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INTELLIGENCE REPORT

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CORE REPLACEMENT

HOW BANKS ARE REPLACING THEIR CORES

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CORE REPLACEMENT

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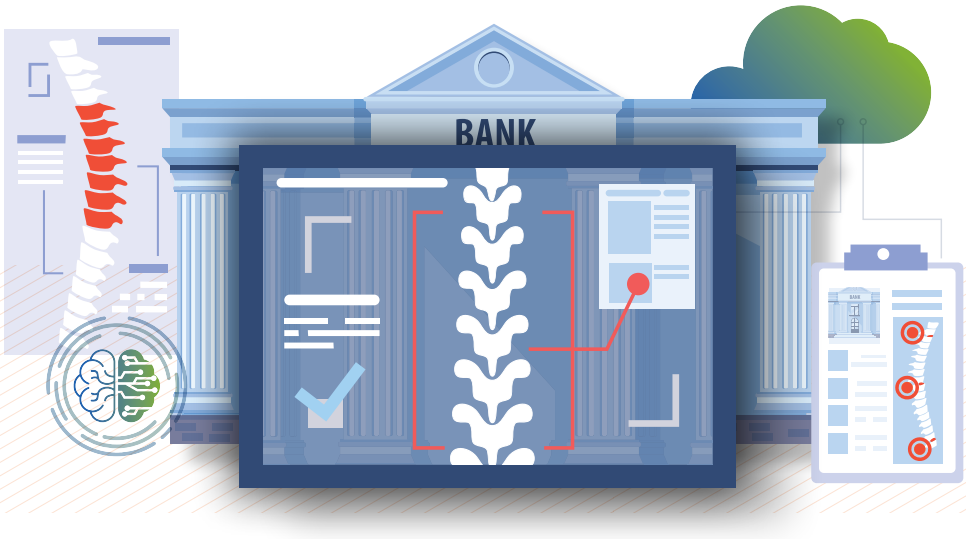
Information on:

Costs of core replacement, types of cores, banks that have replaced their cores, partial replacement, how to get buy-in, five questions to ask.

Featuring interviews with leaders from:

First Horizon Corp., Seattle Bank, CSI, Nymbus, FIS, Janney Montgomery Scott, West Monroe



Dear Reader,

In July 2021, First Horizon Corp. bought IBERIABANK Corp. and launched an experiment that few banks of its size have attempted: a conversion to an alternative core provider.

But the $88 billion banking company based in Memphis didn't want to replace its core, the basic nervous system of the bank. It wanted to replace the core of a virtual bank acquired from IBERIABANK. Doing so would allow First Horizon to test the waters with Finxact, a cloud-native core that offers banks a fully open architecture to pick and choose what software and services to offer customers, providing the chance to quickly update and offer new products as customers' needs change.

Finxact had all the bells and whistles of a modern system. "The way someone designed a mainframe 30 years ago isn't dictating what we're doing today," says Tyler Craft, senior vice president and head of First Horizon's VirtualBank.

Although a few brave souls such as Seattle Bank have accomplished a complete core conversion to a modern, alternative core such as Finxact, some others are testing the waters with partial conversions. While a complete core conversion to an alternative core may feel time consuming and risky, there are a variety of options, including First Horizon's approach. An increasing number of banks are trying their options.

In fact, it was First Horizon CEO Bryan Jordan who first put that image in my head of an operating table and a skilled surgeon going to work on the very cord that makes the bank function. "This is probably not a great analogy, but changing your core system is, in my mind, about as complicated as a spinal transplant," he says.

This report delves into why and how some banks have leaped off that cliff, the strategies for success, how to get buy-in at your bank and what to ask potential core providers.

Sincerely,

Naomi Snyder
Editor-in-Chief
Bank Director

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THE CORE OF THE PROBLEM

Seattle Bank had a problem. With more of its customers moving to digital banking and a rising risk of customer flight, Seattle, a boutique bank with $692 million in assets, needed a better way to innovate and achieve the same connection with customers online that they gain when people walk into the branch.

To attain this goal, Seattle Bank went through the perilous process of converting its core to a new provider in 2020, London-based Finastra. It would take months, but it was about "what we can do in the future," says Jayson Callies, chief information and innovation officer at Seattle Bank.

Connections have always mattered in banking. Community and regional banks have long epitomized the importance of connection, knowing the local town and customers so intimately that they distinguished themselves from larger institutions. How could a larger bank know what you need more than your neighbor, after all? But the ability to understand a customer no longer relies solely on geography and the personal touch. Instead, institutions large and small can utilize data to determine customers' financial needs, goals and expectations. Using its data — including all of the data within its servers — a bank can process loans using analytic tools, giving customers almost an immediate response, as one example. It can result in immediate posting of payments or transfers. Or it can potentially provide advice based on the rate of spending the bank analyzes.

The amount of data available to drive analysis and implement predictive tools has grown exponentially due to the pandemic and the proliferation of mobile devices and social networks. In 2020, the amount of data stored and replicated in the world jumped by 94% to 64 zettabytes (ZB), according to the International Data Corp. (One zettabyte is the equivalent of a trillion gigabytes.) The group predicts a 23% compound annual growth rate from 2020 to 2025. What sector stands to benefit the most — and has the most to lose — from this data surge? Finance.

That catalog of data and increase in online and mobile banking due to the Covid-19 pandemic results in some deep concerns for banks. A financial institution must have a clear view of its data to protect the data, analyze it, better serve customers and allow for open banking, enabling the firm to provide more robust services, such as faster loans, payments, treasury management and embedding budget details within a customer's account. If they don't have such options, other banks and fintechs will. (For a definition of terms, see the glossary on page 23 of this report.)

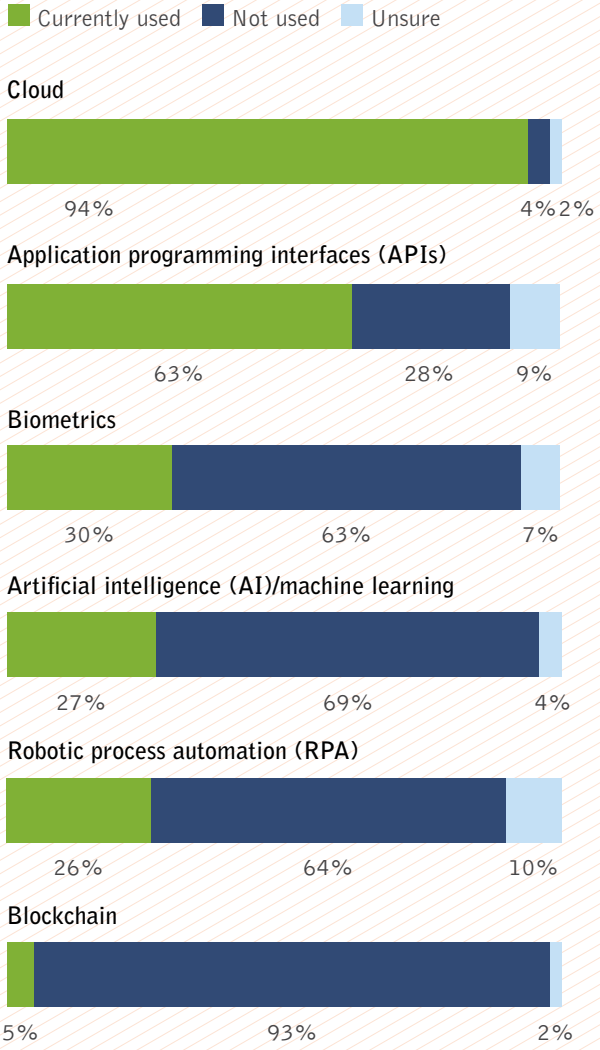
But what's holding many banks back? They're locked out of the data housed in their cores, which a bank uses to run its IT operations. These systems can be outdated and unable to quickly upgrade with application programming interfaces (APIs). They also can't access the data needed to build a full picture of customers — data that is also trapped in the core.

It's a story that spans more than two decades: Banks' infrastructure has aged beyond the point of no return. To ensure modern capabilities, financial institutions must consider updating their core. Yet, for years banks have hesitated for a variety of reasons, including complexity, cost, risk of a potential mistake or lack of will from leadership.

A shift, however, has occurred. Bank Director's 2021 Technology Survey finds that 94% of financial institutions use cloud — or the storing, analyzing and computing of data and technology tools over the internet. And in a 2021 global survey of senior banking executives, Deloitte found that 60% planned to increase spending in cloud computing and storage, and the same number will increase spending on data privacy. About half (51%) also said they would increase spending in data analytics. Effectively leveraging data requires either updating the core to better access the data or using third-party APIs to achieve similar results. If an organization's legacy core lacks the functionality it needs to analyze data or easily connect with third-party APIs, then updating or replacing the core becomes a greater possibility.

But there's another reason to upgrade the core: mergers. Last year, the number of bank M&A transactions declined by 33% compared to 2019, due to the pandemic, according to data

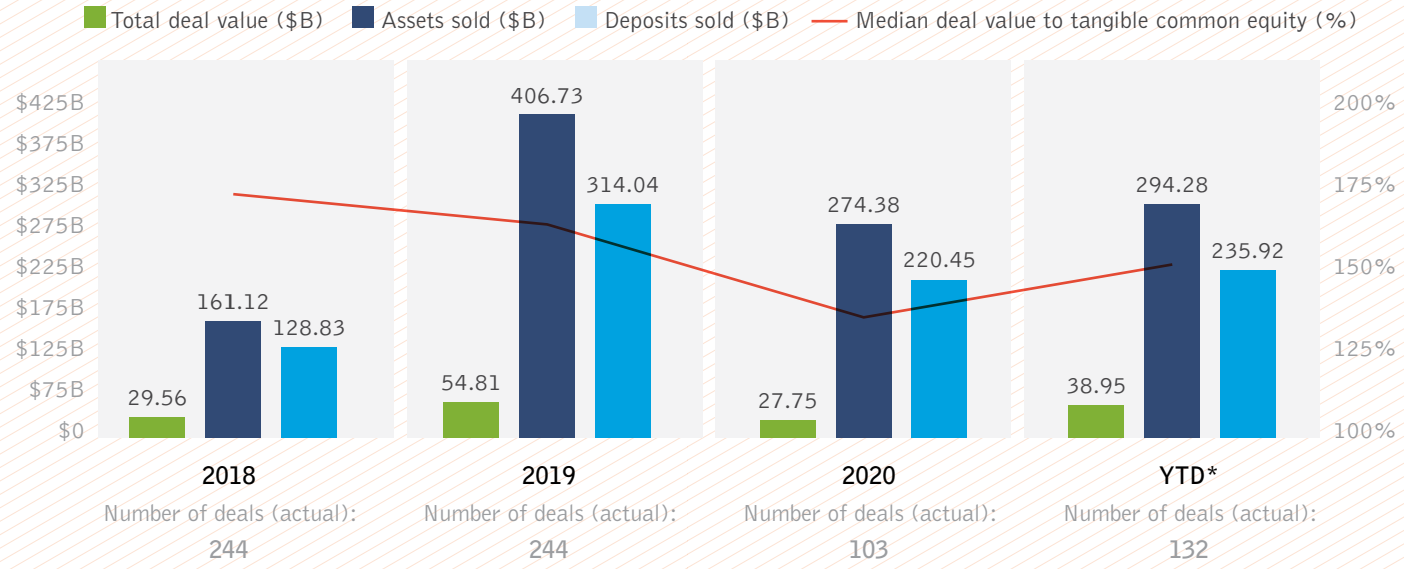
Which of the following technologies are currently used by your financial institution?



Source: Bank Director's 2021 Technology Survey

U.S. bank deal statistics

The rate and size of M&A activity in banking from 2018 to YTD 2021



** Year-to-date through Aug. 31, 2021*
Source: S&P Global Market Intelligence

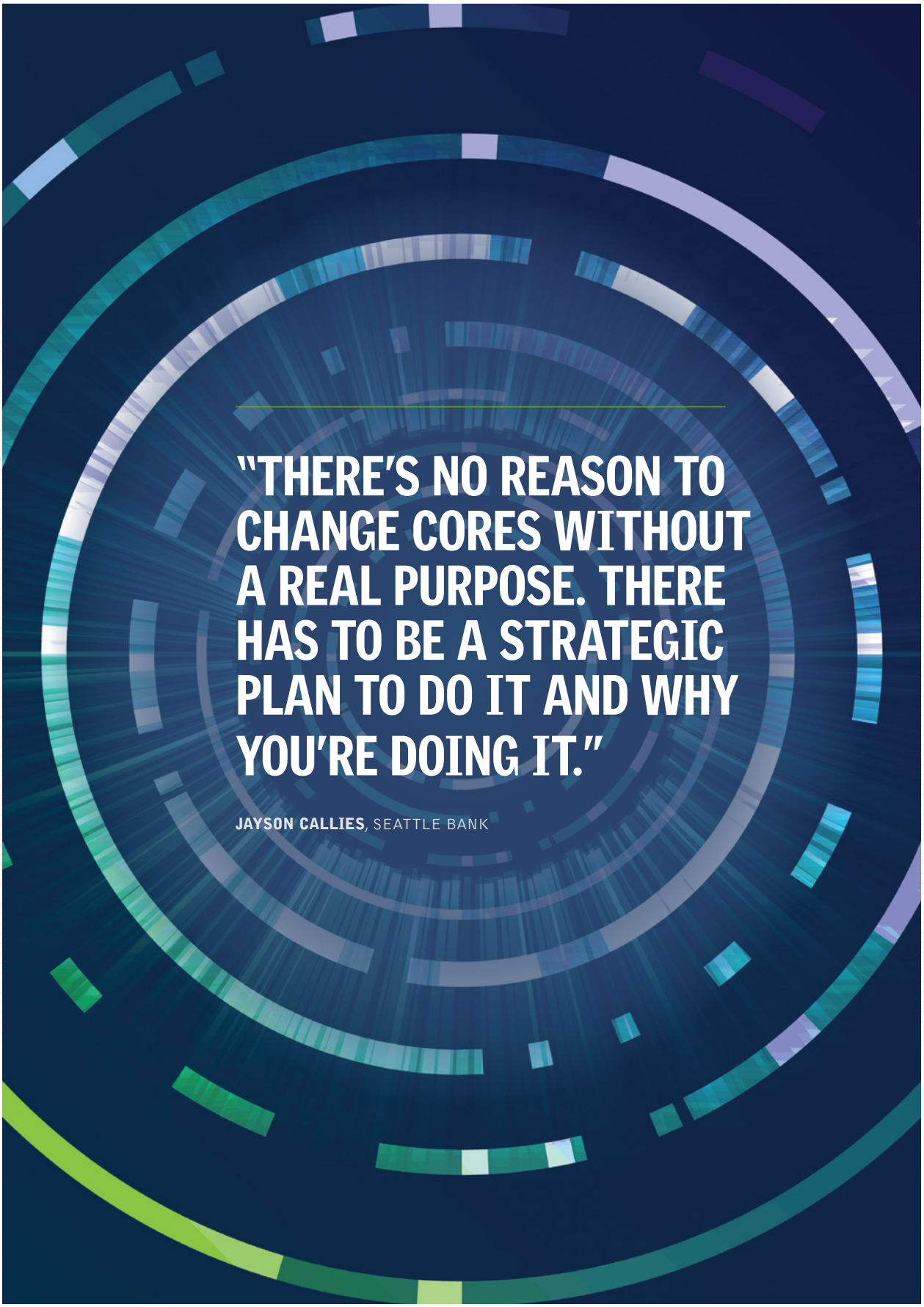
compiled by S&P Global Market Intelligence. That activity has bounced back in a significant way, with 132 mergers or acquisitions announced through August at a value of $294 billion in assets sold, surpassing all 2020 activity.

When a merger occurs, the conversion of the core becomes almost a necessity. If one bank's system can't speak to the new bank's core, then the newly combined organization would essentially operate with two languages and no interpreter to send data across the two entities. This would hinder integration and using the shared data for initiatives across the institutions. Historically, this would result in integrating the acquired bank's data with the acquirer's core. But now, with the growth in core options and the upgrades that banks can gain from replacing the core, the possibility of moving the cores to an entirely new one has become viable. Or it has given banks opportunities to test out new cores with a piece of business from the acquired company, via a split-core design. First Horizon Corp. did this after acquiring IBERIABANK Corp. and moving IBERIABANK's VirtualBank to a new core by Finxact.

Many banks are taking a look at their options for a full conversion, partial conversion or some hybrid.

This report provides a detailed look at what to consider when replacing your core, enabling it to reach your modernization goals. It may not be rocket science, but it's the financial sector's equivalent of a rocket ship.

Having the right plan can help that first step feel simple, instead of monumental.


"THERE'S NO REASON TO CHANGE CORES WITHOUT A REAL PURPOSE. THERE HAS TO BE A STRATEGIC PLAN TO DO IT AND WHY YOU'RE DOING IT."
JAYSON CALLIES, SEATTLE BANK

THE SURGICAL OPTION

If the leadership of the bank makes up the brain, and employees the different appendages, then the core serves as the spinal cord, both connecting and moving the entire organization. It provides the ability for data to flow, allows for consumer-facing products to function, gives leaders insights to develop new strategies and — when running optimally — allows different segments of the bank to interact and talk with each other. Under this analogy, going forward with a core conversion likens to a spinal replacement surgery. In a full core conversion, it's essentially replacing the entire spine of the bank with a new one, which allows the bank to compete fully with fintechs for modern banking services.

Some banks have also turned to split-core conversions where they replace a piece of the spine to allow the organization to implement modern upgrades, even if the rest of the core can't operate with the same capabilities. In some cases, the bank adds a new appendage with a dedicated new core to operate it. For instance, an institution may use a new core to add a virtual bank or commercial deposits separate from the organization. Often, in such complementary or split-core designs, the main bank will slowly move more of its operations to the new core over time.

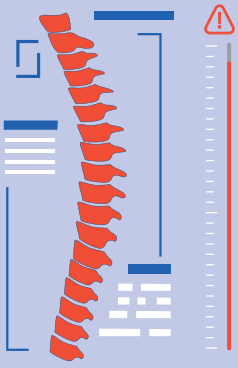
When moving forward with a partial, complementary core upgrade or full core replacement, you have to figure out how to replace the spine "in a way that doesn't break the organization," says Bryan Jordan, CEO of First Horizon.

With the level of precision required in a core conversion, it's understandable why bank leaders hesitate before moving forward. If it goes sideways, it can cost leaders their jobs.

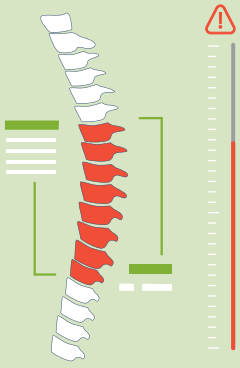
What can go sideways? A lot.

The Surgical Option

When banks decide to replace the core, the level of prep will depend on the significance of the surgery.



The Full Conversion: Replacing the spine can give banks added flexibility, but the risks are higher.



The Split-Conversion: Amputating part of the spine, replacing it with new bones, adds flexibility in the part of the bank where the new core runs but not complete flexibility to the bank.

Take, for instance, a bank that holds a significant amount of consumer deposits. The bank moves forward with a conversion, but in the process something goes amiss. A data port that holds thousands of customer accounts disappears. The bank doesn't realize that until it completes the conversion and those customers start trying to access their accounts. Their debit card no longer works; they can't access funds. Customers don't understand why there's an issue, but it's the bank that they blame.

It's not just a potential customer nightmare, but a logistical one. Employees must be trained on an entirely new system, which adds complexity to the overall core conversion. It isn't just a technical concern, but one that requires painstaking time to train and ensure employees have acclimated to the new system. And customers also must accept the new interface.

For the C-suite though, another issue permeates: return on investment.

A bank's best customer is an existing partner. If a customer takes out a real estate loan with the bank, it's easier to get the same customer to come back as they open a second, third and fourth loan and use other services, such as wealth management. By doing so, it reduces the cost for the bank on each additional loan, and it's cheaper to retain the customer, says Christopher Marinac, director of research at investment bank Janney Montgomery Scott. Why spend on upgrades to a system that allows for the ability to attract new customers when there are already built-in advantages that the bank can glean by simply focusing on existing customers?

While providing the structure that customers see, the core is inherently a back-end technology. When customers go to the bank, they only see the features offered. They don't wonder what core the bank uses. If the conversion doesn't dramatically alter the customer experience or significantly impact the ability to convert revenues, then the C-suite and chief information officer won't want to go through the career-defining steps.

"Banks need to be able to honestly address the 'ready' question," says Brett Mastalli, a partner in the financial services practice at the consulting firm West Monroe. "A core replacement isn't just an IT project; it requires representation from across the bank with goals focused on ongoing value realization that extend well beyond the day the new core goes live."

Despite these concerns, delaying upgrades presents its own risks.

The Dangers of Remaining Stagnant

While bank leaders prefer to stand still and wait before replacing the core, certain trends or internal concerns can force a bank to move forward on a core replacement, whether it's a full or split-core design. These trends can make standing still riskier than moving forward with a core replacement.

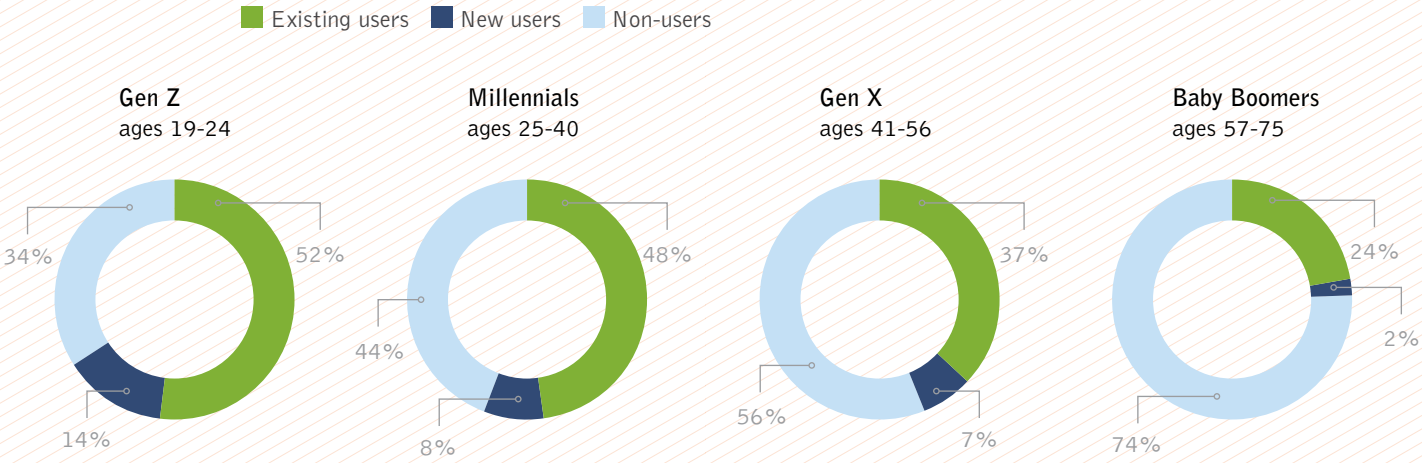
1.The Fintech Threat

The prevalence of financial technology services has become a staple in the banking industry. According to Ernst & Young, 96% of consumers know of at least one fintech tool to transfer money and make payments, with 75% using one of the services. Nearly one-in-four (24%) consumers use a fintech as a banking platform, according to McKinsey & Co. Banks have responded by making use of application programming interfaces (APIs) to allow users access to fintech tools through the bank's system.

This reliance on fintech tools, like payment options or budget tracking, only grew during the pandemic. Within the millennial age group (25-40 years old), 48% at the start of the pandemic used a fintech tool. By the end of the pandemic, that rate increased by eight percentage points. For Gen X (age

Financial technology usage during Covid-19

Gen Z and millennials use fintech companies the most, but older financial decision makers have accounts as well.



Source: McKinsey & Co. 2020 survey. Ages have been updated for 2021

41-56), the rate moved up by seven percentage points, jumping to 44%, according to McKinsey & Co. This reliance on new technology tools by consumers has also seeped into their banking choices, with many adopting neo or challenger banks, such as Chime, which use technology and marketing to attract new deposits. While remaining a small sliver of the banking world, 20% of consumers reported having an account with the neobank Chime in S&P Global's 2021 Mobile Banking Survey.

According to Bank Director's survey, 34% of banks between $1 billion and $10 billion in assets picked challenger banks that attract consumers among the top three of their biggest threats. Forty-three percent consider digital, nonbank business lenders among their greatest competitive threats. Yet neo or challenger banks have a built-in advantage over larger institutions, like credit unions or regional banks, in one significant way. Due to their lack of size and age, these companies or startups don't have the decades-old systems that prevent them from adding new features or benefits. This gives them the ability to easily add tools that users want, when compared to a regional bank that has a core originally created in the 1980s. Through a more cloud-based structure, there's less cost to incorporate a new API that connects with another fintech or use their data analysis to provide automated features based on how users spend. This has led to drift as consumers seek out the new players, particularly for secondary banking tools.

2. APIs

While the use of fintech tools grew during the pandemic, many banks lack the capabilities to move with the times. Typically, banks adapt to a new, popular fintech offering by using an API

34% of banks picked challenger banks that attract consumers among the top three of their biggest threats.

43% of banks consider digital, nonbank business lenders one of their greatest competitive threats.

Source: Bank Director Technology Survey 2021, banks in asset sizes of $1 billion to $10 billion

that allows customers access to the tool through the bank's platform. Bank Director's Technology Survey found that 63% of community and regional bank leaders said their institution uses APIs. This can create access to capabilities, like analysis of customer spending, for example, without having to build the technology internally. While most banks utilize APIs, it doesn't mean that most banks can incorporate the technology easily, quickly, cheaply or effectively.

If the current core doesn't have the ability to add APIs or it requires significant effort and months of planning to connect with specific tools, then it might mean you need to "increase the responsiveness of the platform so it's less complex," says Andrew Beatty, senior vice president and general manager of next generation banking at core provider Fidelity National Information Services (FIS).

3. IT Costs

Rising IT costs can also push a bank to upgrade. Maintenance costs on old core infrastructure grow as the number of upgrades increase within a system. Therefore, the older the system, the higher the maintenance costs. When it becomes prohibitive to afford additional upgrades, then it becomes another issue that the bank will face.

4. Talent Dearth

There's also a simple matter of experts in the original core retiring or aging out of the workforce. If the institution no longer can find much talent that can speak the core's operating language, then it faces a significant hurdle to upgrade systems.

The Core Landscape

For many regional banks that need to customize products beyond the basic services that the legacy cores provide, their solutions may be limited. Regional and community banks often rely on their core vendor to customize solutions that they want to add, since they don't often have the technological expertise in-house. But if the core provider takes significant time to add features or limits their options, regional and community banks become frustrated, says Tom Grottke, managing director of financial services at the audit and consulting firm Crowe LLP. For these situations, a newer set of core providers, offering variations from full core services to alternative or complementary core solutions and cloud services, gives regional banks more selection than ever before. These services, offered by companies such as Finxact, Nymbus and Finastra, allow banks a chance to shop for multiple ways to shift the core.

Those providers allow access to open architecture, which gives regional banks the ability to add APIs or services without a significant hurdle of ensuring it can work with the core provider. These services also provide some or much of the core on the cloud, allowing the bank to scale without significantly increasing costs. And they can use the core to build specific systems, like new financial products or workflows that the old core didn't allow. With these customizations, they can automate services, use artificial intelligence (AI) and machine learning in developing processes or servicing clients, and add special features that clients seek.

Meanwhile, the legacy core providers have begun rolling out newer cores as well. FIS, for example, has its Modern Banking Platform, which provides cloud-based core solutions. Jack Henry & Associates and Fiserv both have solutions to make it easier for banks to connect with third parties that aren't included in the core contract.

Developing The Business Case for Open Banking

A survey of global banking customers by alternative core solution Mambu found that 60% don't like the idea of open banking. At the same time, 80% of the respondents use a financial app. And according to a survey by banking engagement platform CREALOGIX AG, access to instant transfers between accounts, the ability to see every account in one dashboard and the chance to automatically calculate spending patterns were the top three services sought. Customers want open banking capabilities even if they don't realize what the term means.

There are three requirements for the open banking trend to continue forward. The first, regulation. Countries must have rules in place that allow for banks to incorporate open banking tools without running afoul of the law or compliance. Innovation and the rise of fintechs provide the second step to mass open banking use. In the U.S., in particular, the rate of innovation from fintechs has driven much of the initial open banking shift. The third: consumer buy-in. The more that customers demand these services, the more likely that banks will begin to incorporate more options. That has occurred, even if customers don't realize it yet.

Beyond customer preferences, the bank itself gains advantages from having the data in a more centralized, easier to access format. It can take advantage of data analytics, AI tools and machine learning to better understand where new opportunities reside and better ways to approach the business.

How this access to insights plays out in the real world depends on the bank. For instance, a bank that focuses on mortgages can use data analytics to determine which buyers might soon look for their next home, or which buyer might soon look for a vacation home. A lot of banks want to access the data, says Giovanni Mastronardi, group president of enterprise banking at core provider CSI. But you don't "see a lot monetizing of data."

Open banking defined: Also known as open architecture, it's the concept of allowing a customer easy access to their data. In practice, it uses APIs as a bridge to third-party financial technology companies that offer services that the bank may not be able to provide on its own. This can include giving consumers a full picture of their finances or providing them with advice based on predictions from their spending.

GETTING BUY-IN FOR A CORE REPLACEMENT

If you liken converting a core to spinal surgery, then for a successful procedure you need all parts of the body working together. And for successful pre- and post-ops, there's nothing more vital to the success than full ownership of the project by the C-suite. Having a CEO and board that understands the need of the conversion and fully supports moving forward — without looking back — can help with organizational expectations as it rolls out to employees, says Anne Miela, COO at the core provider Nymbus.

"The idea of building a business case based on increased customer acquisition or even revenue is a difficult case to make," says West Monroe's Mastalli. "A better approach would be to focus on mid-term, tangible benefits when pitching to bank board or executive leadership committees—labor savings, new operational efficiencies and reduced maintenance costs should all be elevated into the business case from the outset."

Even with the leadership buy-in, CIOs and operations also need to understand the purpose of the project and fully support the move. Since the CIO will lead the conversion — and their reputation will rest on the results — having a leader that wants the conversion, sees the value of it and is willing to take on the risk becomes critical. As does having the employees on board since they will pull double-duty: performing their everyday tasks and helping to transition the bank to the new core.

To get these buy-ins, consider these important attributes to a core modernization and have answers to the concerns.

Why does the conversion need to occur, and how will it impact the bank and its strategy?

As bank infrastructure ages, the drag on IT costs rises. Converting to a more cloud-based system can ease that impact. Does that provide enough of an onus to convert, considering the costs? Or does the need for more open banking capabilities drive the effort? In such a case, understanding what the bank can do after a conversion and how those changes fit into the bank's strategic plan will provide clarity.

How will it impact employees?

When the conversion occurs, most often a core provider will implement it over the weekend. If employees arrive on Monday unprepared for the interface, then they'll quickly sour on the conversion. "If that first two weeks is rocky, it can take months for the employees to get over it," says Mastronardi.

Having a clear plan for training employees and a dedicated staff to help with troubleshooting will ease the pressure on rank-and-file employees, allowing the conversion the best chance for internal acceptance.

How will it impact customers?

Customers get used to a particular way of doing things. Even if they state they like new features, post-conversion, expect them to express some growing pains while adapting to a new interface or realizing that the app they use to connect to the bank looks different. To appease this, first make sure that when you convert, you're adding features that they want. If you fail to add such features, then the customer won't likely understand the point of their consternation. Second, overcommunicate with them about the upgrades, says Miela. By explaining to them that they will have new steps to take before logging in, or now they can use new features to see all their accounts in one place, it will give them less of a shock on the day of conversion, reducing the number of calls into the bank.

How will regular job duties get done?

From a leadership and organizational perspective, one of the more concerning aspects of a conversion is how it will occur while people continue to perform their regular duties at the bank. For the conversion to succeed, employees often must take on double duty, handling their regular tasks and taking on parts of the conversion as well. This can overwhelm an organization ill-equipped to deal with the extra workload. The more detail that the CIO and team put together, providing clear duties and deadlines for each team member, the more likely that each employee can achieve the bank's goals while also ensuring the day job isn't short-thrifted.

How can you troubleshoot?

Core providers do not worry much about losing data. Through testing of the conversion and data mapping of the accounts and insights on the old core, the likelihood that a huge chunk of data goes missing remains small, in their estimation. But for bank leaders, it's a significant concern going into a project.

The better that the bank plans for these potential issues, the more likely they will recover from them, if anything goes wrong. That's where practice conversions become so important. A provider will typically work with the bank to conduct one, two or more mock conversions as trial runs, and that gives the bank an opportunity to see where there need to be changes and what doesn't work. It also allows them to see if the largest accounts would have moved over correctly.

> "The idea of building a business case based on increased customer acquisition or even revenue is a difficult case to make. A better approach would be to focus on mid-term, tangible benefits when pitching to bank board or executive leadership committees—labor savings, new operational efficiencies, and reduced maintenance costs should all be elevated into the business case from the outset."
>
> **Brett Mastalli,** Partner, West Monroe

THE FINANCIALS

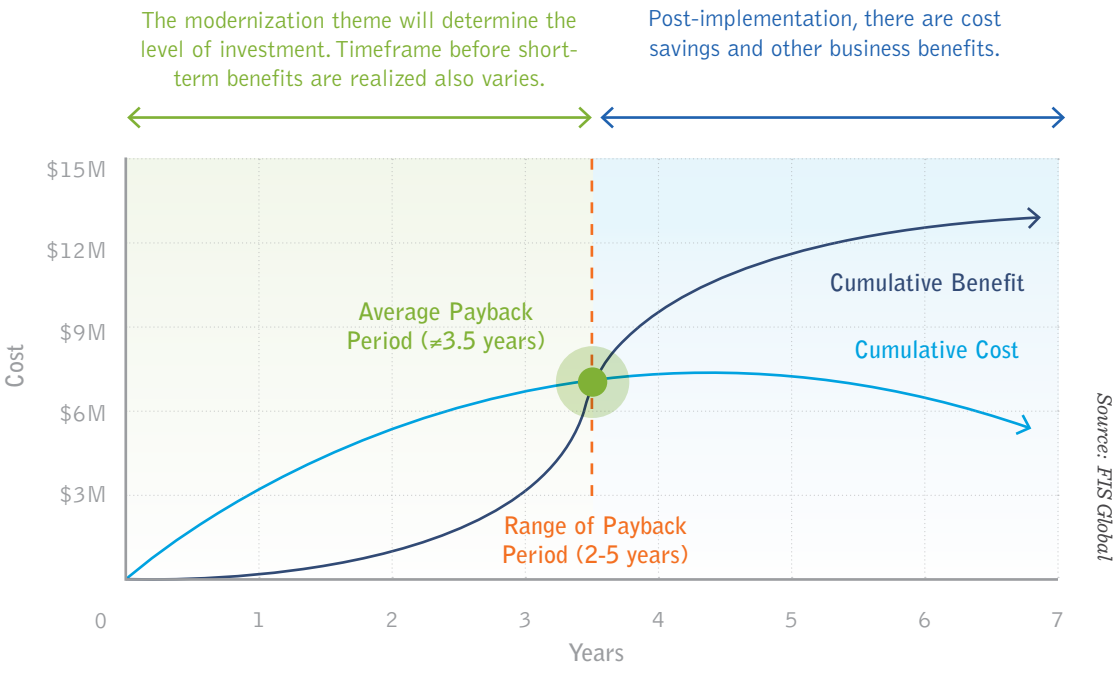
The significant holdup to a conversion, from the top on down, also has to do with cost. Replacing the core requires both an initial cost as well as ongoing and recurring expenses — whether converting the core entirely or using a split-core design. It can become a high hurdle from a cost standpoint. The benefits may not have a clear dollars-and-cents result. It isn't only a determination of the cost of the conversion process, but the length of time it'll take to fully convert, getting out of the contract with the current core provider and weighing the amount it will cost to run the new core. These issues become the "deciding factor" when choosing between doing nothing, selecting an alternative provider or running a full core replacement, says Callies from Seattle Bank.

Some of the upfront costs in converting include the initial subscription fee, cost of the hardware and the price to customize, which may include third-party services and training. After the initial conversion occurs, then recurring costs include subscription fees, internal IT costs (like personnel and equipment) and maintenance.

The amount these costs will run vary, depending on the size of the bank and provider. FIS estimates that the average cost for implementation, initial license and customization will reach **$8.3 million**. Costs can run as high as **$60 million**. Recurring licensing fees account for an average of **15% to 22%** of the total cost of ownership of a new core system, according to FIS.

And it will take a few years before the ROI surpasses the costs of implementation, with FIS estimating most banks see the average payback period at 3.5 years.

Payback period for core banking modernization



Source: FIS Global

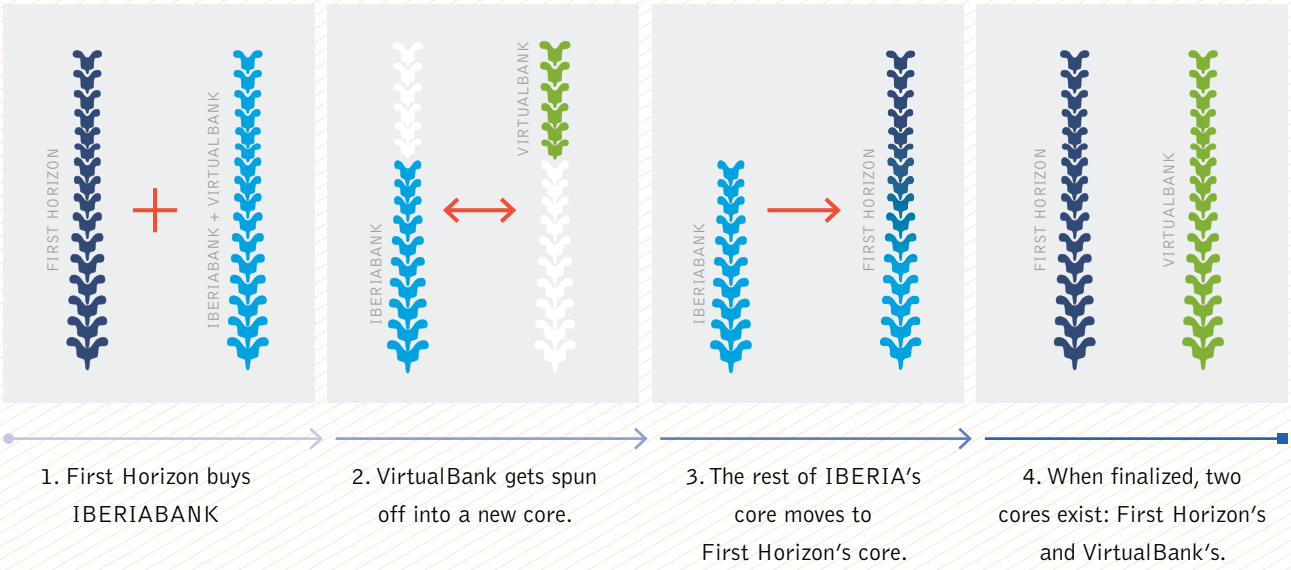
THE MIDDLE PATH: HOW BANKS USE SPLIT CORES

When First Horizon closed on its purchase of IBERIABANK in July 2020, included in the merger was a consumer-facing digital institution called VirtualBank. Prior to the merger, First Horizon had looked at several new core providers, which had intrigued the organization. But the $88 billion asset bank had too complex of a service offering to replace its entire core with unproven tools. The merger, however, provided a chance to test and learn about the solutions.

In July 2021, First Horizon completed a core replacement for VirtualBank, moving the digital institution to Finxact. It separated the core of the VirtualBank from IBERIA's core (the latter will soon transition to First Horizon's core). VirtualBank offers consumers basic banking services, like mobile banking, bill pay and external transfers, but it will also add new services and API-led features. Designing and implementing them on the alternative core is eased by "orders of magnitude," says Tyler Craft, senior vice president and head of VirtualBank. "The way someone designed a mainframe 30 years ago isn't dictating what we're doing today."

A significant goal of deciding to replace this portion of First Horizon's core? To learn.

Evolution of a split-core



1. First Horizon buys IBERIABANK
2. VirtualBank gets spun off into a new core.
3. The rest of IBERIA's core moves to First Horizon's core.
4. When finalized, two cores exist: First Horizon's and VirtualBank's.

Most bank CEOs have a "mortal fear" of a full conversion, says Grottke. These new providers, which offer ways for banks to test new cores and solutions without replacing the entire core, provide a "highly attractive approach" to leaders, he adds.

"It's referred to as a de-risking strategy," says Brad Smith, a partner at Cornerstone Advisers. That's because it offers some solutions that banks like, without having to navigate a full conversion, including:

1. Easier set-up. Banks gain access to a core solution that can more easily integrate new services or banking apps. This gives a bank the ability to offer online mortgage loan applica-

tions using a fintech, like Blend, and integrate it within the system within weeks, as opposed to many months.

2. Cheaper. Since such core systems don't require the upfront costs that a full core modernization does, the price to hire a core vendor and implement the shift isn't as restrictive. But the costs will vary, depending on the scope of the new core and size of the bank.

3. Limited Scope. It doesn't require an organization-wide approach to evaluate, integrate and replace an entire core, which means both planning and execution become far less burdensome.

Some banks use this split-core design within their bank's current service offerings. Live Oak Bancshares, an $8 billion banking company based out of Wilmington, N.C., moved 60,000 customer and commercial deposit accounts to the Finxact core, which it first used in processing and managing Paycheck Protection Program (PPP) loans. It has done so without marketing a new line at the bank. Instead, it will operate with a split-core design, retaining much of its additional loan portfolio on its legacy core. While Live Oak says it will eventually shift the loan portfolio to the Finxact core, there's no timetable yet set for such a move.

By going the split-core route, a bank can watch and learn from the positives and negatives of the new core. "As VirtualBank expands capabilities over time, at the very least it will tell us how [new cores] can be used broadly at [First Horizon]," says Craft. First Horizon can also seek "lessons learned that can be applied somewhere else," he adds.

In First Horizon's case, there's no plan or expectations to move the main bank's core to the VirtualBank. Banks can, however, use the split replacement to slowly move parts of the bank over to a new core. This becomes particularly valuable in situations where banks aren't sure if the new core can handle the full number of services that the bank processes or offers. Through this greenfield approach, the bank slowly navigates more tools over time.

Such a process drags on the core replacement for a significant number of years. But for CEOs fearing the idea of a core replacement, it eases some of the trepidation.

Prepare for the Split-Core Downsides

The growth of alternative core providers has expanded, yet few have more than a handful of institutions hosting the entire core on their servers. Why? Because banks have hesitated to fully commit to the new core providers, especially for non-consumer focused business lines.

While organizations often view the alternative core solution as a viable option, they usually turn to them for simpler solutions, like managing consumer deposits or providing simple consumer features. For VirtualBank, the ability to transition mostly consumer data made the test run appealing. This data, like checking and savings, are "not high transacting accounts," says Craft. This eases the complexity of the items moving to the new core, which reduces the risk in doing so.

Take consumer mortgages. Automating and managing consumer mortgages seems simple enough. In reality, though, such mortgages all have various terms and lengths. This can create hundreds of different versions of a consumer mortgage, which the bank needs to track. Banks automate the management of these loans as much as possible, so the system can track the loan and notify the right team when certain terms are reached. The more accounts a bank has, the more complex the situation, since it expands the various types of loans the tools must track.

If an old core can't automate the management of the mortgages and the bank finds that employees must handle a significant portion of the process, it's a good reason to upgrade and replace the core. Newer core providers haven't proven they can handle more complex situations, adds Grottke. Hence, the appeal of using a greenfield or split-core approach, since you can transition parts of the bank while keeping more complex services on the old core.

Other issues that split-core designs face:

1. Multiple Systems: By introducing a new core, the two systems cannot interact. This means that organizations need new staff to handle the requests and responses from the new system, or must train employees to handle both systems. This can funnel down into the call center, where responders will need to access a different system to answer questions, depending on the core the customer uses. It also impacts accounting, since the two systems will need to be consolidated.

For VirtualBank, First Horizon adopted the staff that the bank already had when it operated under IBERIA's banner. It kept that staff in place to keep the group under the one core instead of teaching First Horizon employees a new core. But during the installation of the core replacement, it required VirtualBank to work with vendors to develop tools to integrate systems between VirtualBank and First Horizon, to ensure accounts could be consolidated and other data could move between the two cores.

2. Legal Battles: When banks choose a core provider, they often sign non-compete or exclusivity clauses. This means that the bank can't use other core vendors for new solutions. Banks considering a split-core solution must check their large core contract to ensure that they won't face a lawsuit by moving forward.

For VirtualBank, since a merger occurred and IBERIA was moving to First Horizon's core, it reduced any concern. The old core vendor already knew a transition would need to take place.

3. Fear of Going First: Few banks want to be the guinea pig. When First Horizon replaced VirtualBank's core, it became the first U.S. bank to convert an existing line of business from a legacy core provider to Finxact. Banks don't often want such accolades. Instead, many CEOs would prefer to watch and see what happens from other banks' experiences. If they like what they see, then they will test out the core through a product, like VirtualBank, before switching the entire core. The larger the bank, the more this holds true.

THE TOTAL SCOPE: HOW BANKS ACHIEVE A FULL-CORE REPLACEMENT

PART ONE:

Developing the Strategy

When Seattle Bank looked at the idea of replacing its core, it weighed many different options. First, it considered whether it truly needed to replace the core. "There's no reason to change cores without a real purpose," says Callies, Seattle's CIO. "There has to be a strategic plan to do it and why you're doing it."

Seattle believed that they had no choice while adapting to the open banking trends. It sought to provide customers with more digital offerings, like enhanced bill pay or turning access to a debit card on or off via the mobile app. But its goals went further. It wanted to offer banking-as-a-service (BaaS), where other organizations use the bank's compliance program, access to payment rails or deposit insurance to offer banking services. Say a gas company wants to encourage buyers to use its gas, so it offers a loyalty card. Or a home design organization wants to provide low-interest loans for renovations.

Seattle saw BaaS as the future, particularly in embedded finance, where websites include different payment options (like buy now, pay later) or other financial payment methods. A bank like Seattle felt it could potentially aid companies in their embedded finance aspirations.

PART TWO:

Selecting a Vendor

With those goals in mind, next Seattle needed to select a vendor. Staff spoke with several companies, but the bank ended up going with Finastra due to its open banking tools. It avoided a split-core design because the offerings wouldn't allow Seattle to incorporate some of the commercial and private banking tools it sought to add.

But it also had to do with timing, says Callies. With their contract with a large core provider ending, the bank decided that it made more sense to take the leap and go through a full replacement. To go through a split-core design, it would need to re-sign a contract with another core provider for the rest of the organization, which could cause issues down the line when the bank wanted to end the contract.

PART THREE:

The Conversion Plan

Callies and his team estimated that the full modernization would take between nine months and one year to complete. This timeline included determining roles and tasks for each of the 60 employees on Seattle Bank's payroll. Each employee had to continue to do his or her day job, while also achieving specific benchmarks within the core modernization timeline.

The most important part of the process? Data mapping. This occurs before the replacement takes place, and requires the organization to mark and identify each piece of data that the bank owns and wants to keep in place, post-modernization. How important is this data? It's essentially the entire bank, from debit cards, account information, loans and other data that the bank wants to transition. If the data mapping goes awry or does not capture specific, large portions of the business, then banks can suffer a significant financial setback, post conversion. "The one that kept me up is the debit cards," says Callies. "It's a pretty big area of risk, in terms of upsetting clients."

If the debit card data goes missing, then on the day of the replacement, those users may pay for gas only to realize their debit card no longer works. That could result in a customer that ends the relationship at the bank. Leaning on the core provider, it took about three months to map the data that Seattle needed.

PART FOUR:

Trial Runs

Protecting the data also involves working with vendors during the trial runs to ensure each detail of the replacement gets enough focus. Finding issues during the conversion in credit accounts, for example, prior to the real replacement allows for troubleshooting. If you know that some of the credit data didn't convert correctly, it may require more data mapping. Or it could require building a technical solution to ensure conversion. "There's always a little fallout," says Callies. "You have to be on top of the ball with each vendor [and] dig into the details during mock conversions to make sure everything comes across correctly."

Seattle ran two mock replacements. "The first mock conversion really opened our eyes that we had not internally mapped over enough of the day-to-day processes," says Callies. "We had not yet taken enough of our existing procedures and updated them to reflect the same processes on the new core."

This gave the bankers marching orders to fix any issues prior to the second mock run, which "was highly successful," Callies adds.

Steps for a Successful Full Replacement

Seattle Bank converted its core in 2020, and the bank's experience provides some best practices for a full core conversion. The process will last months to years. Having a CIO in place who understands how to implement a core replacement and can manage the impact on current employees will aid in the modernization. Enact these steps to ensure the bank can respond to any concerns that may arise:

• **Develop an action plan for employees.** The more detail that this plan has, the better, providing responsibilities, expectations and deadlines. By communicating each employee's role, you can also ensure that they understand the importance of the job and the fact that they may have to work harder than normal during this process.

• **Don't skimp on data mapping.** Much of the organizational fears of a core replacement come from concerns over losing data. The data-mapping process will ensure that the data is accounted for and available, post-replacement. Take painstaking efforts to track and include all necessary data for the conversion, which will ease much of the anxiety over the replacement. Give extra focus on the largest accounts of the bank, to best ensure the vital data makes it through the conversion.

• **Communicate with the C-suite.** Have regular check-ins with the C-suite to update them on the process and address any concerns. If they don't have the information at hand, they will begin to question the process, which could sink the entire project. This includes updating them on issues that arise during mock runs.

• **Embrace mock exercises.** Test runs make or break the replacement process. If the mock exercises become a debacle, bank leaders will pull out of the project. Ideally, these exercises will provide the bank with insights on what needs to be addressed. This will give clarity to what data needs more mapping, what tools may need to be implemented to ensure a successful transition and what parts of the process work. Through the mock runs, institutions can then turn to vendors and consultants to determine the best workarounds for any concerns that arise.

• **Lean on vendors.** The bank is likely working with third-party vendors and consultants during the replacement process, in addition to the core provider. It's important for the CIO and tech leaders to lean on all three groups to ensure a successful replacement. You have put them in place for specific reasons, whether they offer a technological solution or provide replacement expertise. Use them throughout the mapping and test-run process to ensure that the bank has what it needs for a successful launch of the new core.

SUCCESS CHECKLIST

FIVE QUESTIONS TO ASK POTENTIAL CORE PROVIDERS

The number of core providers have expanded in recent years, allowing for more solutions and options for banks. But not all core providers can solve each bank's specific concerns. Make sure to vet the core provider, hitting on the important aspects of the core replacement.

1. Does it allow for the customization you need?

Banks need different tools, looks and access to data, which not all providers have. Make sure to understand what the core will — and won't — allow you to do.

2. Does the provider run the integration?

Community and regional banks often lean on core vendors to provide the integration and customization of new features. Understand what they will provide, and what they won't, from an integration standpoint.

3. What are trial runs like?

Let them explain what the trial run for the replacement will look like, including how many mock exercises you will have, to ensure you have enough support to feel comfortable moving forward with the replacement.

4. How do they troubleshoot issues during the replacement?

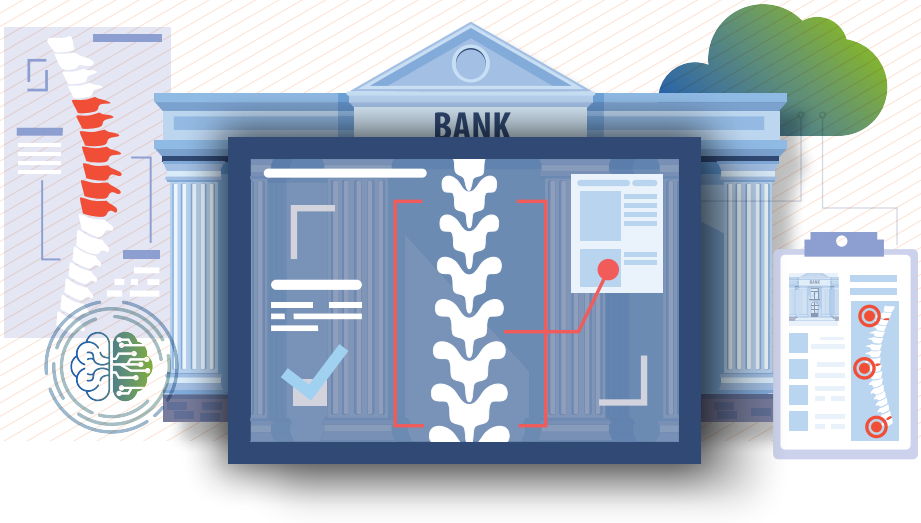
Know the issues that have come up in the past and what solutions the core provider has used during replacements.

5. What help do they provide during the replacement?

Will you need call center support on the day and weeks after launch? Technical help? Make sure to have a clear understanding of what the provider — and your consultants — offer on launch day.

"A core replacement isn't just an IT project; it requires representation from across the bank with goals focused on ongoing value realization that extend well beyond the day the new core goes live."

Brett Mastalli, Partner, West Monroe



Conclusion

Core replacements get attached to a lot of dirty words and unflattering comparisons, but banks have more options and styles to convert their core than ever before. This capability comes as the need to access more data and provide more offerings has also expanded. While the task for replacing the core remains monumental, career-defining and risky, new technologies and options have reached a point that reduces the overall risk — at least slightly.

With more alternative options expanding services, and even some standard core providers offering new solutions, the replacement process may soon look more like a minor medical procedure, instead of life-or-death surgery.

GLOSSARY

Alternative core: New core providers are an alternative to the legacy core providers and tend to use a more integrated cloud design with improved API implementation and the ability to scale services without dramatically increasing costs. But they lack the track record in handling complex parts of the bank.

APIs: Application programming interfaces allow for banks to connect with third-party tools, like fintech offerings, providing the ability for the bank's software to interact with the outside tool. They give banks ways to offer new products and services without having to innovate.

Artificial intelligence: In banking, AI provides the ability to conduct predictive or learning analysis by scanning bank data to provide advice, detect fraud or offer solutions to financial concerns.

Cloud: The use of remote servers to run operations, allowing banks to access data, incorporate tools, run applications or deliver services through the internet. The cloud offers scale since banks (or any business) can increase offerings without needing to build new servers.

Full conversion: Replacing the full legacy core of the bank and transitioning it to a new provider, whether that's at a different legacy core provider or an alternative core solution.

Machine learning: A component of AI, machine learning allows computers and systems to learn tasks and abilities beyond their programming, based on data analysis and algorithms.

Open banking: Also known as open architecture, it's the concept of allowing a customer easy access to their data. In practice, it uses APIs as a bridge to third-party financial technology companies that offer services that the bank may not be able to provide on its own. This can include giving consumers a full picture of their finances or providing them with advice based on predictions from their spending.

Predictive analytics: This provides banks the ability to use the data they have access to, in order to develop algorithms or use machine learning to determine the likelihood of success for certain plans or strategies.

Split conversion: Replacing part of the legacy core of the bank and transitioning it to a new provider. While part of the bank utilizes the new core, other parts of the bank remain on the legacy core.

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As a resource powered by Bank Director, FinXTech specializes in connecting a hugely influential audience of U.S. bank leaders with technology partners at the forefront of innovation. FinXTech makes it easier for banks and technology companies to work together through our exclusive in-person events, editorial content and online resources. For more information, please visit **FinXTech.com**.

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CORE REPLACEMENT

HOW BANKS ARE REPLACING THEIR CORES

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