, the point may be to learn as much from failure as from success.

Says Tedder: "Amazon doesn't need to succeed with Amazon One, because they can afford to test new technology and see what comes of it, even if the test fails." DT

RETAIL PAYMENTS IN 2021—AND BEYOND

New technologies like pay-by-link and click-to-pay will get a workout this year.

BY **JED DANBURY**

Jed Danbury is a vice president at Computop, Bamberg, Germany

WITH 2020 UNLIKE ANY OTHER YEAR IN OUR HISTORY, it is certainly challenging to predict what the future may hold. One thing is clear, though. There has been an extreme shift in consumer behavior, and that shift is likely to sustain itself or the long-term, including with regard to shopping and payments.

Surveys from McKinsey & Company have found that more than 60% of consumers have tried new ways of shopping, from mobile app ordering to click-and-collect during the pandemic. So, what does this mean for 2021?

Here's our take.

DIGITAL PAYMENTS OVERALL WILL INCREASE

Concerns over the transmission of Covid-19 have caused consumers to rethink how they shop and pay, accelerating what was already in motion—the preference to use card and contactless payments. And, with the massive shift to online shopping, the usage of cards and apps has only continued to increase.

In fact, according to McKinsey research, most digital and contactless services have seen increased adoption since April, with more than half of new and existing users reporting an intent to continue post-Covid-19. And additional McKinsey data indicate consumers show an increase of anywhere from 20% to 50% in intent to purchase online, including after the pandemic ends.

While cash will not disappear completely as a payment method, Covid-19 has accelerated the downward usage trend, and we expect this to continue in 2021 as digital payments overall increase. This is especially likely as it could remain a year of desire for safe, hygienic payment processes amid concern and uncertainty about in-store shopping.

CLICK TO PAY USAGE SHOULD GROW

Click to Pay is one of those digital payment options we expect to see grow. It's a one-click payment option that can be used on a mobile app, Web site, or other digital channel, with payment being made with a credit, debit, or prepaid card from Mastercard, Visa, American Express or Discover.

Why will it take off? The benefits are convenience and ease. Shoppers do not need to search for their credit card or enter their personal details every time they want to make a purchase digitally. They simply enter their card information once and from then on pick the “Click to Pay” option when conducting a transaction.

And there are additional benefits to consumers—and to retailers that offer it as a form of payment. Beyond being an easy and streamlined payment option for digital shoppers, Click to Pay also bolsters payment security. The technology underpinning Click to Pay follows the EMV Secure Remote Commerce industry standard. This standard uses tokenization to replace account numbers and other sensitive data, making this payment method hard to breach or replicate.

THE USE OF BIOMETRICS WILL INCREASE

Driven largely by the need for hygienic payments and the continued reliance of consumers on their smart phones, the use of biometrics should only continue to grow in the coming year. Fingerprints, face scans, and voice recognition will maintain their appeal in providing an unprecedented level of security and convenience for payment transactions via consumer devices.

All signs point to this year representing a new normal in the retail payments space.

It is also a lot easier for consumers to pay with a touch of their finger or scan of their eye or face than to type out complex passwords on small screens. Consumers welcome convenience and speed, and retailers want to meet consumers’ desires, so it makes complete sense that biometrics would maintain its appeal in driving digital payments in 2021.

PAY-BY-LINK ADOPTION MAY RISE

With this type of payment method, there is no interaction whatsoever with a payment terminal. A link or QR code—provided via email, app, newsletter, social-media post, or flyer—brings a customer to a secure payment page. This enables retailers to maximize the potential of contextual commerce by allowing them to match offers to their customers at the right moment, including when in-store, proving value-add for both the customer and the business.

And, given that consumers do not need to wait in line to interact with a payment terminal, they will likely adopt pay-by-link more and more if retailers offer it in the coming year.

CLICK-AND-COLLECT SHOWS NO SIGNS OF SLOWING

Retailers offering this kind of service are able to reduce the amount of time people wait in stores for their items or queue in the front of the store, waiting to get in. By leveraging click-and-collect, consumers can enter the store, pick up their order, and not even have to pay, as that has been taken care of online in advance.

The average length of stay can therefore be drastically reduced, helping the retailer to have fewer buyers onsite at the same time, therefore minimizing the risk of infection. Since the method increases both safety and convenience for consumers, we expect it to continue in 2021.

At the end of a year that nobody could have predicted, perhaps it is wise to be cautious when looking forward to the trends that will shape 2021. However, all signs point to this year representing a new normal in the retail payments space.

While vaccines are arriving, consumers have become quite comfortable with digital ways of shopping and paying. Given this, together with all of the convenience, ease, safety and security these payment options have provided, we expect these practices to continue in the coming year, and potentially beyond. DT

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