

Core Transition and Channel Integration Via SOA Support Product Innovation at Principal Bank

Consumer Banking and Credit Advisory Service
Insurance Advisory Service

CASE STUDY

#FIN203677

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FINANCIAL INSIGHTS OPINION

Many U.S. banks seek to distinguish themselves in an increasingly commoditized, crowded, and competitive retail marketplace. And that competition often comes from newly converging players, such as Principal Bank, that bring with them the capability to diversify products and execute efficiently. This case study demonstrates the effectiveness of a savvy financial institution that allies with an astute technology partner to deliver traditional as well as unique products to the marketplace. Highlights of our analysis include:

- Principal Bank undertook a significant transformation in core processing and integration as a foundation to support growth. The bank elected to convert to Fiserv's CBS core banking solution, add Fiserv components essential to operations using CBS Communicator, and retain internally developed applications.
- Today, Principal Bank is leveraging CBS Communicator and the newly established service oriented architecture (SOA) environment to develop applications in-house for the purpose of creating, selling, and servicing the innovative products that have been the cornerstone of the bank's impressive growth. For example, Principal Bank offers the Health Savings Account (HSA) to complement the high-deductible health plans (HDHPs) offered by its parent company, Principal Financial Group (The Principal).
- Given Principal Bank's status as a direct bank, integrating the Internet and contact center channels was critical. Of particular importance was aligning the bank and retirement participant contact centers so that representatives in either location can access information to service bank customers.

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IN THIS REPORT

Principal Bank is a \$1.3 billion U.S. federal savings bank chartered in 1998 and a member company of 127-year-old Principal Financial Group, a diversified financial services firm. With only one branch office, Principal Bank is considered a direct or virtual bank — customer interaction is through electronic channels, including phone, Internet, ATM, and email. As of June 30, 2006, the bank has more than 110,000 retail customers and 137 employees.

This report details the selection and implementation of the Fiserv CBS solution suite by Principal Bank and the role that CBS Communicator plays in the overall CBS solution to enable interoperability as well as integration across a host of software components and bank delivery channels.

Brief Description of the Solution

Fiserv CBS is a core bank processing system that is delivered with deposit and transaction processing, loan processing, customer information, and general ledger subsystems. In addition, the software provides channel delivery solutions for self-service (Internet, ATM, and voice response) as well contact management solutions for teller, platform, loan origination, and call center.

Interoperability of these components is enabled by Fiserv CBS Communicator, which is an XML-based services layer. Communicator's open architecture design allows a common interface to integrate:

- Functional applications software and information
- External and internal partners
- All channels

Middleware components reside on a Windows server and provide communication between customer-facing applications and CBS or ancillary operating systems, any of which may be local or remote.

CBS can be hosted in Fiserv's service bureau environment or licensed as an in-house installation.

SITUATION OVERVIEW

Since the 1999 passage of the Gramm-Leach-Bliley Act (GLB) ending the era of regulated separatism among banks, insurance companies, and securities firms, the U.S. financial services market has been fluid. At first, it appeared as though banks would be more agile with their

forays into insurance and securities markets. But privacy and fraud issues as well as systems and channel integration (or lack thereof) combined with lackluster financial success among all but the largest banks have cooled the enthusiasm of early bank "pioneers." Converging on the banking scene now are well-respected brands in insurance and investment securities with deep pockets and access to financially savvy consumers. Examples include USAA, E*TRADE, Nationwide, and the subject of this report, Principal Bank.

Launched in 1998 and chartered as a thrift, the original design was for Principal Bank to provide banking services to employees of business customers of the Principal Financial Group as well as employees of the parent company. Principal Financial Group (The Principal) is headquartered in Des Moines, Iowa. Globally, the company reports over 16 million customers, with total revenue in 2005 of \$9 billion. Founded in 1879 as Bankers Life Association, the company became the Principal Financial Group in 1985 — the name changed to reflect the company's evolution to a diversified financial services organization. While the business started as a life insurance company, the company has established a strong presence as a facilitator of 401K and other retirement products processing.

Even though the initial strategy was to target employees of business customers of The Principal, the bank quickly decided to move deeper into the retail banking market. Not only would customers be acquired in the traditional way, but the bank would offer products and services to the parent's customers. A key business of The Principal is its retirement and investment services, which are provided primarily to small and medium-sized businesses and their employees. For Principal Bank, the potential customer would be not only the business, but also the retirement plan participants of that business.

THE APPROACH

At its inception in 1998, Principal Bank chose (as many *de novos* do) to outsource its bank data processing to an experienced industry provider, in part to minimize compliance risks. That provider was known at the time as ALLTEL Information Services, headquartered in Little Rock, Arkansas (today known as Fidelity National Information Services [FIS]). ALLTEL's Horizon System supported Principal Bank in a service bureau environment from its Los Angeles, California, location.

Five years later, Principal Bank was thriving; for example, bank deposits grew from \$838,000 to over \$1 billion in that time period, primarily through Internet and telephone banking channels.

The bank's strategic plans called for expansion of its consumer businesses, blending its parent's core competencies (retirement and

investment services, as well as life and health insurance) with the bank's primarily online retail banking business. To do this cost-effectively, Principal Bank looked for a solution with an infrastructure that would align with its business goals and with functionality that could be expanded or customized with nominal difficulty. Principal Bank was also looking for a solution and infrastructure to enable greater business agility, scalability, and interoperability, as well as consistency of information across Internet and telephony channels and faster speed to market for new products.

Business Drivers

When Principal Bank began its search for a new system in early 2003, there were several important considerations. The new system must scale because Principal Bank had plans to significantly grow the business through traditional as well as new product offerings. The small business customer is a focus of The Principal, and functionality designed to support this client base was critical. As Principal Bank has unique product offerings and distribution channels, time to market for new offerings was key.

Principal Bank was looking for operational efficiency as well. The overall goal was to balance growth with profitability. This would require not only the ability to deliver functionality for new business opportunities but also the integration of all retail delivery channels, including a number of the company's client contact centers.

Selecting the Solution

Principal Bank analyzed growth projections and product opportunities to determine current and future requirements for its core processing and integration environment. In addition, the bank acknowledged that a key component to ensure this project's success was the requirement that Principal Bank enlist a strategic partner, not just a technology provider, to support its unique business model.

With determined requirements in hand, Principal Bank undertook a comprehensive review of the major U.S. vendors with corresponding core and integration offerings. Principal Bank narrowed the search to two finalists and after rigorous review chose Fiserv CBS and CBS Communicator.

Ultimately, there were three reasons behind the conclusion that CBS and CBS Communicator would best serve the bank:

- The bank's complex product set and delivery model required open architecture and core banking competency. Fiserv CBS provided an integrated solution with end-to-end processing that fit these business processing requirements. The bank concluded that most

other offerings had a strong affinity for integrating best-of-breed modules (e.g., commercial loans), whereas the Fiserv CBS offer was complete.

- When the bank was evaluating integration solutions in 2003, Fiserv CBS Communicator was further along in the project life cycle than other integration offerings. The bank found Communicator flexible enough to support its channel strategy and future processing requirements, while also providing an integration framework with other business units for product offerings and account acquisition. Operational efficiency through automation was another key decision point.
- Fiserv CBS is designed to allow an organization to process in an outsource or in-house mode. This feature was particularly attractive to Principal Bank as the bank wanted the option to seamlessly transition to internal processing upon reaching growth or skill-set targets.

Solution Description

In March 2003, Principal Bank and Fiserv CBS Worldwide reached an agreement in principle and conducted a more in-depth analysis on the feasibility of intended customizations and final contract price. In September 2003, this prework was completed and Principal Bank signed an agreement for Fiserv CBS version 3.2 (currently running version 5.3) and Fiserv's CBS Communicator 3.3 (now on 5.2.X) solutions. Principal Bank was fully operational by July 2004, running CBS from Fiserv's datacenter in Arlington Heights, Illinois, and Communicator in-house in Des Moines, Iowa. As part of the agreement, the bank has the ability to bring CBS in-house but, for now, it has extended the processing agreement with the Arlington Heights center.

Fiserv CBS Core Banking System

CBS is a functionally rich, real-time, parameter-driven core banking solution supporting deposit and loan processing. The system runs on IBM iSeries (OS/400), with sales, servicing, and teller solutions running on .NET. The CBS solution is componentized and can be used in a real-time or memo-posting environment or a combination of the two. Banking clients choose the features and functionality to fit their needs.

The bank selected the following components from Fiserv CBS:

- Fiserv CBS core account processing for deposit and loan products
- Fiserv CBS Communicator XML integration layer

- Fiserv EFT
- CBS Score Service provider module to leverage service bureau workflow capabilities with CBS Communicator
- Fiserv Item Processing
- Fiserv ImageSoft Imaging and Retrieval
- Personix ATM and debit card production (a Fiserv company)

Figure 1 details the functionality that CBS brought to the bank. In addition, the bank supplements the Fiserv suite of solutions with S1 Internet banking and internally developed point solutions and point-to-point integration as well as data warehouse solutions. It is important to note that the bank has also been able to develop in-house many online account origination solutions and account acquisition functions by leveraging Communicator, in addition to the IVR which also interfaces with Communicator.

FIGURE 1

CBS Solution Architecture at Principal Bank



Source: Financial Insights and Fiserv CBS, 2006

CBS Communicator

CBS Communicator is a middleware product that exposes business functionality in a standards-based manner for real-time customer servicing. Since its initial release in 2000, CBS Communicator has been a key enabler of the SOA strategy at Fiserv CBS Worldwide. Communicator is designed around a concept of services and service providers through service orientation and reusable services that expose, independent of channel, consistent processes and data.

For the purposes of this report, a service is a set of reusable, platform-agnostic XML messages that perform a business function. A service provider is any independent software component, such as CBS core, for which Communicator translates the XML messages and responses. As a component of the CBS SOA strategy, CBS Communicator enables channel integration through reusable exposed services. This allows the service providers, which may not be XML enabled, to be accessed from any channel. Solution features include:

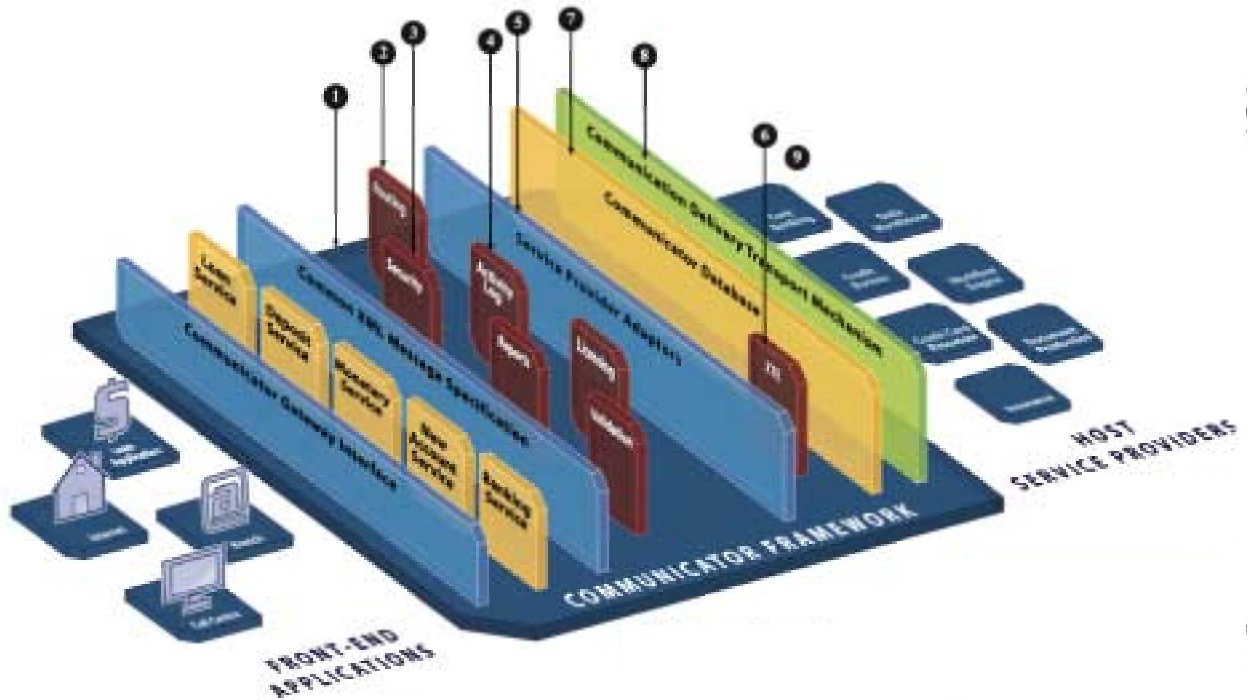
- **Message routing.** Routes requests to the appropriate service provider
- **Security.** Authenticates user IDs and passwords, checks licenses, validates transaction requests
- **XML Translation Engine.** Translates XML messages to communicate with data sources and converts responses into XML messages
- **Logging.** Logs key data elements of all incoming messages for analysis, reporting, and integration with other systems (e.g., data warehouse)

Figure 2 provides the structure of the CBS Communicator integration solution.

Table 1 provides a description for each component in the CBS Communicator Service Oriented Application illustrated in Figure 2.

FIGURE 2

CBS Communicator Architecture



Note: See Table 1 for descriptions of the functions indicated by the diagram numbers.

Source: Financial Insights and Fiserv CBS, 2006

TABLE 1

Fiserv CBS Communicator Descriptors

Diagram Number	Function	Description
1	Communicator framework	The incoming message arrives to the Communicator framework using an industry-standard HTTP protocol.
2	Routing module	The message is passed to the Communicator router, where it is validated against the appropriate service schema.
3	Security module	After passing licensing, the security module validates the credentials.
4	Activity log	The contact log records every transaction, from every channel; data logged is user configurable.
5	Service provider adaptor	Communicator logs key elements into universal transaction log and then routes the message to the appropriate service provider adaptor.
6	XML translation engine (XTE)	The service provider adaptor determines if XML translation needs to take place, and if so, the message is routed through the XTE.
7	Communicator database	The XTE uses rules defined in the Communicator database to translate the message into the native format understood by the service provider.
8	Delivery transport	Now in a mutually understandable format, the information is sent through the delivery transport layer to the back-end service providers.
9	Back-end service providers	The response from the back-end service providers is routed back through the Communicator framework as a standard XML response.

Source: Financial Insights, Fiserv CBS, 2006

Implementing the Solution

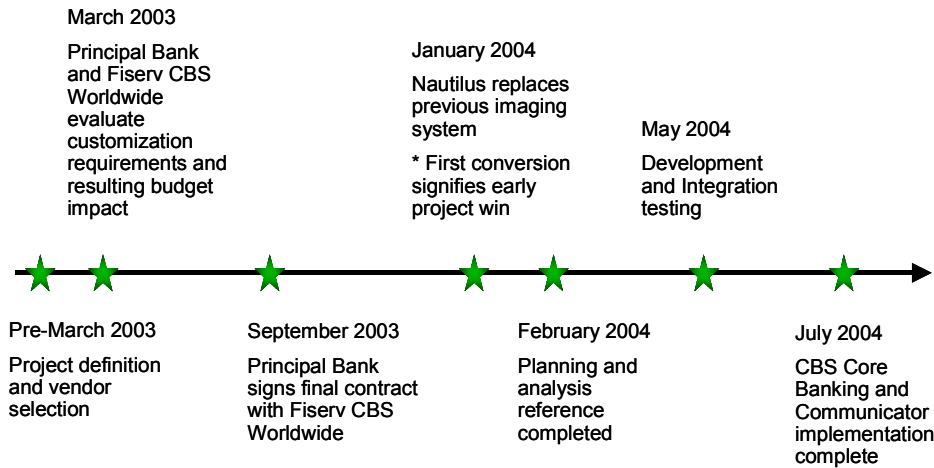
Principal Bank was responsible for the overall program management of the project and provided the primary project manager to whom all Fiserv CBS Worldwide and bank project resources reported. The bank chose to house the project team onsite. This was particularly important because Communicator was being installed in the bank's headquarters, allowing the bank to manage the Communicator environment more tightly beyond conversion.

The bank defined business requirements and evaluated solutions in early 2003. Conversion to the CBS core banking system and the CBS Communicator integration solution took nine months to complete once the decision was made to go with Fiserv CBS. The contract with Fiserv CBS Worldwide was finalized in late September 2003.

Implementation began in October 2003 and concluded nine months later in July 2004. Figure 3 highlights key milestones in the project.

FIGURE 3

Principal Bank Key Project Milestones



Source: Financial Insights, 2006

A core processing system conversion is never easy, but by all accounts the conversion was completed on schedule and with minimal disruption.

Deploying the communication layer required more work and dedicated resources from both the bank and Fiserv. The bank had built point-to-point interfaces that connected various account opening and processing systems across the bank, which required manual uploading of information from system to system. Implementing CBS Communicator eliminated these processes and provided operational efficiencies, which enabled new products to be more easily implemented. Additionally, CBS Communicator positions the bank for additional integration in the future.

Building interfaces connecting Communicator to bank applications proved to be the most demanding processes of the conversion project and did not progress without some occasional "bumps in the road." From the bank's perspective, things progressed smoothly as long as Fiserv had repeatable knowledge and processes. However, when the bank decided to modify and expand functionality for both Communicator and CBS to integrate with the IVR and subsequently a new account origination system, meeting these requirements became a bit of a struggle. Concentrated resources from both the bank and Fiserv

were successfully deployed to align the integration environment to the bank's distinctive business model for these items that fell both within and outside the original project scope.

Key to the bank's implementation was linking the delivery channels for an enterprise-level view through internal applications already in place and for more efficient business processes — the call center in particular because it functions as an account opening center and servicing operation. This was especially important because of the bank's status as a direct bank, with so much reliance on the client contact center and Internet channels to bring in business and service customers. It is interesting to note that Principal Bank is also using CBS Communicator to link its IVR — the first customer to do so in production. This has eliminated the need to pull screen-based data, given users better access to customer information and streamlined the technology platform.

Business Value

Principal Bank has been operating in the Fiserv CBS and CBS Communicator environment for over two years at the time of this case study (since July 2004). And the bank has achieved the initial goals defined for the core processing and integration transformation: Establish a technology platform upon which to grow revenue through the introduction and sale of innovative and nontraditional banking products and do this using primarily the call center and Internet channels and leveraging business units across the organization. Principal Bank was very clear that it did not replace its core processing environment solely to reduce costs, but rather to support strategic business and growth goals. Added benefits for the bank also include operational efficiencies that have enabled it to effectively realize new account growth and new product launches while gaining economies of scale in its staffing models.

The Fiserv solutions have helped the bank in the following ways:

- Allowed the successful deployment of nontraditional channels and products.
- Managed the channel integration (CBS Communicator) and new product support (Fiserv CBS)
- Aligned IT with strategic business vision
- Established an efficient operating environment from which to grow the business

CBS Business Value

The bank has created an environment to more readily and efficiently leverage products and services offered across The Principal to grow the banking business. A good example of this synergy is Health Savings Accounts (HSAs). The health insurance business of The Principal offers high-deductible health plans (HDHPs), which are rapidly growing in popularity. Principal Bank can leverage this business by offering HSA checking and time deposit accounts, the other component required to fully execute the complete HDHP/HSA package.

An even more unique example is the bank's proficiency in processing "Small Amount Rollover" IRAs. The bank capitalized on an employer need to distribute small retirement plan balances of former employees, creating a unique product and automated process to set up rollover IRAs for the former employees, at no cost to the employer. The bank notes that having the CBS banking solution in place enabled the bank to move quickly because it had a nimble solution that could automate the processing of these atypical accounts.

CBS Communicator Business Value

For Principal Bank, CBS Communicator has been a vital component of the overall CBS solution enabling a more open architecture for future development. Beyond channel integration and smooth workings of the core banking solutions, Communicator has allowed for product codevelopment across business units of The Principal. This allows better access to consistent customer data across business units, translating to increased opportunities to innovate products and enhanced customer service.

A good example of the benefits CBS Communicator integration provides Principal Bank is in the company's contact center structure. A customer can call the Principal Bank or retirement participant contact center, and a representative at either center can assist the caller with opening an account, adding products, or servicing an existing account. Employees across the organization are empowered with the right sales and service tools, and the bank sees benefits in better customer satisfaction and increased revenue opportunities.

FUTURE OUTLOOK

Financial Insights' 2006 *Consumer Channel Preference Survey* of more than 1,000 consumers tells us three things:

- Consumers want to bank on their terms — anytime, anywhere banking.

- Consumers use the branch more than any other delivery channel (see Figure 4).
- Consumers want a consistent experience across all delivery channels.

Particularly interesting to this case study is consumers' preference for the branch. Consumers are purposeful in their channel selection for what each channel offers. Consumers generally choose the branch for major financial purchases and transactions as well as resolution to complex issues. The bank uses the branch to deepen personal relationships with customers, providing additional opportunity to expand wallet share.

The Principal Bank model relies solely on the client contact center and Internet for sales and service activities, and therefore it is critical that the bank have the right integrated systems and infrastructure so contact center representatives can act like branch employees — able to provide all the answers and empowered to complete all interactions satisfactorily.

In addition to capitalizing on customer demands and behavior, banks are very interested in service oriented architecture solutions to help them find new revenue sources. This is evidenced by a Financial Insights survey of 53 Canadian financial institutions that concluded that the financial services industry leads the Canadian vertical markets in the adoption of SOA. Banks led the respondents, as 41% of banks identify SOA as the "preferred approach for new projects." A further 24% of banking respondents indicated that the use of an SOA approach was a tactical decision made on a project-specific basis. Like in the Canadian market, Financial Insights is seeing banks in the United States and abroad embrace an SOA approach more and more.

Principal Bank projects continued double-digit growth. The bank has been quite successful in leveraging opportunities that present themselves from other areas of the very diverse Principal Financial Group business units — and this practice will continue. The goal is to spawn additional creative and potentially complex products.

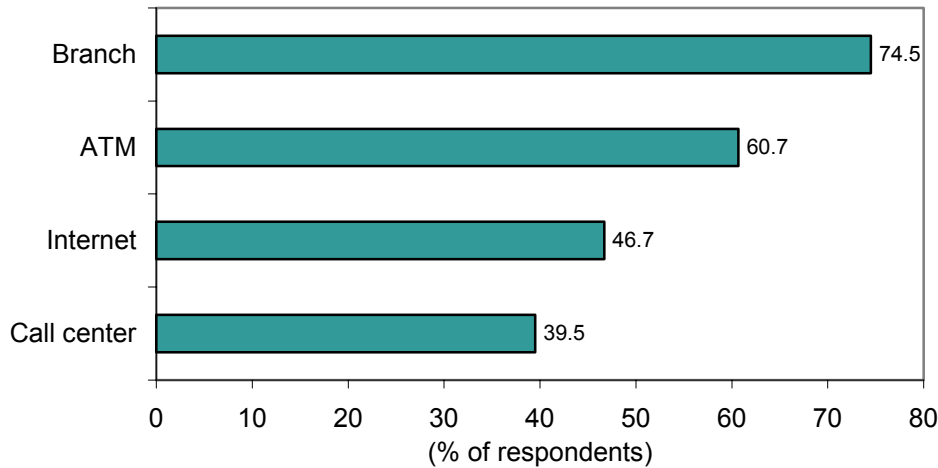
Fiserv is hosting CBS for Principal Bank from Fiserv's Arlington Heights, Illinois, datacenter. Principal Bank may bring the processing in-house at some point; however, there are no immediate plans to do so. Additionally, Principal Bank expects to continue developing solutions internally, leveraging CBS Communicator for bank products and services. The openness of Communicator enables the bank to build new applications internally to capitalize on business and product opportunities. The IFX-based message set using XML is very open, allowing for disparate applications (most Principal Bank applications are Java or Unix based) to attach as well. Principal Bank also works closely with Fiserv CBS Worldwide in developing new features and

functionality. Principal Bank is confident in its core processing and integration platform and its partner's capability to support the bank's strategic vision.

FIGURE 4

Consumer Channel Preferences, 2006

Q. On average, how many times per month do you interact with your bank through the following channels?



n = 1,004

Source: Financial Insights, 2006

ESSENTIAL GUIDANCE

Actions for Financial Institutions

Principal Bank's core banking and integration transition provides excellent direction for banks that are exploring core transformation that include both scalability and unique product and delivery requirements. This type of transformation should be particularly attractive to:

- *De novo* institutions that may be outgrowing their existing technology environment
- Institutions aiming to compete with innovative products and services, but lacking the technology to support them

- Banks exploring integration solutions to connect disparate systems to provide front-line employees with better data to service and cross-sell customers

Banks should also not overlook the fact that integral to Principal Bank's success was thoughtfully selecting a technology provider/partner, as well as closely managing project resources onsite to quickly become aware of and address issues and concerns throughout the project.

Actions for Vendors

- Vendors should study both the business and IT needs of their clients that are considering a core banking transformation and/or including a middleware component. These are critical factors to defining the end-state vision for the bank, and vendors that understand this distinction will succeed.
- Vendors must realize that middleware and integration are becoming "must have" solutions for banks of all sizes looking to upgrade the core banking environment, especially those who seek to connect disparate systems and channels. The standard for success is rapidly becoming a solid middleware solution that is easily implemented as well as both feature rich and customizable.
- Vendors that do not already have a middleware solution or have not clearly defined their development path will be late to the marketplace.

LEARN MORE

Related Research

- *SOA Adoption in Canadian Financial Services Organizations* (Financial Insights #FIN203853, October 2006)
- *Results From the 2006 U.S. Consumer Channel Preference Survey: \$6.5 Billion Reasons for "Anytime, Anywhere Banking"* (Financial Insights #FIN202166, June 2006)
- *U.S. Core Banking Solutions 2006–2010 Spending Forecast: Ready for Transformation* (Financial Insights #FIN1736, March 2006)
- *Dynamic IT and the Integrated Banking Experience* (Financial Insights #FIN1702, December 2005)

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