

VocaLink builds a high-performance platform for Faster Payments



With an IBM® WebSphere® MQ and IBM Tivoli® Workload Scheduler solution from Orbital

Overview

Business challenge

When the UK Government instigated the Faster Payments initiative, VocaLink was tasked with creating an IT solution capable of enabling near-instant money transfers between accounts held by different banks.

Solution

VocaLink worked with Orbital, an IBM Business Partner, to design and deploy a real-time payments processing architecture based on IBM WebSphere MQ and IBM Tivoli Workload Scheduler.

Headquartered in Rickmansworth, UK, VocaLink is a specialist payments partner to banks, their corporate customers and government departments. It processes domestic and international automated payments, and provides ATM switching solutions. The company employs nearly 1,000 people.

An industry leader

On a peak day, the VocaLink automated payment platform processes over 90 million transactions for the UK banking industry, and its switching platform connects the world's busiest ATM network of over 64,000 ATMs.

Besides the operation of its existing ATM and payments technologies, the company also works closely with government bodies and the banking industry to develop new solutions, such as access to the Single European Payments Area (SEPA) within the EU. The company is also working with BGC to provide fully outsourced processing for the majority of Sweden's domestic payments – a potentially revolutionary project for the payments sector.

Enabling Faster Payments

The company's successful approach to this kind of large-scale project has been demonstrated by the completion of its 'Faster Payments' platform for UK banks which has now entered its third year of operation.

"Like many initiatives in the payments industry, Faster Payments was driven by legislation: the UK Government set an objective of reducing inter-bank payment clearing times from three days to a same-day service," says Hussein Badakhchani, Solution Architect and Distinguished Technologist at VocaLink.

"Subsequently, the target was made even more ambitious: to enable inter-bank payments 24 hours a day, seven days a week, and to clear them in less than two hours. In fact, the service that is in operation today far exceeds the original requirements of the OFT's Payment Systems Task Force: technically it is possible for payments to be made irrevocable within seconds of being initiated. VocaLink was tasked with both designing and building the central infrastructure that would make this possible."



Business Benefits

- Provides an alternative complementary service for payments up to £10,000 that require same day processing.
 - Processes more than five million transactions per day, and is designed to scale to peak volumes of more than ten million per day.
 - Eliminates administrative workload, increases transparency and reduces the risk of error by automating all key stages of the payments process.
 - Creates a resilient and secure infrastructure for real-time payments processing.
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Building on proven technology and expertise

VocaLink realised many of the specifications for the Faster Payments Service were essentially very similar to those of other payment systems it had implemented.

“The IT architecture that we had used to implement other payments schemes – most notably the BACS scheme – was essentially a Java™-orchestrated, database-driven application,” explains Badakhchani. “The main difference with the Faster Payments Service was its requirement to use IBM WebSphere MQ to route message traffic to and from the banks.

“To create a real-time process for Faster Payments, there were two main challenges. The first was performance: could we adapt our proven solutions so that they would scale to handle the predicted transaction volumes and complete all transfers within two hours? The second was control: could we ensure that the process was completely reliable, transparent, secure and auditable? IBM WebSphere MQ turned out to be the ideal platform, providing all the performance and reliability we needed.”

Finding the right partner

The VocaLink team began examining existing payments architectures with a view to identifying which components could be reused and where innovation was required to meet the requirements of Faster Payments. To help with the scope and sizing of the new environment, the company consulted Orbital, an IBM Business Partner.

“Orbital has been one of VocaLink’s main technology partners for over two years,” says Badakhchani. “The Orbital team help us with many aspects of our work – both in technical areas, where their expertise with IBM WebSphere messaging and integration software is invaluable, and in more political areas such as licensing negotiations. Cost-efficiency is very important for the banking sector, especially in the current economic climate, and Orbital does an excellent job of helping us optimise our software investments.”

Meeting the performance requirements

Following a detailed analysis phase, the VocaLink and Orbital teams were able to create a plan for the implementation of Faster Payments.

Badakhchani comments: “From a performance perspective, we were pleasantly surprised: we found that with some modifications and a redesigned hardware profile, we could re-use many of our existing payments components. They were actually capable of running considerably faster than we expected – so we could easily adapt them and use them as a basis for the new Faster Payments Service where it was appropriate to do so.”

VocaLink went ahead with the implementation of the new architecture, which went into production in mid-2008. By September 2009, the service had processed 262 million payments, with a total value of more than £110 billion. The Faster Payments Service peak day processing

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records stands at over 7 million payments in a single day and the service has processed 500 million payments since its inception. Faster Payments volumes are projected to continue their growth over the period from 2010/2011.

“The WebSphere MQ messaging technology has been a key enabler, because it is so scalable,” says Badakhchani. “It has been able to handle the transaction volumes without any problems, and it’s a very mature and efficient solution, so it delivers good performance without requiring massive investments in hardware.”

Automation and control

The Faster Payments Service involves a complex and intricate set of processes which need to be orchestrated in a reliable and transparent manner.

“The process has numerous stages, some of which need to be completed in real time, and others at set intervals throughout the day,” explains Badakhchani. “If a mistake were to be made, the consequences could be very serious. For this reason, we knew we had to ensure that every aspect of the Faster Payments Service could be fully automated, avoiding any possibility of human error, and providing a full audit trail for compliance purposes.”

VocaLink chose to automate these processes with IBM Tivoli Workload Scheduler, which manages hundreds of scripted events in the Java and database environments. The scripting helps to ensure that every stage of the process occurs on-time, reliably, with no need for manual intervention.

Badakhchani comments: “Tivoli Workload Scheduler is an extremely powerful tool, and our operations team is very familiar with it, so we can easily modify existing scripts or develop new ones if the requirements of the Faster Payments Service change. It also gives us a very comprehensive set of reporting capabilities that help us to demonstrate our compliance with service levels and internal security regulations.”

An award-winning solution

The Faster Payments Service has been a notable success for VocaLink, winning a wide range of awards from both the financial and technology sectors. These include a Financial Sector Technology award, a Hallmark of Innovation award from the Financial Innovation Awards, and a Computing Award for Excellence.

“Faster Payments is a big step forward for the whole banking industry in the UK, and that has been reflected in the positive response it has received both within the industry and from banking customers,” concludes Badakhchani. “IBM WebSphere and Tivoli software, combined with the services provided by Orbital, have made a significant contribution to the success of the Faster Payments project, and will also play a major part in our forthcoming SEPA and BGC implementations.”

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