OPEN APIs: SEIZE THE OPPORTUNITY
Forget about the changes brought about by ATMs and mobile banking apps. The coming wave of innovation and competition set to be unleashed by open APIs is already turning the payments industry on its head. Not only does open banking offer new challenges and opportunities for established financial institutions, it also forces them to make key decisions today that will essentially determine the success (or failure) of their businesses five or 10 years down the road. For third-party providers (TPPs), this next evolution of the payments industry presents limitless opportunities to interact with other APIs and developer communities to create new customer propositions. Adding extra urgency to the consideration of these new techniques, public policy and regulatory initiatives like the EU Payment Services Directive have now made it imperative for banks and payment companies to adopt open APIs swiftly.

WHAT ARE OPEN APIs?

Application programming interfaces (APIs) essentially allow software developers to link one discreet software application to another, enabling the two to communicate and interact to develop new functions, capabilities and aggregate accounts. In the past, many businesses developed APIs as an architectural concept to improve the productivity of their own developers. Some companies shared these APIs with partners and other third parties. This typically required detailed knowledge of the workings of the overall system and so lengthy development cycles and commitment from both parties was essential before progress could be made. Partnering was a somber and earnest exercise, involving non-disclosure agreements to be signed before details of the APIs and toolkits would be revealed. Nevertheless, the concept of service-oriented architecture (SOA) and a component-based approach to development had been initiated, and APIs had entered the lexicon of IT departments everywhere.

Open APIs are like regular APIs on steroids. They are written once to expose key functionality and then made publicly available in a standard way, enabling any third party to leverage them to bolster their own product or service, or create something entirely new. They are created in a way that minimizes or removes the need for an API user (the developer of the new service or application) to have any knowledge of what is happening inside the other components of a system. A good example is the “Login with Facebook” button many applications use to ease the login process for new users.

Facebook offers an open API that lets any third party access its authentication system, based on a technical standard known as OAuth. This way, businesses can sign up new users without having to manage, secure and maintain their own identity management system, and users get a seamless experience. Developers utilizing this Login API do not need to worry about how Facebook manages its ID technology, they just need to know how to interact with a simple API, the definition of which is available to anyone.

Some of the more well-known open APIs hail from platform-type businesses like Facebook, Twitter and Amazon, but examples abound. Consider the ability
for TripAdvisor’s mobile app to find a restaurant nearby and then offer to book an Uber ride to the location, or a Groupon offer involving a discounted ticket on Ticketmaster. These companies open up key functionality as a way to enhance customer experience while driving business to themselves and their ecosystem partners. The idea has been around for a while in a variety of industries, although it hasn’t really caught on in the payments world — that is, until now.

WHAT’S DRIVING ADOPTION?

Some forward-thinking financial institutions like Citigroup, BBVA Compass, Bank of America and Capital One have already understood the opportunity and started experimenting with open APIs as part of strategic innovation programs geared towards helping third parties — in particular, new FinTech companies — to create new applications. Similarly a number of payment processors and networks — including both MasterCard and VISA — opened up toolkits and APIs to allow specialist payment services companies to integrate mainstream payment instruments into retailers’ eCommerce sites. For established processors, this was partly a response to the emergence of new competitors like Stripe and Braintree that quickly gained success from their open API usage. Despite these obvious drivers of competitive differentiation and efficiency, the real shift to open APIs in the payments world is currently being driven by major regulatory initiatives in Europe. These are the new European Payment Services Directive (PSD2) and the U.K.’s Open Banking initiative:

- **PSD2:** This new directive became live in January 2016, replacing the original PSD, which had been in effect since 2007. There is a two-year window for adoption by individual EU countries, so January 2018 marks a not-too-distant milestone for mass API implementation. Although PSD2 is a wide ranging directive dealing with regulations to be applied to payment-related businesses, the specific provisions for TPP access — often referred to as Access to Account or XS2A — have paved the way for API adoption at thousands of financial institutions across Europe. XS2A means that financial institutions must provide open access to regulated TPPs, allowing them to service customers directly. In return, TPPs must meet a number of data security obligations, including support for strong (two-factor) authentication, as well as strict liability, transparency and customer service requirements.

- **U.K. Open Banking:** The Open Banking Working Group (OBWG), formed at the request of the U.K. government, convened in 2015 to explore how data could help people save, borrow, lend and invest their money better. The group’s first report, published in February, calls for a minimally viable open banking API to be launched at the end of the year, with personal customer transaction data included (on a read-only basis) by the beginning of 2017. The full scope (including business, customer and transactional data) should be reached by 2019.

The upshot? For most, this needs to happen by early 2018 — an incredibly tight timetable considering the profound impact that Access to Account could have on the business of payment providers. And financial institutions are being pushed headlong into open banking and the open API model. All financial institutions in Europe — and everywhere else eventually — will need to support open API initiatives. This allows third parties, licensed as account information service providers (AISPs) to access sensitive customer data (including real-time balances and transaction history), as well as transaction initiation services which will be accessible by newly licensed payment initiation service providers (PISPs) to communicate with their systems.

OPEN APIs ARE LIKE REGULAR APIs ON STEROIDS. THEY ARE WRITTEN ONCE TO EXPOSE KEY FUNCTIONALITY AND THEN MADE PUBLICLY AVAILABLE IN A STANDARD WAY, ENABLING ANY THIRD PARTY TO LEVERAGE THEM TO BOLSTER THEIR OWN PRODUCT OR SERVICE, OR CREATE SOMETHING ENTIRELY NEW.
3 WHAT ARE THE HURDLES?

Few major financial institutions today will find the move to any-to-any access and open APIs easy (see infographic on page 5). Most have extremely complex core banking systems that have evolved over time with a variety of bolted-on solutions and less-than-elegant technology. Their traditional centralized hub-and-spoke architectures simply don’t support the ability to get the right data exposed in a seamless, secure and efficient way. Compliance and participation in the new open API platform economy will require major re-plumbing work for many.

In addition to all the technology issues, many financial institutions are reluctant to expose their core banking services to new competitors and other third parties that may well siphon off services and customers, especially when those third parties have no investment in all the back-end infrastructure and compliance initiatives necessary to support these new offers and endeavors. Financial institutions have trouble seeing how spending additional resources to expose their “secret sauce” to competitors does them any good in the long run.

Financial institutions with card processing and/or acquiring operations will face extra uncertainties about the viability of their business, particularly if their retailer customers are tempted by offerings from new PISPs that are able to create “direct connect” transactions between retailers and consumers' bank accounts.

To make this massive market remodeling even trickier, the regulatory rules have not yet been published by the European Banking Authority — they will not be ready until January 2017 — and some of the technical standards on which PSD2 XS2A depends — specifically the implementation of strong authentication between participants — are still unclear.

So established processors, existing financial institutions and new TPPs will need to scrabble across a pretty chaotic landscape of business and technology issues on the way to compliance by 2018.

4 IMPACTS ON PROCESSORS

New third-party processors licensed as PISPs will emerge, offering retailers new “direct to account” services. This is already happening with the growth of schemes like iDEAL, Sofort and Mybank.

Existing acquirers and processors will need to add this kind of capability to their existing card-based offerings to re-assure their business customers that they can offer the full range of payment instruments needed by merchants.

Processors will need to respond to merchants’ growing expectations around ease of use and integration, where success is sometimes measured by how small a part the payment has in a purchase experience. Transactions in emerging platform businesses like Uber and Amazon have been designed to remove payments friction, so a journey can be completed without the need to fiddle with cards and codes. Implementing this trend will require processors to have better integration tools to allow the merchant sites to be linked into the payments ecosystem.

As new approaches to strong authentication emerge, processors may need to access new identity management services to make it easier for retailers and consumers. The “Sign in with Facebook” model could emerge.

Acquirers, processors and new TPPs will inevitably compete for merchant business with new value-add propositions — for example, based on marketing, promotions and loyalty links. More innovative options will emerge based on legitimate access to customer data, including suggested payment schedules or alternative financing arrangements that have been tailored to specific consumers.

For bank acquirers these new Access to Account scenarios will further erode the traditional boundaries between card-based retail payments and treasury functions.
As online banking services expanded, customers benefited from direct access, but then faced the time-consuming process of logging into multiple bank systems with differing login and password arrangements.

In the new open API world, customers can still go direct to their banks or use a licensed third-party provider (TPP) to access all of their relationships from one application.

This is achieved by using “microservices” — a set of discrete transaction handling building blocks designed to make it easy for developers to access core banking and payment systems.
EVERY FACET OF BANKING, FROM PAYMENT SERVICES, TO DIGITAL BANKING, TO WHOLESALE, WILL NEED TO BE INVOLVED IN CREATING AN OPEN API STRATEGY THAT SUPPORTS AND ENABLES THE BUSINESS AS A WHOLE. SUCCESS REQUIRES UNPRECEDENTED LEADERSHIP AND COLLABORATION ON BOTH THE TECHNOLOGY AND BUSINESS SIDES OF THE HOUSE.

WHERE THE OPPORTUNITIES LIE

While open APIs do in fact give third parties access to core banking data and services, they would otherwise not have the expertise or deep pockets to support themselves. Established financial institutions in turn gain access to innovative, consumer-focused banking capabilities that provide a roadmap to the future of banking.

Think about it. Facebook doesn’t open its authorization API to every third party simply because it’s altruistic. It’s looking to offer its customers new and better services, services it doesn’t have the resources to provide on its own, to ensure those customers stay in the fold and convince more friends to join, all while it continues to gain data, market share, ad revenue and more.

Similarly, financial institutions that offer the fastest, most data-rich open APIs (along with the right incentives, marketing and branding) will attract the most third parties to integrate with their services. They will enable those nimble third parties to deliver new, innovative, market-leading services to customers quickly and efficiently, all without having to resource and fund every new banking experiment that comes along. If a new innovative service does succeed in capturing customers’ imaginations (and wallets), the financial institution providing the open API may also contemplate that acquiring the innovator and its customer base may be a more sensible proposition than investing in the R&D to build the new service itself. The ecosystem of APIs accommodates partnerships, collaboration and potential mergers; new companies will certainly emerge, bundling payment capabilities with other API-based tools to create ubiquitous trading platforms — similar to those created by the so-called existing platform economy, where Uber, Amazon and Airbnb are poster children.

For established financial institutions, the move to open banking isn’t just a technology question. It’s a strategic question about their future, one that’s very much like what many businesses faced with the advent of the web in the ‘90s. At a time when few consumers even knew what a browser was, some pioneering firms decided to try it out, put up a simple website and see where the technology went. A few forward-thinking firms (think Google, Amazon, eBay, etc.) were quick to realize the significance of the new technology and worked hard to ensure they became key players as the web evolved into the business enabler it is today.

Every facet of banking, from payment services, to digital banking, to wholesale, will need to be involved in creating an open API strategy that supports and enables the business as a whole. Success requires unprecedented leadership and collaboration on both the technology and business sides of the house.

ACI AND THE PLATFORM ECONOMY

ACI knows the challenges established financial institutions face as they look to make a play in open banking and the new platform economy.

We, like many of our customers, believe open APIs are destined to be a new channel, sitting alongside — and eventually surpassing — online channels as a source of transaction volume. With that future in mind, we are dedicated to ensuring every financial institution can support the connectivity, collaboration and openness required to create rich open APIs and succeed in this new environment.
While no one financial institution or software vendor knows yet all the intricacies that will be required by business partners or new regulatory regimes, we are committed to helping financial institutions, PSPs and processors prepare — or transform — their payments environment to ensure they are ready to be a first mover once the laws are passed and open APIs begin to emerge. Now is the time to start putting the pieces in place.

We are already helping our customers to get ready for the new world of open APIs by further extending our products, allowing discreet functions to be managed as micro services, exposed by the lightweight access methods demanded by modern API usage. These disciplines go beyond pure technical connectivity — they also embrace the wider developer experience, including discoverability, documentation, toolkits, testing and “sandbox” facilities.

As well as promoting greater connectivity and reach, our development also has a keen focus on access rights, entitlements and the security considerations that will be paramount in a world of third-party access.

We have already engaged with selected proofs of concept (POCs) relating to PSD2 to help customers to understand what is involved, test out new strategies and uncover best practices while open API deployments, requirements and technical specifications continue to evolve.

ACI’s industry leading solutions — including our UP® Retail Payments™ solution, service-oriented, architecture-based UP Framework™ and ACI Proactive Risk Manager™ — are all designed to underpin our customers’ payments transformation and compliance needs. In addition, our acquisition of PAY.ON adds to our experience and knowledge of both the payment processing and the open API mindset. We are committed to helping our customers take advantage of the new environment and seeing them successfully turn compliance into profit.

To learn more contact ACI Worldwide, visit www.aciworldwide.com.
ACI Worldwide, the Universal Payments (UP) company, powers electronic payments for more than 5,100 organizations around the world. More than 1,000 of the largest financial institutions and intermediaries, as well as thousands of global merchants, rely on ACI to execute $14 trillion each day in payments and securities. In addition, myriad organizations utilize our electronic bill presentment and payment services. Through our comprehensive suite of software solutions delivered on customers’ premises or through ACI’s private cloud, we provide real-time, immediate payments capabilities and enable the industry’s most complete omni-channel payments experience.