

WHITEPAPER

Why orchestration is key for payment modernization

INTRODUCTION:

The evolution and current state of payment systems

The financial services sector has experienced significant transformations over the past few decades, evolving from manual processing methods to sophisticated digital transactions. These advances have been driven by the need to meet changing customer expectations and to adhere to increasingly stringent regulatory requirements. However, despite these technological strides, many banks are still encumbered by legacy systems. These systems, often developed decades ago, are not only complex but also costly and inflexible, making it challenging for banks to innovate and stay competitive.

Legacy systems were designed to handle the payment needs of a different era. As transaction volumes increase and customer expectations for instant, seamless payments grow, these systems struggle to keep up. They are often siloed, requiring extensive manual intervention to process transactions across different platforms and channels. This fragmentation leads to inefficiencies and higher operational costs. Moreover, maintaining these outdated systems consumes valuable resources that could otherwise be allocated to innovation and improving customer experiences.

“Legacy systems were designed to handle the payment needs of a different era.”

Challenges Faced by Banks with Legacy Systems

The challenges posed by legacy systems are multifaceted. Firstly, there is the issue of complexity. These systems are often a patchwork of different technologies and platforms, integrated over many years. This complexity makes it difficult to implement changes quickly, which is a significant disadvantage in a rapidly evolving financial landscape. Furthermore, the cost of maintaining these systems is substantial. Banks must invest heavily in keeping these systems operational, diverting funds from potential investments in new technologies.

Additionally, legacy systems pose significant risks. They are more vulnerable to outages and cyber-attacks, and their inflexibility can make compliance with new regulations both time-consuming and expensive. As regulatory requirements continue to evolve, the ability to quickly adapt is crucial. However, with legacy systems, even minor changes can require significant effort and resources, leading to delays and increased costs. This situation is compounded by the interconnected nature of these systems, where changes in one area can have unforeseen consequences in another.

Understanding payment orchestration

Definition and Key Concepts

Payment orchestration is a sophisticated approach that enables seamless coordination of interactions between various payment-related systems and core banking systems. Unlike traditional payment hubs, payment orchestration leverages an event-driven, microservices-based architecture to manage payment flows more effectively and efficiently. This framework is designed to address the complexities and inefficiencies of legacy payment systems by providing a flexible, scalable, and integrated solution.

The core concept of payment orchestration involves creating a single integration layer that connects all payment-related activities within a bank's ecosystem. This integration layer simplifies the management of multiple payment channels, including domestic and international transactions, real-time payments, and batch processing. By centralizing these processes, payment orchestration enhances operational efficiency and reduces the costs associated with maintaining separate systems.

"Payment orchestration provides a flexible, scalable and integrated solution."

Moreover, payment orchestration provides real-time visibility into payment flows, enabling banks to monitor transactions more effectively. This increased transparency helps in identifying and resolving issues promptly, thereby improving the overall reliability and security of payment systems. The use of microservices allows for modular updates and enhancements, making it easier for banks to adapt to new regulatory requirements and market conditions without significant overhauls.

The Role of Event-Driven Architecture and Microservices

An event-driven architecture is crucial to the functioning of payment orchestration. In this architecture, events are generated at each stage of the payment process, triggering specific actions or workflows. This real-time processing capability ensures that payments are handled efficiently and promptly, meeting the expectations of modern customers who demand instant, seamless transactions.

Microservices play a pivotal role in the scalability and flexibility of payment orchestration. Each microservice is responsible for a specific function within the payment process, such as transaction validation, fraud detection, or compliance checking. This modular approach allows banks to update or replace individual components without disrupting the entire system. It also enables rapid deployment of new features and services, providing a competitive edge in a fast-paced market.

By combining event-driven architecture with microservices, payment orchestration offers a robust and adaptable solution that can scale to handle increasing transaction volumes. It also provides the flexibility to integrate with emerging technologies and payment methods, ensuring that banks can stay ahead of industry trends and customer demands.

The drivers of payment modernization

Regulatory Focus

Regulatory requirements have become a significant driver of payment modernization. Financial authorities worldwide are emphasizing the need for payment systems to be resilient, scalable, and capable of protecting customer data. Regulations such as the Revised Payment Services Directive (PSD2) in Europe, and the implementation of open banking standards, require banks to provide more transparent and secure payment services. Additionally, new standards like ISO 20022 are being adopted to enhance the quality and richness of payment data, facilitating better compliance and fraud detection.

The pressure to comply with these regulations is pushing banks to modernize their payment infrastructures. Legacy systems, with their rigid architectures and limited flexibility, are often ill-equipped to meet these evolving requirements. Payment orchestration provides a modern solution that not only ensures compliance but also enhances the overall efficiency and security of payment systems.

Competitive Pressures

In today's highly competitive banking sector, there is a pressing need to reduce long-term costs while developing differentiated offerings to attract and retain customers. Payment services are a critical area where banks can gain a competitive advantage by offering faster, more reliable, and innovative solutions. Customers expect seamless and instant payment experiences, and banks that fail to meet these expectations risk losing market share to more agile competitors, including fintech firms and neobanks.

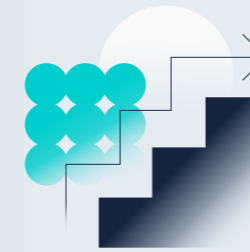
Payment orchestration enables banks to streamline their operations, reducing the complexity and cost associated

with maintaining multiple, siloed payment systems. By consolidating payment processes into a single, integrated platform, banks can achieve greater efficiency and agility. This integrated platform allows them to quickly launch new payment services and adapt to changing market conditions, giving them a competitive edge.

Furthermore, the ability to offer a wide range of payment options, including real-time payments and cross-border transactions, enhances the customer experience. By leveraging payment orchestration, banks can provide a more comprehensive and responsive service, improving customer satisfaction and loyalty.

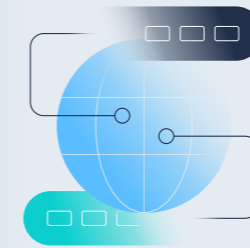
The drivers of payment modernization are rooted in the need to comply with regulatory requirements and the desire to stay competitive in a dynamic market. Payment orchestration offers a solution that addresses these drivers by providing a flexible, scalable, and efficient platform for managing payment processes. As banks continue to modernize their payment systems, the role of payment orchestration will become increasingly important in ensuring that they can meet regulatory demands and deliver superior customer experiences.

The Challenges



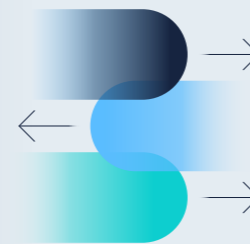
Complexity of Legacy Systems

Modernizing payment systems is fraught with challenges, primarily due to the complexity of legacy infrastructures. These systems are often a conglomeration of outdated technologies patched together over decades. This complexity makes any modification or upgrade a daunting task. The intricacies involved in maintaining and updating these systems consume significant time and resources, which could otherwise be directed towards innovation and improving customer services.



Interconnected Systems and their Risks

Legacy payment systems are not only complex but also highly interconnected. Changes in one part of the system can have unforeseen impacts on other parts, creating a ripple effect that can disrupt operations. This interconnectedness increases the risk of outages and system failures, which can have severe implications for a bank's operations and reputation. The extensive testing and reconfiguration required to ensure stability during updates further add to the burden, making modernization efforts both risky and costly.



Costs and Resource Investment for Changes

The financial implications of modernizing payment systems are significant. Upgrading legacy systems requires substantial investment in both technology and human resources. Banks must balance the costs of these upgrades with the need to remain compliant with regulatory standards and competitive in the market. The resource-intensive nature of these projects often leads to delays and increased operational costs, presenting a considerable challenge for financial institutions.

The case for payment orchestration

Simplifying Integration

Payment orchestration offers a compelling solution to the challenges of modernizing payment systems. By creating a single integration layer, payment orchestration simplifies the management of multiple payment channels and systems. This single layer reduces the complexity and cost associated with maintaining disparate systems, allowing banks to streamline their operations and enhance efficiency.

Enhancing Payment Visibility and Monitoring

One of the significant benefits of payment orchestration is the enhanced visibility it provides over payment flows. Real-time tracking and reporting capabilities allow banks to monitor transactions more effectively, quickly identifying and resolving issues. This increased transparency ensures smoother and more reliable transaction processing, improving overall operational reliability.

Flexibility and Scalability

Payment orchestration also offers unparalleled flexibility and scalability. Its modular architecture, built on microservices, allows banks to update or replace individual components without disrupting the entire system. This flexibility is crucial for adapting to new regulatory requirements and market conditions. Furthermore, the scalability of payment orchestration systems enables banks to handle increasing transaction volumes efficiently, ensuring they can meet growing customer demands.

The benefits

Cost reduction:	Streamlines operations and reduces the need for multiple interfaces.
Operational resilience:	Decouples payment processing from central infrastructure.
Enhanced visibility:	Provides real-time monitoring and tracking of payment flows.
Scalability:	Efficiently handles increasing transaction volumes.

Cost Reduction and Efficiency

One of the primary benefits of payment orchestration is the significant reduction in operational costs. By streamlining payment processes and eliminating redundant systems, banks can achieve substantial savings. The centralized integration layer provided by payment orchestration reduces the need for multiple interfaces, simplifying the maintenance and management of payment systems. This central layer not only cuts down on direct costs but also reduces the time and resources required for system upkeep, allowing banks to allocate their resources more effectively.

Moreover, payment orchestration minimizes regulatory costs by ensuring compliance through automated processes. This orchestration reduces the risk of non-compliance penalties and the associated costs of manual compliance checks. Overall, the efficiency gains from payment orchestration translate into lower operational expenses and improved financial performance.

Operational Resilience and Flexibility

Payment orchestration enhances the operational resilience of banks by decoupling payment processing from central infrastructure. This independence ensures that payment operations can continue even during outages or disruptions in the central system. As a result, banks can manage peak transaction volumes more effectively, reducing the risk of bottlenecks and service delays.

The flexibility of payment orchestration is another significant advantage. The modular architecture allows banks to update or replace individual components without disrupting the entire system. This flexibility is crucial for adapting to new regulatory requirements and market conditions. Banks can quickly implement changes and introduce new features, ensuring they remain agile and responsive to customer needs.

Speed and Agility

The rapid deployment of changes is a key benefit of payment orchestration. Banks can quickly adapt to new customer requirements and regulatory changes, ensuring they remain competitive in a fast-paced market. The ability to swiftly implement updates and modifications reduces time-to-market for new features and improvements, providing a competitive edge.

Configurability is another advantage offered by payment orchestration. Banks can easily configure the system to meet different requirements, allowing for tailored solutions that address specific business needs. This agility ensures that banks can provide innovative payment services and maintain high levels of customer satisfaction.

Moving to a new architecture

End-to-End Payment Flow Management

Effective payment orchestration requires end-to-end visibility and control over the entire payment flow. An event-driven microservices architecture provides the necessary framework to achieve this goal, enabling banks to monitor and manage transactions in real-time. This architecture ensures that each event in the payment process triggers specific actions or workflows, enhancing the efficiency and reliability of payment operations.

Payment Orchestration Solutions

Payment orchestration solutions offer a comprehensive approach to modernizing payment systems. By providing complete visibility and control over payment flows, these solutions help banks streamline their operations, reduce costs, and enhance overall efficiency. The use of microservices allows for modular updates and enhancements, making it easier for banks to adapt to new regulatory requirements and market conditions without significant overhauls.

Addressing Misconceptions



A common misconception is that payment orchestration simply replaces traditional payment hubs. In reality, payment orchestration offers far more. While payment hubs serve as central points for processing payments, they often come with inherent limitations in terms of flexibility and scalability. Payment orchestration, on the other hand, integrates multiple payment systems into a cohesive framework, providing a more flexible and scalable solution.

Payment orchestration reduces the complexity and cost associated with maintaining multiple, siloed systems. By creating a single integration layer, it simplifies the management of payment processes and enhances operational efficiency. This integration layer provides real-time visibility into payment flows, enabling banks to monitor and manage transactions more effectively.



Another misconception is that payment orchestration adds complexity to the payment process. In fact, it simplifies integration and management by centralizing payment activities. This centralized approach reduces the need for multiple interfaces and manual interventions, streamlining operations and reducing the risk of errors.

ensure that compliance checks are conducted efficiently and accurately, reducing the risk of non-compliance and associated penalties. The flexibility of payment orchestration allows banks to quickly adapt to new regulatory standards, ensuring they remain compliant without significant disruptions.

Payment orchestration also enhances the ability to comply with regulatory requirements. Automated processes

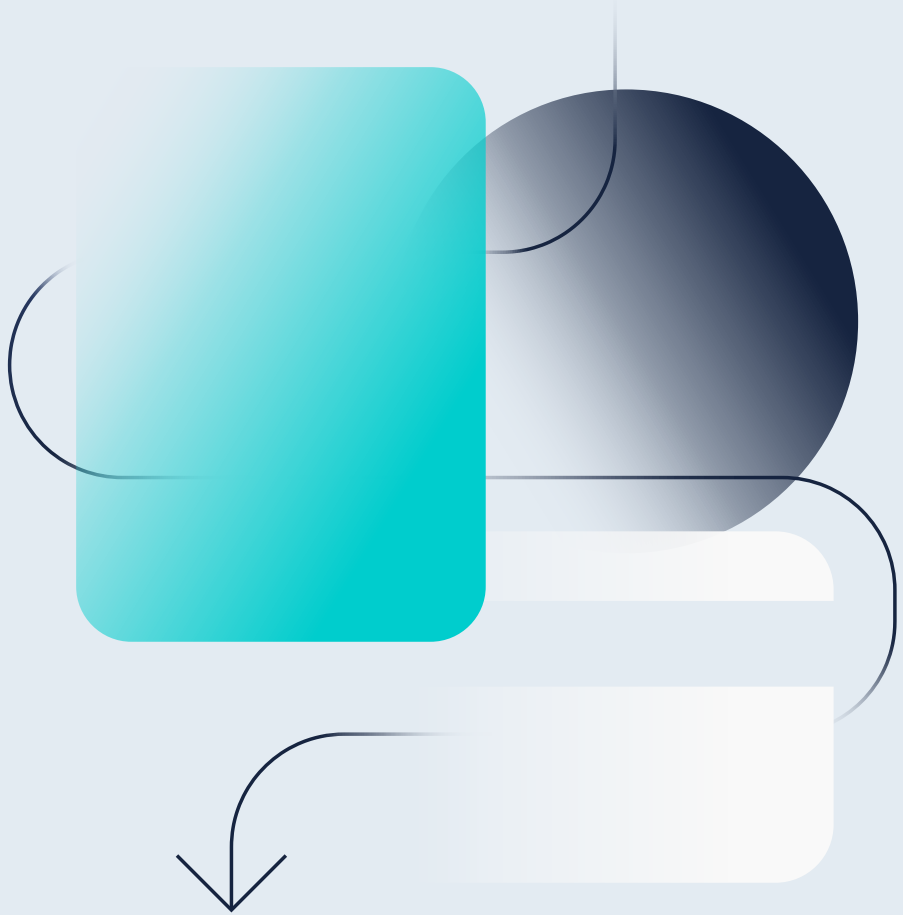
Future-proofing payment systems

Preparing for Regulatory Changes

As regulatory landscapes evolve, banks must stay ahead of new compliance requirements. Payment orchestration provides a flexible framework that enables banks to quickly adapt to changes without significant disruptions. This adaptability ensures continuous compliance with regulations such as PSD2, open banking, and ISO 20022, mitigating the risk of non-compliance penalties and operational hiccups.

Scalability for Growing Volumes

With transaction volumes steadily increasing, scalability is crucial. Payment orchestration systems are designed to efficiently handle growing payment volumes, ensuring seamless and reliable transaction processing. This scalability not only supports current demands but also prepares banks for future growth, allowing them to offer innovative payment services and maintain a competitive edge in the market.



Why orchestration solutions are a key driver in payment modernization

Key Takeaway

While every bank should understand the importance of payment modernization, they must have a clear view of where they want to be and how they get there. Effective payment modernization requires banks to adopt a test and learn approach, both in terms of reimagining existing payment flows to support their existing customers, but also to fuel innovation so they can develop new propositions. Moving away from legacy infrastructure is necessary, and by choosing the right technology partners banks can utilize payment orchestration solutions to help them take the first steps on this journey.

Our solution

Form3's Payment Orchestration is a flexible, configurable, event driven framework which focuses on seamless coordination of interactions between Form3's platform and the customers payments related or core banking systems.

- **Interoperability with a customers estate**

One API standard to enable interoperability with Form3's platform and any customers payment related or core banking system.

- **Automate exception management**

Ability to define automated workflows to reduce manual exception processing

- **Self serve configuration**

Ability to self serve to change configuration of workflows with automated deployment to then test in staging.

- **Configurability**

Configure any activity within a workflow including input, decision, output and next activity.

- **Rapid change deployment**

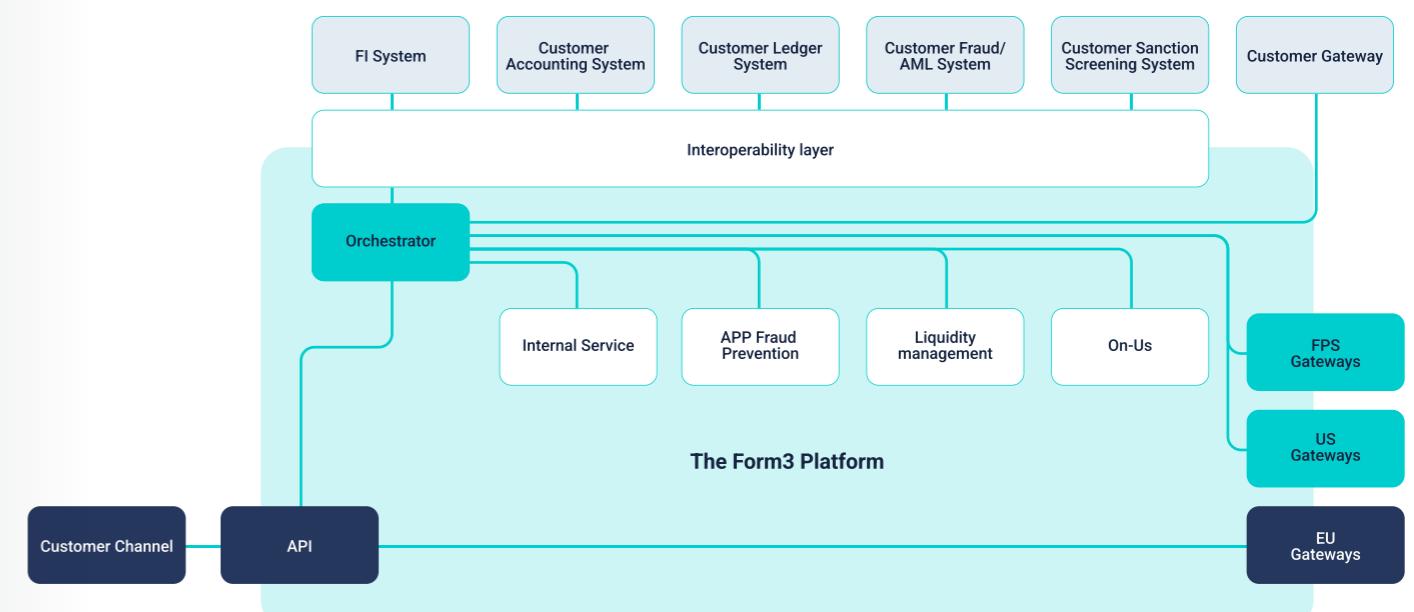
Deploy changes to workflows or new workflows, rapidly to reduce the cost and burden of change.



Our platform is built in the cloud, for the cloud, and contains a variety of features and services to enable your business to become and remain competitive. Everything is automated, from the initial infrastructure to continual deployments,

testing, monitoring and servicing. All while being managed 24x7x365 to ensure always-on real-time processing.

How it works



Experience seamless payment workflow changes

Find out how Payment Orchestration can support your modernisation plans.

Contact us →

Form3 is the account-to-account payments platform. Founded In 2016, Form3 set out to revolutionise the world of payment processing and disrupt the traditional payment infrastructure model, with an always on, cloud-native, Payments-as-a-Service platform. Providing not only gateway services its breadth and depth of solutions extends to fraud prevention, payments orchestration as well as data metrics. Today, Form3 is trusted by some of the UK's and Europe's biggest Tier1 banks and fastest-growing fintechs to handle their critical payments architecture. Form3 has been included in the 2024 Lazard T100 Index and was listed in the 2024 Top 100 Scale-ups in Europe. The company has also been awarded PayTech of the Year and Team of the Year for Form3's Engineering Team at the UK Fintech Awards 2024, Accel Euroscape 2023 Top 100 Company, Tech of the Future for Banks & Financial Institutions 2023 by the Paytech Awards, and Engineering Team of the Year 2023 at the Europe Fintech Awards. For more information visit www.form3.tech