WHITE PAPER

MODERN BANKING PLATFORM

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FIS Modern Banking Platform

Banking continues to evolve rapidly, and the time has come for banks to shift focus to a modern banking platform and what it offers. Banks can capitalize on the many benefits that can be achieved by migrating their legacy core solution to a modern banking platform; one based upon redefining "core" from the previously monolithic solution to a componentized solution. This white paper poses the question, "What can a modern banking platform do for your bank?" – and then attempts to provide answers.

This white paper is part of a series of FIS™ white paper publications regarding core banking modernization trends and topics.

Personal Perspectives on Banking

I grew up three blocks from one of the local branches of my parents' bank – a regional bank a few miles outside a major city. When we needed to "bank", we'd get dressed up in semi-formal attire, walk three blocks, enter the branch, and then wait to talk to a teller or a branch officer… it was an "experience." An experience that took a significant amount of time out of our day. This is how my mother, now in her 70s, still defines "banking" and how she still banks today. And she wouldn't have it any other way.

I'm in my 40s. I'm far more comfortable with technology. When I started earning income in my early 20s, which was the 1990s, I didn't need the "experience" of a bank's branch, I wanted speed and convenience. I banked via internet sites and web pages and dot coms – enabling me to swap the semi-formal banking attire of my youth for whatever I happened to be wearing – even my pajamas. There's no need to dress up when banking on a desktop computer in my home office or using a laptop on my couch. This is still how I usually bank, though I'm open to other options.

My daughter is in her 20s. She doesn't relate to bank branches, other than how former bank branches in our area have been repurposed into diners, bars and even nightclubs (those old bank vaults come in handy for safekeeping the liquor, appropriately enough). My daughter doesn't have a desktop computer, and her laptop which was bought for college term papers is now used mostly for gaming. With her generation, mobile phones rule. My daughter "banks" using an app on her phone (of course), making sure her paychecks were deposited, her bills got paid and to check the balance of her car loan. She also uses her phone to loan friends money, to make store purchases and to download music that's paid for – all without ever opening a wallet or touching a dollar or coin. She also uses the bank app to check on the balance of the CD her grandma gave her as a graduation gift which by the way her grandma opened a year earlier – you guessed it – by walking into that branch I mentioned earlier.

It's clear that the definition of "banking" has changed significantly in the mere span of three generations. Likewise, the IT architecture that supports all these types of banking has had to adapt, without losing the ability to support all of the banking "experiences." But how? A bank cannot swap out its architecture every time a customer wants more immediate gratification than the generation before. For any bank, supporting multiple banking experiences, while keeping pace with the wide spectrum of consumer expectations, and having to maintain legacy cores already embedded in the bank's ecosystem precludes a "big bang" core system replacement – it would be the banking equivalent to human spinal replacement surgery. The prognosis would not be good.

Fortunately, there are far better alternatives available, thanks to the modern banking platform and its underlying technology and design. By providing the ability to decouple the mobile device, app-driven, self-service channel experience (my daughter's "bank"), from an internet bank's web channel experience (my "bank"), from the traditional brick and mortar branch and client service rep experience (mom's "bank") – yet still provide all the same banking services and heavy lifting power of a core, is where two-speed architecture has allowed all banking experiences – and future ones – to coexist in peace and harmony, while banks position themselves to modernize their core platform.

Thanks to this, my mom, myself and my daughter can all bank the way we want.

What Can a Modern Banking Platform Do for Your Bank?

Going forward, a bank's "core" doesn't have to try to do it all. It can still be the backbone of a bank – serving as the account and transaction engine – without needing spinal replacement surgery to keep the institution on the cutting edge of banking and technology.

As an example, as we move to open banking systems, modern banks can provide services to fintechs who are more in touch with millennials, being the "pace car" without having to win the race. The bank's channels can leverage agnostic banking services via open APIs which do not need to know the often-intricate legacy core's processing details and functional components. This provides the ability to adapt rapidly to moving market expectations of an efficient and life event-related experience, without having to be experts in it.

Additionally, "cores" do not need to evolve together as rapidly or be replaced holistically – cores as "components" can be decoupled and evolve as their function or purpose in the bank needs to – and can continue to evolve into decomposed enterprise components in stages as the bank can accommodate. In this way, a bank can focus on what it does best – servicing its customers as a bank, not as an IT shop.

Definition of "Modern" – adjective

1. of or relating to present and recent time; not ancient or remote: *modern city life.*
2. characteristic of present and recent time; contemporary; not antiquated or obsolete: *modern viewpoints.*

Twenty-five years ago, Bill Gates declared **"Banks are dinosaurs, they can be bypassed."** While his prediction that the digital age would be the asteroid that would cause the traditional bank's eventual extinction wasn't entirely correct, at least as of yet, it is still quite prescient. Traditional banks clearly must modernize to stay relevant. Cores are usually among the oldest technology in a bank, and are often considered "prehistoric" amongst technologists. Banks may struggle to find new technical staff that even want to work on the older cores. **As the core solution ages, and as the staff that supports it ages – so ages the bank.**

With today's focus on exceptional user experience, hyper personalization and digital transformation, the bank's survival – and success – depends on having a modern banking platform to support the bank's evolution, operations and growth.

It is a fact that the core systems used by financial institutions are overdue for modernization. Many have been maintained for decades with the technical equivalents of bandages to "stop any bleeding" – but bandages aren't a cure, they cannot save a dying patient, or even ease the pain. Many core systems were developed 20, 30, even 40+ years ago; they are not built for today's needs.

While forming the basis of a core banking modernization program, different institutions will adopt modern capabilities (or "next generation banking") at different paces depending on their business and technology drivers and capacity to absorb change. This is made possible with the following attributes of a modern banking platform:

- **Next generation architecture** – Built from the ground up for banking as a native, high-performance, mission-critical platform.
- **API and Microservice Support** – Built with a stateless services architecture to support complex orchestration and a microservices architecture.
- **Cloud ready** – Underlying architecture designed to easily deploy onto any public or private cloud environment.

Cost containment can be achieved by leveraging both proprietary and open source infrastructure components with world-class scalability and security.

Redefining "core" redefines what banking core systems "do"

Core banking platforms evolved out of necessity. They've been a stalwart of banking IT ecosystems for years, but Father Time is catching up, and many cores have not aged well.

With core solutions being redefined, the traditional monolithic core banking solutions are giving way to smaller and more nimble components with discrete functionality (component-based architecture) which address the constraints of legacy bank infrastructure. More advanced core component solutions can be far more agile and can promote an ecosystem or platform type approach up or downstream to third-party integrations.

Accelerated efforts of bank digital transformations are leading the way, primarily out of the necessity to compete on customer experience. With an adoption of agile development and deployment, and increased focus on API enablement across the organization, banks are moving toward modernized solutions that can differentiate the experience for customers.

Additionally, cloud adoption in the industry is increasing with the expectation that more enterprisewide banking applications will start to move to cloud deployments, placing even more importance on a bank's application selection for cloud-native, open API-enabled platforms.

And finally, the "necessary evil" of regulations continues to drive banks to modernize rather than continue to try to patch existing solutions to be compliant. For example, with the introduction of PSD2, banks in Europe are mandated to provide API-level access to their cores. Several other regions have also signaled interest in open banking, so access to cores is becoming mandatory.

Core banking market demand is surging to support digital banking and channel transformation, with an increased focus on commercial off-the-shelf packages and public cloud deployments. With a focus on banking cores being able to serve as the foundation for an open banking ecosystem, the industry is seeing a migration of traditional cores to component-based solutions, and an "API-first" architecture that is integrated via "plug and play" components.

The bottom line: Financial institutions need to modernize, and cannot do it all at once. An option to pick and choose "best of breed" solutions to create banking and payments ecosystems that evolve in stages, via components, eases the transition at an achievable pace.

As such, the target end state is a core that is modern, and that isn't an "end-all be-all" like previous cores attempted to be. A modern solution powers an open banking platform and integrates financial technologies for all stakeholders in the bank's value chain: technology partners, bank employees, and customers, as well as regulatory authorities and other banks.

The founding principles that a modern banking platform must achieve include:

- **Open banking**
  To effectively move to an open banking platform requires a core that has the necessary agility to open and expose back-office business services to known and unknown partners.

- **Flexible/Scalable delivery model**
  Requirement for core deployment across any hardware, operating system or database, including cloud deployments.

- **MESH - Beyond componentization**
  A multichannel solution architecture that leverages cloud, server-less computing, containers, microservices and APIs to deliver a modular, flexible and dynamic core solution.

- **Analytics and artificial intelligence (AI)**
  Modern cores are pairing the provision of analytics capabilities with the deployment of AI tools. AI is increasingly required to increase automation and enable hyper-personalization; modern cores and the ways in which they interface with the data collected enable the effective use of advanced AI.

Checklist: What modern banking platforms "do"

Architecture is secure; cloud-enabled and containerized; coded in a modern and maintainable industry-standard language (e.g., 100 percent Java-based, rather than a vendor's proprietary script); and most of all, it is open.

- ✓ Business services are functionally rich and extensible, with a high functional threshold for core banking transaction processing and back-office features.
- ✓ Extensibility is provided via configuration, coded plug-ins, or both.
- ✓ A microservices architecture allows for continual deployments and enables safe implementation of change at a rapidly accelerated pace.
- ✓ "Multi-dimensional" features supporting:
  - Multi-tenancy – Supports the most complex of financial organization structures
  - Multi-currency – Capability to transact in any currency, including traditional and crypto currencies
  - Multi-platform – Runs effectively, efficiently, and can be optimized on any viable platform
  - Multi-deployment – Can be deployed via multiple options – from on-premise to hosted to full software as a service (SaaS) models (including cloud deployments)
  - Multi-Accounting – Transacts in any accounting method for balancing and settlement
  - Multi-language – Supports any character set and language, from the presentation layer all the way down into the data store
  - Multi-time zone – Capability to process 24/7 in any market, in any time zone, across multiple time zones, simultaneously, without having to bring the system "down" or offline to do so
- ✓ The modern banking platform accelerates speed to market; an improved product factory enables clients to create and launch products faster and with more configuration options.
- ✓ The modern banking platform is cloud-capable, offering improved availability and providing instant scalability; the platform's architecture is designed to easily deploy onto any private or public cloud environment.

- Cloud-enabled containerized deployment of specific business functionality allows elastic scaling of capability based on demand.
- Analytics and AI capabilities support automation and hyper-personalization. Modern banking platform Analytics solutions provide prebuilt models, Key Performance Indicators (KPIs), dashboards, applications and reports, coupled with real-time data and predictive analytics.
- Analytics can be embedded directly into any digital channel via APIs.
- Componentized core helps to contain costs, including the capability to implement change without redeploying and retesting the full application.

Is YOUR BANK Ready for the Modern Banking Platform?

A modern banking platform is an optimal choice for banks that answer "yes" to the following questions:

- Is your bank ready to set itself apart from other banks in the market? This is particularly important for banks that have been limited by antiquated legacy core solutions and slow to move forward.
- Is your bank ready to modernize, transform and optimize its systems, processes and solutions to become highly efficient and highly effective?
- Does your bank want to provide existing customers with a premier set of banking products and services available via the best user experience possible?
- Is your bank eager to acquire new customers using advanced data analytics that ensure success for your customers and your bank?

The evolution – or revolution – to a modern banking platform is a critical decision. It is a strategic investment; one that will affect your financial organization for years, possibly decades, to come. The solution implemented must be able to support your institution's business objectives – not just today, but as the organization evolves over time.

Case Study: FIS Modern Banking Platform

The FIS Modern Banking Platform is a fully componentized, container deployed processing solution that provides for a complete solution that is highly agile and extensible:

- As the account and transaction engine, the system houses and controls the quality of data, the validity of transactional and balance accuracy, and the depth and breadth of services you can offer your customers.
- As a product factory, the system provides the ability to respond quickly and effectively to evolving and dynamic customer and market demands.
- As an information repository, the system defines the quality and accuracy of your management reporting.

Developed as a fully componentized solution, the FIS Modern Banking Platform provides a multitude of configurable features, at the enterprise level. The 100 percent Java-based solution is purpose-built for banking, designed to meet the unique business and product needs of individual retail and commercial financial organizations across all lines of business. The FIS Modern Banking Platform core banking solution offers industry-leading total cost-of-ownership (TCO) benefits based on lower infrastructure and ongoing operating costs, as well as increased productivity. Its proven scalability and high availability make it a premier choice for organizations committed to implementing a 24/7, always-on solution.

Benefits

Reduced TCO and increased efficiencies

Banks and other financial institutions often use many discrete, interfaced applications to support their retail products and services processing systems. This is an expensive situation. It's not unusual for one quarter to one-third of a bank's total IT budget to be consumed by maintaining legacy core solutions, with more than half of that amount spent maintaining aging systems and all the points of connectivity across the organization. The FIS Modern Banking Platform represents an opportunity to greatly reduce TCO while modernizing and increasing efficiencies. Internal statistics indicate that the TCO for the FIS Modern Banking Platform real-time core banking solution can be 60 percent less than operating and maintaining legacy batch systems.

Improved time to market and enhanced competitive innovation

Overcoming technical obstacles to business innovation is paramount for competitive advantage in the banking industry. Product and service innovations are often hampered by the technical limitations of legacy environments. Large, global institutions may spend months implementing code changes to numerous legacy back-end and peripheral systems to support the launch of a single new product or service. In contrast, the highly configurable FIS Modern Banking Platform is component-based and offers an institution the capability to launch new products and services within days.

Decreased risks and costs to support real-time payment systems

In legacy environments, batch and Day Two processing are embedded within many U.S. payment processes. In addition to the costs to process these transactions, banks are continually confronted with potential risks and errors due to inconsistent exception processing. Many European and Asian institutions moving into the U.S. market are unencumbered by these legacy limitations and can readily support real-time payments with automated exceptions processing. Bundling the FIS Modern Banking Platform and Open Payments Framework can help transform a bank's enterprise payments organization.

Consistent, real-time customer experience across multiple delivery channels

The FIS Modern Banking Platform provides integration with all delivery channels through an open API gateway, Code Connect. This architecture supports access to all functionality through multiple industry standard interfaces (for example, RESTful services that expose the FIS Modern Banking Platform services).

Business agility and competitive advantage

The built-in Product Factory is designed to help the bank dynamically adapt to changing demands for new products and services, and when bundled with the Enterprise Product and Pricing engine, can provide enterprisewide product and pricing capabilities.

The system's highly granular design enables the bank to interactively assemble new products without the need for application development. The assembly process leverages an inventory of financial objects that can be used within any product category. Features are not locked into a "vertical" product application or predetermined functional area; capabilities can be shared across cores and lines of business. As new features and regulatory requirements are developed and deployed, they instantly become available across all product categories. Features can be individually modified through bank-defined overlays, right down to the individual account or customer level.

Growth without business interruption

The FIS Modern Banking Platform is a highly scalable, real-time system that is exemplified by published benchmarks that exceed 5,000 transactions per second with sub-second response time. Its architecture supports true 24/7 capabilities; this greatly reduces operational risk and creates an always-on solution for the bank and its customers.

Case Study Conclusion

The FIS Modern Banking Platform solution enables banks to provide superior banking products and services to their customers. This is accomplished in real time, with a low TCO, extensive flexibility, superior scalability, and high levels of productivity.

The solution gives organizations real-time operational and management information, and continuously evolves to incorporate technical and functional improvements. Importantly, it eliminates the functional, informational, and delivery boundaries that seem all too common in today's financial services industry.

The FIS Modern Banking Platform is the foundation for a complete, fully integrated, open retail and corporate banking solution. It provides the most comprehensive core banking functionality on the market today, coupled with add-on solutions.

Our Modern Banking Platform is just that – a modern solution for the modern world; it is newer than all of the other core systems on the market today. It is a next generation solution that can provide the foundation for a bank for decades to come.

References

https://www.dictionary.com/browse/modern

https://www.bloomberg.com/professional/blog/banks-too-slow-to-modernize-core-systems/

https://gonzobanker.com/2018/07/bill-gates-dinosaur-banks/

https://www.dictionary.com/browse/do

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