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CELENT MODEL BANK AWARDS

CASE STUDY

SYNCHRONY BANK: CORE MIGRATION AND A NEW CUSTOMER EXPERIENCE

WINNER OF CELENT MODEL BANK 2019 AWARD FOR CORE BANKING REPLATFORMING

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CASE STUDY AT A GLANCE

FINANCIAL INSTITUTION	Synchrony Bank
INITIATIVE	Technology and Customer Experience Transformation
SYNOPSIS	Synchrony completely transformed its back end technology infrastructure to deliver a best-in-class experience incorporating new design, streamlined flows, and a nimble, cloud-native microservices-based business services layer which makes it easier to integrate new and innovative front end applications. The bank has achieved independence by partnering with a core provider which allows them to move capabilities out of the core and into its proprietary integration layer.
TIMELINES	• 2016 — Core processing components from Fiserv • 2017 — Synchrony middleware • 2017 — Synchrony business services layer • 2018 — Mobile app • 2019+ — Redesigned website and introduction of transactional products
KEY BENEFITS	• Core vendor independence • More effective integration with third parties • 30.7% efficiency ratio • 14.2% CAGR direct deposit growth
KEY VENDORS	Fiserv (Core platform, call center, account origination and servicing, cash management) Pivotal CloudFoundry (unified cloud computing platform

CELENT PERSPECTIVE

- **Rebuilding back end**: Back end transformation is difficult. Every year Celent sees a large number of institutions which, based on survey data, claim they are considering large-scale back end transformation. Yet year after year this fails to be the case. It's risky, resource-intensive, and can take years to complete. But it's critically important. It's not common that a bank of Synchrony's size decides to not only migrate cores but to also couple it with building out a robust middleware application in the cloud. Celent was impressed with the breadth of the undertaking and the strategic view to the future.
- **Recognizing the importance of front end independence**: Similar to the importance of back end transformation for building the foundation for a digital organization, front end independence is critical for driving differentiation. Many banks struggle with dependence on either an inflexible core or a rigid vendor relationship. Synchrony decided to architect the Business Services Layer (BSL) to abstract functionality from the core, allowing them to easily build and integrate new products or third party offerings. This gives the bank a new level of agility to create a modern customer experience.

DETAILED DESCRIPTION

Introduction

Synchrony is a consumer financial services company headquartered in Stamford, Connecticut. Synchrony provides consumer financial products, such as credit, loyalty programs, installment lending, and promotional financing. Synchrony provides almost half of all private-label credit cards in the US, serving company's like Lowe's, Amazon, Gap, and Guitar Center. In addition to its consumer financial business, Synchrony offers FDIC-insured deposit and savings accounts via Synchrony Bank.

Prior to 2014, Synchrony was part of GE Capital, the larger commercial lending and leasing arm of General Electric. Synchrony's main funding source comes from its direct bank, called Synchrony Bank. In 2013 Synchrony purchased MetLife's direct bank platform and infrastructure, subsequently rebranding it to Synchrony Bank.

Table 1: Synchrony Snapshot

	SYNCHRONY (YEAR END 2018)
YEAR FOUNDED	2014 (previously part of GE Capital)
REVENUE	$15 billion
ASSETS	$107 billion
GEOGRAPHICAL PRESENCE	Stamford, Conn.
EMPLOYEES	16,500+
OTHER KEY METRICS	Total Deposits: $64 billion [Synchrony Bank direct deposits: $49.4 billion] Efficiency Ratio: 30.8
RELEVANT TECHNOLOGIES AND VENDORS	Fiserv (Core platform, call center, account origination and servicing, cash management) Pivotal CloudFoundry (unified cloud computing platform)

Source: Synchrony

The battleground for modern financial services is taking place across front end channel applications and points of interaction. Large portions of back end systems are commoditized, and banks need to be thinking about how they can differentiate in customer experience. They need to be nimble as demands shift and technologies emerge. Similarly, banks outside the top institutions in the US have been challenged to grow deposits. Competing on rates alone has proven to be ineffective at generating profitable organic growth.

Synchrony Bank saw an opportunity: generating deposit growth to fund its consumer lending business by taking control of the customer experience through a redesign of its back end integration capabilities.

The bank decided to completely transform its back end technology infrastructure to deliver a more modern technology infrastructure incorporating new design, streamlined flows, and a nimble, cloud-native microservices-based business services layer which acts the integration layer for new and innovative front end products. First, they migrated cores to Fiserv's Signature, giving them access to easier integration through open APIs and components delivered through Fiserv's Enterprise Services Framework (ESF). Then the bank built its proprietary Business Services Layer (BSL), an orchestration and integration middleware application which would allow them to centralize data and rules, abstracting away from back end systems and making it easier to "plug and play." The BSL is completely cloud-native and leverages microservices which applications can call, allowing the bank to personalize and modernize front end experiences.

With new capabilities around integration and business rules, Synchrony has been able to build new digital, cloud-native applications from scratch, such as onboarding, mobile, and online banking. Moving business rules and functionality into the BSL has given the bank a new level of freedom, letting them take control of what they build rather than relying primarily on a vendor.

Since the transformation, Synchrony has seen direct deposits go from $38 billion to $49 billion from Q4 2016 to Q4 2018, growth of 30%. Its efficiency ratio is only 30.8% as of 2018. It also saw an improvement in metrics like customer satisfaction, efficiency of customer acquisition, and employee satisfaction.

Opportunity

In June 2014, Synchrony separated from GE, creating an opportunity for the institution to stand on its own as an independent brand. As a leading provider of private-label credit cards and consumer financing through retail and healthcare, Synchrony's business model relies on increasing its lending capacity. Synchrony needed deposits to fund its credit card portfolio and did not want to rely on wholesale funding, which would be much more expensive for a stand-alone entity separate from GE. Gathering deposits was the new goal.

As a direct bank, Synchrony Bank has lower overhead and can compete against incumbents based on favorable rates. However, there are a wealth of new and emerging challenger institutions and digital-only banks offering similar rates and commoditizing deposit products.

In Synchrony's view, creating value through a modern and digital customer experience would allow them to attract new customers based on the strength of service rather than rates alone.

A new platform would accomplish two critical goals:

1. Attract deposits to cost-effectively grow its consumer lending portfolio.

2. Position the bank for the future of digital by taking control of the customer experience.

Synchrony decided it needed to find a solution which allowed for openness and more agility, moving away from a technology environment where dependencies and vendor-reliance create significant roadblocks.

Solution

Synchrony Bank's strategy emerged from the desire to be a truly best-in-class, digital bank. With no branches, Synchrony Bank services customers through a digital self-service channel and via a call center. Synchrony Bank's goal was to digitize customer-facing business services as well as internal processes to create a frictionless, end-to-end digital flow of data and services long into the future.

Synchrony's previous core system was an off-the-shelf platform with a significant amount of customization layered on top. These modifications were unique to the institution and were created over time with legacy technology. Any change to one part of the system required a change in many other areas. The amount of testing and development required to make sure that new improvements didn't create any unwanted outcomes took months and required significant resources. The old core system could have done what they wanted, but it would have been a much longer and costlier undertaking. The results would also be harder to scale as the bank grew.

Instead, the technology team came up with a strategic framework for the Business Services Layer (BSL) — a cloud-native microservices architecture designed to deliver functionality and services. It would require a rebuild of the existing infrastructure and a core migration, but it would also set the foundation for the future. There was no other way to ensure the bank would be able to adequately grow and meet customer expectations without it. The business case was simple.

Transformation began with the conversion to Fiserv's Signature core platform, providing the adequate open architecture the bank required. This was accomplished in 24 months, with 6 dedicated to planning/strategy and 18 for implementation.

Tony Ross, SVP, Business Systems & Technology Leader at Synchrony, says:

> "**The BSL provides us a servicing platform that allows Synchrony to separate and control the data and business rules to and from third parties via APIs, giving Synchrony the ability to keep complex processes out of the front-end channels, making them faster and easier to use and easier to integrate with other services**."

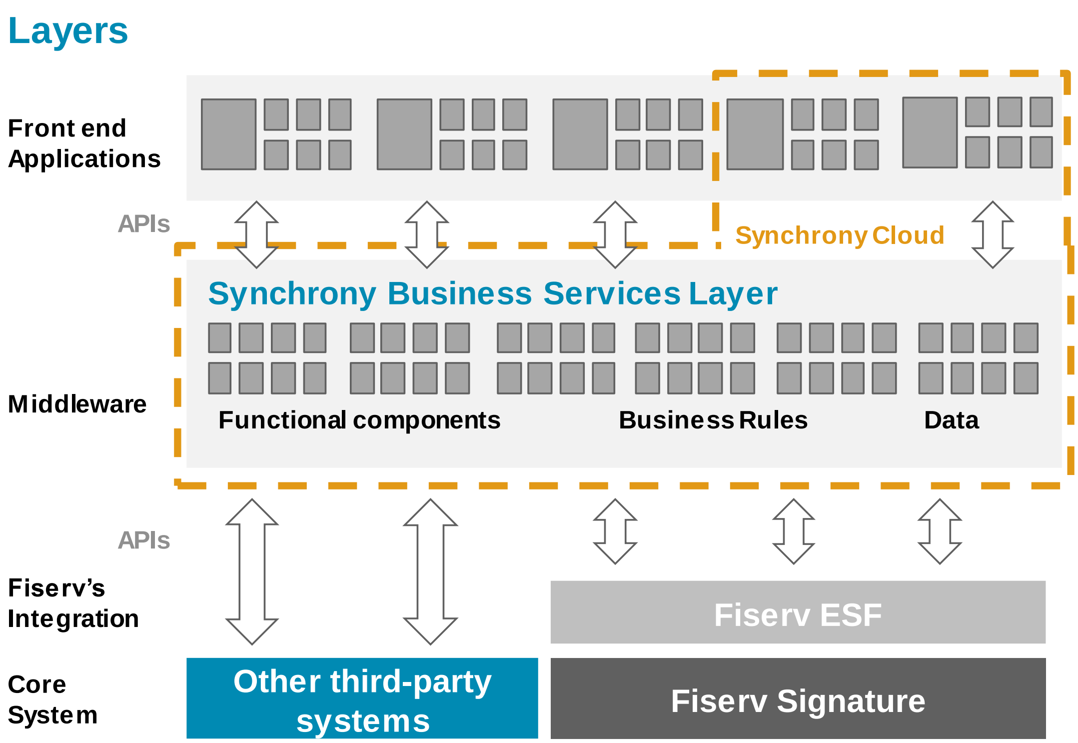
Building a Business Services Layer

The critical technology achievement of the entire transformation is Synchrony's Business Services Layer. The BSL provides them with an intelligent cloud-based architecture from which new solutions can easily be plugged in and integrated to the entire landscape.

Traditional integration methods rely on many point-to-point connections — from one system or service to another. While this worked in the early days when IT environments were less complex, the proliferation of technology across the enterprise complicates this approach and creates significant and sometimes unseen interdependencies and siloes.

Instead, with the BSL, the bank creates a layer of abstraction and orchestration between the front end application and the back end function or service requested by the user. Because of this abstraction, changes can be made to either the front end or back end without it affecting the other. Business rules are built directly into the BSL, essentially functioning as the traffic cop for integration. Core banking APIs, third party APIs, and in-house APIs built by Synchrony all come together in the BSL.

Figure 1: Diagram of the BSL



Source: Synchrony

The BSL was built using microservices architecture principles and deployed in Pivotal Cloud Foundry. It is entirely cloud-native, running on Synchrony's own internal private cloud. Because it runs in the cloud, they can build applications which leverage microservices, allowing for even more granularity in kinds of applications they can build and integrate with.

For Synchrony, moving toward the BSL gives them much more control and flexibility to personalize the customer experience. For example, it allows them to begin moving functionality out of back end systems like the core platform and into middleware. The allows them to be extremely nimble and fast. The old way required everything to plug into the core system and it was often a six-month process to implement an integration. That's too long in the age of digital. Now, the bank only needs the core to catch information as its fed back into the customer records instead of dealing with workflow and rules.

Critical innovations enabled by the BSL:

- Creating a dynamic environment that will allow for efficient and flexible integration as we build, buy or partner to introduce new features, functionality, or products in the future.

- Creating the correct paths into the core to expose business processes that had not previously been exposed.

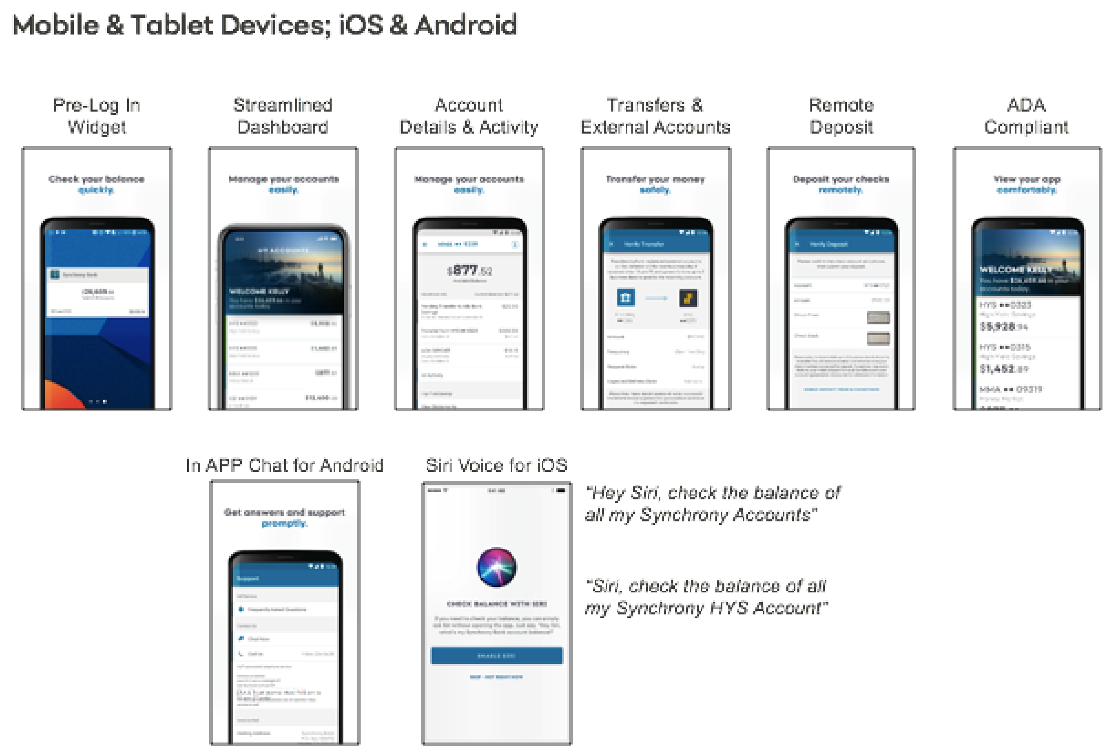
- Developing new messaging in the Synchrony middleware that is built using cloud-native technologies and architectures.

- Developing correspondents to customers, which is what customers see and how they get information.

- Creating real-time notification and alerting that didn't previously exist.

Because front end applications are calling specific independent objects from the BSL, integration and development become a lot more efficient. Developers can build a user interface and then through simple API calls to different back end services create the customer experience. Synchrony has already started to build entirely new user experiences leveraging the capabilities inherent to the BSL. With a microservices architecture and responsive design, Synchrony relaunched its mobile app and web experiences, while rebuilding its digital onboarding.

Figure 2: Synchrony Bank Native App



Source: Synchrony

To support the new way of working, Synchrony has also introduced the Scaled Agile Framework (SAFe) into its development processes. While they were already using Agile methodologies, they needed to scale it to accommodate big and more complex needs.

As Synchrony says, the BSL is not sexy, but it is essential. The customer will never know that it's there doing its job, but it's critical to providing a modern customer experience. The bank expects to continue to evolve the orchestration layer as new capabilities in the market emerge.

Chris Merrill, SVP, Chief Marketing Officer for Direct to Consumer at Synchrony. says:

"There is no customized and easy-to-use front end experience without the right end-to-end solution. In order for Synchrony to timely deliver the experiences our customers desire, it was critical that we had the right back end capabilities that allow us to take advantage of not only today's technology but also future innovations."

Partnering with Fiserv

A large part of making Synchrony’s strategy successful relied on having a vendor partner who would work with them to make it happen. They needed to find a core platform partner aligned with its strategy. The bank looked at the big four vendors in the US and felt that Fiserv was the best fit. The vendor was willing to invest resources into giving Synchrony the kind of independence it wanted to build and had the capabilities to make it happen.

It started with the core. Synchrony migrated to Fiserv Signature. It’s an open platform, leveraging APIs extensively for business processes and core banking components. This allowed Synchrony to more easily expose these features to external systems, but it also made it much easier for them to pull components out of the core and put them into the BSL.

Fiserv Signature also comes equipped with the Fiserv ESF, the enterprise integration layer which orchestrates calls from external applications to the Fiserv core. It’s essentially Fiserv’s BSL. Fiserv’s ESL allows components, applications, data, and services to integrate and work better across applications.

Fiserv provided a dedicated team of eight individuals who assisted with back end integration to the BSL. For example, if they want to run “XYZ” application on the front, Fiserv needs to be ready to make changes on how they catch the data coming in. Fiserv only acts as the partner to make sure that the data flowing from customer interactions is properly fed back into the transactional system of record. Synchrony builds and deploys other systems without the need to consult the core provider on integration/customization.

Delivery

Every department at Synchrony was involved in the delivery of this project, including leadership, operations, strategic initiatives, IT, information security, marketing, credit, fraud, finance, legal, and call center. Core transformation and large-scale IT projects require exceptional governance and significant cross-line of business coordination to make sure everything goes smoothly. Project management needs to make sure all these actors are doing and saying things in alignment with the work plan.

The day-to-day delivery team for two years consisted of 50–60 employees working full-time on transformation goal across strategy, marketing, and IT. Throughout the entire project, 100–200 additional employees were used temporarily as needed.

Fiserv was an active partner during the entire process. It was one of the characteristics that originally led the bank to choose Fiserv as vendor partner. Personnel from the vendor helped with technology, planning, implementation, building/developing, and infrastructure needs. They worked with Synchrony to make sure systems would adequately be able to speak to each other.

Since go-live, Fiserv has continued to have a direct relationship with Synchrony, with a dedicated team of specialists which help ensure that customizations and connectivity with the back end systems remain functional. Synchrony notes that the solution strategy, program management, development, and technology teams from Fiserv were instrumental in assisting the bank with this project, including developing the initial version of the bank’s user experience.

Figure 3: Project Timeline

Major project steps

Step 1: Get the environment to the cloud; create code to support cloud native development

Step 2: Start breaking down functions to build microservices

Step 3: Cut larger code base into components to that you can mix and match as needed

Project milestones

2017 Establish architecture and platform

2018 Synchrony business services layer

2019 Native App, Account Opening & Website

Source: Synchrony

Results, Lessons Learned, and Future Plans

The transformation of Synchrony Bank continues to be a huge success, attracting deposits to fund its core lending operations as well as positioning the institution for the future. From a growth perspective, Synchrony has seen almost every metric improve, as shown in Figure 4.

Figure 4: Synchrony Growth

	Year End 2016	Year End 2018	CAGR
Assets	$90.2 B	$106.8 B	**8.8%**
Deposits	$52.1 B	$64.0 B	**10.8%**
Efficiency Ratio (full year)	31.1%	30.8%	-
Direct Deposits	$37.9 B	$49.4 B	**14.2%**

Source: Synchrony

Almost every area of the bank has become more efficient. For example, manual fraud alerts have been reduced by over 30% in 2018 compared to 2017.

Because of the extensive transformation, the bank is poised to follow the trends in digital and consumer demand. Instead of waiting years, the bank can implement capabilities in its digital platforms in an extremely short amount of time. The bank owns its own destiny, free to create differentiating experiences which allow it to compete and attract deposits against an evercrowded market of challengers and entrants. For example, when the bank launches its new account opening process, it expects the account opening experience to be 50% faster.

Michael Lagnese, SVP, General Manager Consumer Bank, says:

> **“Taking on an initiative of this scale is clearly a ‘team sport’ requiring complete cross-functional coordination and clarity of mission to be successful**.”

Large-scale back office transformations are long and arduous undertakings which can be as risky as they are expensive, often being compared to changing the engine of an airplane midflight. Not only did Synchrony Bank successfully transform cores, the IT group built the BSL on top of it. Despite the complexity of these projects and size of the organization, Synchrony continues to flourish, attracting new customers and deposits, and since 2016 Synchrony has been on Forbes’ Top 100 Business list. For its view to the future and the effective way it went about back office transformation, Synchrony is a model bank for core banking transformation.