On the Radar: Icon Solutions adds real-time capability to existing systems

Instant Payments Framework takes an open source approach to orchestration

Summary

Catalyst

Icon Solutions has been providing IT consulting services to financial institutions for the past 16 years, including working on delivery of the UK's Faster Payments Service, and more recently the implementation of open banking APIs at tier-1 banks.

The company has recently productized the knowledge and experience gained from these engagements to launch the Instant Payments Framework (IPF), using open source components to create an orchestration engine and gateway designed specifically to add instant payment capabilities to existing payments platforms.

Key messages

- IPF is designed to integrate into existing systems using a library of 100+ industry-standard protocols for reduced complexity and faster time to market.
- IPF supports 24x7 availability with stand-in processing when legacy systems are unavailable.
- A graphical design tool allows configuration of existing processing templates or the creation of new flows.
- Automated Java code generation and testing using an open source reactive framework can speed time to market and reduce the cost of implementation and change.

Ovum view

Icon's solution addresses the needs of banks struggling to cope with the advent of 24/7 real-time payment infrastructures – problems that will only become more acute as open banking APIs become more widely used in the next few years. But the company faces the same dilemma as a fintech start-up: it has an innovative solution but cannot yet point to reference sites. In its favor, however, is its 16-year track record providing consultancy and experience in delivering major real-time payment projects including the UK's Faster Payments and Singapore's G3 FAST. It also has the advantage of starting from a clean sheet, which levels the playing field to a great extent. Most existing vendor payment hub solutions date back to the turn of the century and were built for the payment infrastructures of the day. Subsequent generations have been built on the original architectures, and the vendors are now having to redevelop them almost from scratch.

Recommendations for enterprises

Why put Icon's IPF on your radar?

Payments processing is inexorably moving toward real-time as the norm rather than the exception, posing banks with existing legacy systems challenges of integration and management on the technical side and liquidity management on the compliance side. Hitherto, payment hubs have addressed the integration issues, but adding new instant payment schemes to old platforms does not address the fundamental problem.

Icon's approach is to provide a bypass: payments that can be, or need to be, processed through a specific route for reasons of value or security, or to meet SLA requirements, pass through the existing platform; those that need to use an instant payment route are taken through the IPF and routed to the appropriate scheme. It is a simple, practical solution intended for rapid, low-cost deployment.

Highlights

Icon has specifically designed IPF to address the needs of banks needing to connect to new instant payment schemes, or to extend the reach of their existing systems into secondary markets.

The fundamental concept of the design is that it connects to existing payment engines to orchestrate the message flow between channels (Figure 1). Incoming messages are examined, and if they need to go through an instant payment scheme, they are routed through IPF to the appropriate connection, which is provided by what Icon calls scheme packs, which are currently available for UK Faster Payments and the European SCTinst. A pack for the scheme being developed by The Clearing House in the US is under development.

If the payment does not have to go through an instant payment scheme, it can be routed through the existing payment engine to the local ACH, RTGS, or other connection.

Figure 1: IPF integrates to existing payment engines to reroute instant payments appropriately
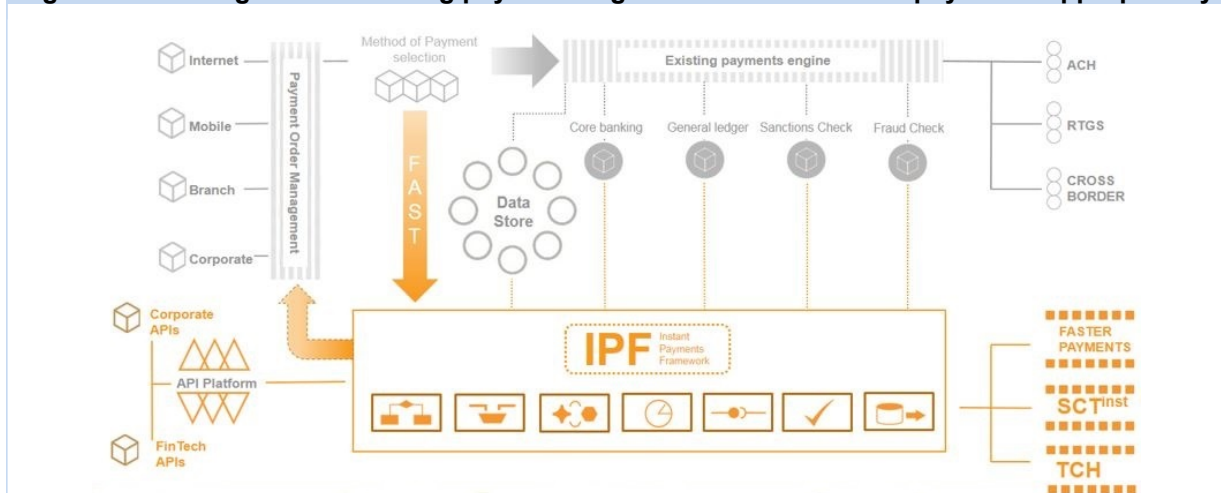
Source: Icon Solutions

How IPF processes incoming messages is controlled by a graphical design tool that allows business users and analysts to work together on the flow from requirements through code generation to automated testing. This allows users to rapidly implement existing flow models or develop new ones without incurring the cost of bespoke development work.

Costs are further reduced by the heavy use of open source components. IPF uses a Java reactive framework for performance and portability, while the Swagger toolkit is used for the creation of RESTful APIs to integrate to existing systems, which works alongside the Apache Camel Integration library for more traditional interfaces.

The system also uses the popular MongoDB noSQL database, which is ideally suited for processing complex ISO 20022 messages. It also uses the Akka toolkit and runtime component, which is an

asynchronous message-based framework that provides concurrency and resilience using a microservice-like architecture.

Features such as automated testing and containerized deployment help break down the traditional silos between business, IT, and operations, ensuring all stakeholder requirements are addressed.

All of the components have been chosen for their performance, and the whole framework has been unofficially benchmarked at 2,000 transactions/second on low-end commodity hardware.

IPF also includes stand-in support when legacy systems are unavailable to provide the 24x7 availability mandated by newer instant payment schemes and tools for monitoring of the system's health and diagnosis/resolution of operational incidents.

Background

Icon Solutions has provided IT strategy, architecture, and design consulting services to financial institutions for more than16 years. It has a focus on global payments, with a specific focus on defining, architecting, and delivering instant, or real-time, payment solutions internationally. Several of its staff have been actively involved with the development of the UK Faster Payments Service since its inception. In particular, it has worked on Faster Payments implementations for a number of banks in the UK. More recently it completed a project for another tier-1 retail bank implementing the UK's open banking API requirements.

Data sheet

Key facts

Table 1: Data sheet: Icon Solutions

Product name	Instant Payments Framework	Product classification	Payment hub
Version number	1.1	Release date	April 2017
Industries covered	Retail and corporate banking	Geographies covered	UK/Europe/US
Relevant company sizes	Tier-1/2 banks	Licensing options	On-premise
URL	www.iconsolutions.com	Routes to market	Direct/via SI partners
Company headquarters	London, UK	Number of employees	140

Source: Icon Solutions

Appendix

On the Radar

On the Radar is a series of research notes about vendors bringing innovative ideas, products, or business models to their markets. Although On the Radar vendors may not be ready for prime time,

they bear watching for their potential impact on markets and could be suitable for certain enterprise and public sector IT organizations.

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We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum's consulting team may be able to help you. For more information about Ovum's consulting capabilities, please contact us directly at consulting@ovum.com.

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