Wachovia sets a new standard for flexibility by bringing SOA to its payments function.

Overview

- ***Business Challenge***
  Wachovia needed a way to make its core payments system – the heart of its business – more flexible and adaptable. Rigid interfaces into the system imposed a time-consuming and expensive testing burden, impeding the bank's agility in the marketplace.
- ***Solution***
  Wachovia teamed with IBM to redesign its core payments architecture using SOA. The new enterprise payments solution represents a quantum improvement in efficiency and introduces a new level of business flexibility.
- ***Key Benefits***
  - *50 percent reduction in the time and cost required to modify, upgrade and add new interfaces into the payments system*
  - *Significantly lower compliance costs*
  - *Faster time to market through streamlined application development*
  - *Enhanced ability to differentiate through value-added, payments-oriented services*

Wachovia is one of the nation's largest diversified financial services companies, providing a broad range of retail banking and brokerage, asset and wealth management, and corporate and investment banking products and services. Wachovia has retail and commercial banking operations in 21 states with 3,400 retail banking offices from Connecticut to Florida and west to Texas and California.

Within financial institutions in general, and banks in particular, there is no more essential function than payments processing. For any process where money moves either into or out of a bank electronically – whether it's a customer request to wire funds, a corporate electronic payment or an intra-bank transfer – the payments system is what makes it possible. The fact that payments systems for large banks routinely process hundreds of billions of dollars daily only begins to illustrate how essential payments processing is to a bank's core operations, and to the banking ecosystem as a whole. A more telling indicator is what happens when things go wrong with the payments system.

> *"We've chosen a path that has accelerated the adoption of SOA into the core of our business. It's given us a clear advantage in the kinds of attributes that banks like Wachovia now have to excel – speed, flexibility and efficiency."*
>
> – Leigh Ferrante, senior vice president and IT managing director, Wachovia

Business Benefits

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- Significantly lower compliance costs
- Faster time to market through streamlined application development
- Enhanced ability to differentiate through value-added, payments-oriented services
- Improved adaptability to changes in global payment standards
- Increased customer satisfaction and retention

When a bank fails to execute a payment, the adverse customer impact is immediate and often exponential in scope, since the effects of failed transactions tend to ripple outward to secondary and tertiary parties down the economic chain.

This highlights the invisible threads of interdependency that bind economic transactions. It shows in a more subtle, yet no less profound way how the economy as a whole is built on the expectation that the payments ecosystem will function with process integrity, every time. That same kind of thinking can be applied to individual banks and their customers. One foundation of a customer's relationship is the trust in the bank to get it right the first time. That's why the biggest cost of a failed payments system is the loss of customer trust that can result from a failure in process integrity.

After years of heavy investment in their core systems and processes, banks have rightly come to view their payments systems as a core "utility" that must always be up and running. When banks make changes to their payments systems, whether to add new customers or to integrate acquisitions, the integrity of the entire payments system has to be tested. Wachovia (www.wachovia.com) was no exception. Each of the 25 or so interfaces into its payments system employed a point-to-point integration scheme that needed to be retested anytime the system was changed. This raised the bank's costs and increased the time required to adapt the system and ultimately slowed time-to-market with new services. With a focus on the demands of its clients and industry change, Wachovia realized a need to adopt a new approach to payments and saw IBM's new developments in the payments space as a strong foundation to build on.

> *"If the payments system has any kind of a problem, the president of the bank is calling because there's a huge potential for impacting customers."*
>
> – Chris Ward, senior vice president Treasury Services, Wachovia

In the course of its planning discussions with the IBM account team, Wachovia conveyed its intention to move toward a more flexible payments platform that would substantially reduce testing requirements, and enable the bank to move more quickly in response to market opportunities as well as rapidly changing compliance requirements. A key part of its goal was to put in place an architecture that would essentially insulate its proven backend payments systems from any changes that may take place on the front end of the system, such as plugging in a new application or incorporating the payments system of a recently acquired bank – an increasingly common scenario, given the consolidation of the banking industry. Having heard Wachovia's vision, IBM saw the recent activities of its Dublin Software Lab in the area of SOA-based payments solutions as a potentially strong fit. The solution that emerged employs an SOA architecture including IBM WebSphere® Message Broker, IBM WebSphere MQ and IBM DB2® in a framework to create a unified payments hub capable of integrating new and existing payments systems regardless of where they reside. Wachovia was the first bank to implement this type of enterprise payments platform, based on IBM middleware.

Toward reusability

What makes Wachovia's payments solution so flexible is its reliance on SOA to "unbundle" rigid stand-alone interfaces into a pool of generalized, loosely-coupled and reusable services that can be reassembled as needed. The factor that drove banks to create these stand-alone connections – the fact that despite all their similarities, each payment flow has its own unique set of requirements, such as compatibility with other payments networks – hasn't changed. It is Wachovia's innovative approach and use of SOA that distinguishes this solution. For the many functional components that are common – such as rules engines, account validation and auditing – the payments solution uses IBM WebSphere MQ as the messaging backbone to access existing core services through standard connections. Points of difference, such as data formats and protocols, are handled by IBM WebSphere Message Broker (running on an IBM System p690 server), which, as an intelligent hub, performs necessary data transformations.

The payments solution drastically simplifies the process of modifying, upgrading or adding new interfaces into the payments system. Mohan Sankararaman, Wachovia's vice president of Payment Development, sees the company's recently completed acquisition of Golden West Financial, a large West Coast bank with a strong presence in the mortgage market, as a good example of the benefits of the payments solution. "Prior to this solution, our developers would have had to sit down with Golden West people to design, build and test a new interface from scratch," says Sankararaman. "With our new broker-based solution, our ability to mix and match existing SOA service components enabled us to get the new interface up and running in half the time and at half the cost."

With banking becoming more competitive and ever changing, the increase in business flexibility enabled by the payments solution is also critical. One key source of dynamism is the ever-evolving state of standards and protocols for international payments. By eliminating the need to modify the entire interface in response to changing compliance requirements, Wachovia's payments solution significantly cuts the cost and time associated with compliance. By gaining an edge over other banks in adapting to changes in the global payments environment, Wachovia has strengthened its competitive position in the marketplace. The same principle applies in the area of customer acquisition. With the overall volume of online payments processing growing over time, Wachovia's ability to incorporate new customers on board its payments system faster than competitors represents a key advantage in the marketplace.

Key Components

Software

- IBM WebSphere Application Server
- IBM WebSphere Message Broker
- IBM WebSphere MQ
- IBM DB2
- IBM Rational® Software Modeler

Hardware

- IBM System p™

Services

- IBM Software Group

Timeframe

- Planning and Design: 2 months
- Implementation: 8 months

Why it matters

Wachovia's redesign of its core payments architecture using SOA has given it the means to create a new generation of value-added services from what has long been a commodity service. This has enabled the bank to change its business model and given it an important new source of competitive differentiation.

Differentiating through payments

Over the longer term, Wachovia believes that the most revolutionary impact of its payments solution is to improve the role of the payments function within its business model. While a primary source of revenue for banks, payments has for the most part been considered a commodity service, with little to differentiate one bank's offering from another. Wachovia's payments solution changes this by enabling the bank to offer its customers richer and more timely information about the status of payments. A key enabler of this new payments system is an advanced finite-state machine that can be modeled using Rational Software Modeler. A new monitoring capability is also available through IBM WebSphere Application Server and IBM DB2. By providing more visibility into the payments process throughout the cycle, the solution serves as a springboard for the development of new services that can leverage this information. Examples include advanced tracking and notification services and an improved ability to offer least cost routing of payments and liquidity management services to its customers. In this way, the Wachovia payments solution based on IBM middleware has provided Wachovia with the means to transform a commodity capability into a truly differentiated service offering, thereby building stronger customer relationships.

Leigh Ferrante, senior vice president and IT managing director, Wachovia, believes that in a market where change is a constant, the bank's move to a more hub-based business model – supported by an SOA-based IT strategy – gives the bank the flexibility and nimbleness it needs to adapt quickly and compete domestically and globally. "We've chosen a path that has accelerated the adoption of SOA into the core of our business," says Ferrante. "It's given us a clear advantage in the kinds of attributes that banks like Wachovia now have to excel – speed, flexibility and efficiency."

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