



Fiserv

Saving USD8 million in five years and helping banks improve business outcomes using IBM technology

Overview

The need

Small and midsize banks and credit unions seek to attract, retain and grow profitable customer relationships while competing with the analytic capabilities of new mega banks.

The solution

Working with IBM, Fiserv is turning billions of transactions into actionable insights that help these banks better target offers and maximize their marketing dollars. The use of cloud technologies to consolidate and virtualize servers helps reduce costs and increase availability.

The benefit

Estimated increase of 100 percent or higher in the response rate to targeted marketing initiatives; estimated IT savings of USD8 million in five years.

With the trend toward consolidation in the banking industry, small and midsize banks and credit unions are seeking new ways to attract, retain and grow profitable customer relationships while competing with the resources of new mega banks. Many large financial institutions have embarked on aggressive programs to use predictive analytics technology to enhance their revenues. Smaller banks and credit unions frequently lack the scale and resources to develop these programs, hindering their ability to compete.

This is the challenge that Fiserv is helping small and midsize banks tackle.

As a leading financial technology services provider, Fiserv processes roughly 20 billion data transactions and moves more than a trillion dollars annually. The company supports more than 16,000 financial institutions. But Fiserv's goal isn't just to process data. The company has invested heavily in helping its customers gain critical and dependable analytical insights from the data — fast.

“It is all about helping clients make sense out of the petabytes of data that flow through Fiserv's systems annually,” says David Rose, senior vice president of Decision Optimization Solutions at Fiserv.



Designed for Data

IBM information management and predictive analytic solutions helped Fiserv transform billions of raw transactions into actionable insight for its clients, giving small and midsize banks advantages previously available only to large financial institutions.

Tuned to the Task

Moving to a virtualized infrastructure on an integrated platform from IBM is expected to help Fiserv save an estimated USD8 million during the next five years, reduce the number of midrange servers under management by approximately 90 percent, and provide higher availability.

Managed with Cloud Technologies

Creates a foundation to build a self-service environment that will improve the agility of service delivery.

Driving Innovation

Enables Fiserv to provide its customers critical, dependable analytical insights from petabytes of data—and provide it fast—to differentiate itself in the market and gain a competitive advantage.

Targeting offers through predictive analytics

According to Rose, by applying predictive analytics, a bank can see a number of meaningful financial benefits. These include, he says, an increase of 100 percent or higher in the response rate to targeted marketing initiatives and a significant increase in debit card utilization.

“Today, many smaller financial institutions are offering the same product to everyone,” he explains. “Our predictive analytics service will help financial institutions focus on their most profitable customers and create goal-oriented offers that are targeted to each customer’s specific needs. For example, by mining the data, we can see if a customer’s spending pattern has shifted to include children’s stores, signaling a lifestyle change and an opportunity for the bank to provide a targeted offer for an education savings account. This type of focus enables a bank to get the maximum payback for their marketing investment.”

Creating a platform for trusted information

To enable its clients to deliver what Rose calls “high-impact” customer experiences, Fiserv must integrate billions of transactions from core banking account processing, person-to-person payments, mobile payments, electronic funds transfers, and e-bill payments, and apply predictive models and analytics to determine what a consumer will likely need next. This information then must be fed into business intelligence dashboards that present the findings to bank staff.

Solution components

Servers

- IBM Power® 770

Software

- IBM AIX®
- IBM Banking Data Warehouse Model
- IBM Cognos® Business Intelligence
- IBM i
- IBM InfoSphere® DataStage®
- IBM InfoSphere Discovery
- IBM InfoSphere® Warehouse
 - IBM DB2® 9.7
- IBM PowerHA®
- IBM PowerVM®
- IBM SPSS® Modeler
- IBM SPSS Statistics
- IBM SPSS Collaboration and Deployment Services
- IBM System Director
- IBM Tivoli® Storage Manager 5.5
- IBM Tivoli System Automation for Multi-Platforms
- IBM WebSphere® Application Server

Services

- Data Center Services
 - IBM Server Product Services for Power Systems™
- IBM Software Services for Information Management

It's a huge undertaking, one that Fiserv executives believed only one vendor could support.

“Fiserv has been a client and partner of IBM for many years,” says Rose. “Our bill payment data warehouse, which contains billions of transactions, is built on IBM DB2® and is one of the larger implementations of a DB2 data warehouse in the industry. Most recently, we use IBM's full solution set—everything from data extraction and transformation tools to predictive modeling and analytic solutions—to provide the trusted information we need to turn billions and billions of raw transactions into highly usable, actionable insights.”

In building Fiserv's predictive analytics service, Rose turned to Leroy Hill, manager of the company's Midrange Engineering organization. The Midrange Engineering team provides the computing platform that supports many of the bank's critical business applications, including e-banking, bill payment and investment services, along with the company's enterprise data warehouse.

The timing was perfect, according to Hill. His team was working on a significant IT infrastructure initiative that would not only reduce IT costs, but also provide a more agile, available and scalable infrastructure for initiatives such as the company's predictive analytics service.

“Our predictive analytics service will help financial institutions focus on their most profitable customers and create goal-oriented offers that are targeted to each customer's specific needs.”

– David Rose, Senior Vice President,
Decision Optimization Solutions, Fiserv

“We have estimated a five-year, cumulative run rate reduction of about USD8 million with the server consolidation and virtualization project.”

— Leroy Hill, Manager, Midrange Engineering, Fiserv

“We’ve seen data doubling almost every two years,” says Hill. “And the challenge was: How do we lower the cost of managing the data while making sure users have access to it?”

For Hill, the answer was in creating a virtualized environment that improves server utilization and enables the sharing of server resources across business units. The company’s existing midrange environment used a traditional client/server computing architecture that provided business units with individual servers for specific applications. This model required a transformation to gain the agility needed to support the company’s new business opportunities.

“As we grew, we had to add more physical servers, which meant added maintenance, support and overhead costs. And getting the new systems in place was time-consuming,” says Hill. “There was also the area of failover capability where more advanced solutions were needed.”

The company’s IT infrastructure initiative changes this paradigm, using cloud-like technologies to consolidate and virtualize servers, optimizing server utilization while providing the right platform for the right workload. The use of virtual machines that can be moved from one physical server to another—without human intervention—enables the organization to rapidly provide additional processing power when needed and reduces downtime due to scheduled or unscheduled maintenance.

“We’re moving more toward 24x7 capability, in which if we have a hardware or operating system problem, or need to do maintenance, the virtualized environment enables us to failover to another machine without affecting the application,” says Hill.

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– David Rose

The first phase of the server consolidation and virtualization project is expected to help reduce the number of physical servers under management from just over 150 servers down to approximately 15 servers and decrease the consumed data center space by approximately 2,500 square feet. Technology refreshes that typically were multi-year efforts could be accomplished in a fraction of the time now because of the fewer number of servers.

Five-year savings estimated at USD8 million

The expected benefits of moving to a virtualized environment are enormous.

“Costs for power and cooling, hardware maintenance, software licensing and support will all be reduced,” says Hill. “We have estimated a five-year-cumulative run rate reduction of about USD8 million with the server consolidation and virtualization project.”

Creating hardware profiles and standard configurations for different application types and resource requirements (for example, small, medium and large applications) enables Fiserv business units using the shared standard platform stack to reduce the IT spend.

The journey to Smarter Computing

Hill’s team is working closely with IBM on its IT transformation journey.

“IBM is helping us to assess our strategy and technical requirements and see overall how cloud technologies can play into our environment,” says Hill. “What that has done is helped us validate our approach and gain a better picture of how we can use these technologies to better serve each of the Fiserv business units we support.”

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– Leroy Hill

The new virtualized environment is based on IBM Power Systems™ servers running IBM AIX® and IBM i operating systems. According to Hill, the Power Systems provide the performance and reliability for the company’s demanding database serving and transaction processing requirements.

“I’ve worked with IBM technology for quite a long time and the platform is among the highest performing we’ve found,” says Hill. “Our enterprise data warehouse today houses billions of rows of data and on a nightly basis we’re adding new data at a pace of over 120,000 I/Os [input/output transactions] per second. IBM hardware and software work really well together and deliver the performance and savings we need to handle this load.”

The IBM PowerVM® solution enables continuous, dynamic resource adjustments across all partitions and operating environments to optimize performance while minimizing energy usage. The IBM PowerHA® solution is used to automatically detect hardware errors and failover operations to a standby virtual server. IBM System Director software provides technology to complement the team’s system management tools and unify the management of physical and virtual server resources.

“This actually helps us move closer to a cloud platform because now we can build those standard VMs [virtual machines],” says Hill. “Our goal is to move more toward a self-service environment and this builds the foundation for getting there.”

In creating the company's new midrange IT environment, Hill's team has added a "lab environment" that enables his clients, like Rose's team, to build and test new services. "The project we worked on with David Rose was built as a proof of concept in a new virtualized lab environment," says Hill. "It gave the organization the ability to test theories and implement modeling tools to conduct predictive analytics."

For Hill, the work completed so far represents only part of the story. "This year, we're supporting the first phase of the project," says Hill. "There are many areas of interest that we want to explore such as automated provisioning of virtual machines and forecasting demand. Our goal is to deliver IT services that support the quality and timeliness of Fiserv's business priorities and this approach will clearly help facilitate that."

For more information

To learn more about IBM Smarter Computing solutions, please contact your IBM sales representative or IBM Business Partner, or visit the following websites: ibm.com/software/data or ibm.com/smartercomputing

You can get even more out of Information Management software by participating in independently run Information Management User Groups around the world. Learn about opportunities near you at: ibm.com/software/data/usergroup

For more information about Fiserv, visit: www.fiserv.com



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Produced in the United States of America
October 2012

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