

Xerox enhances productivity with IBM enterprise service bus solution and SOA.

Overview

■ Challenge

Custom coding for new and updated business applications slowed production and raised costs

■ Why IBM?

Xerox wanted a vendor that would support its software with future product development, and IBM showed the SOA leadership, stability and commitment to the market that Xerox required

■ Solution

Enterprise service bus (ESB) enabling the integration of back-end databases with decoupled front ends without custom coding

■ Key Benefits

100% payback of investment in 24 months; savings of \$720,000 per year in deployment costs; development and implementation of new applications in 25% of the time it took previously

The screenshot shows the Xerox website interface. At the top, there's a navigation bar with 'United States' and a 'change' link. Below that, the Xerox logo is prominent. A search bar is on the right. The main navigation menu includes 'Office Products', 'Production Products', 'Services & Outsourcing', 'Supplies', and 'Support & Drivers'. A 'Featured Products & Services' section lists items like 'Phaser™ 8500/8550 Color Printer' and 'WorkCentre™ Pro 265'. A large banner reads 'The trend: Color is the new black and white.' with a 'COLOR ME NOW' button. Below the banner, there's a promotional message: 'This season give your business a Xerox color makeover and boost your sales — by up to 80%. Xerox Color. It makes business sense.' A grid of product categories follows, including 'Office Printers', 'Office Copiers', 'Office Multifunction', 'Office Fax', 'Office Product Advisor', 'High Volume Production Printers and Copiers', 'Digital Production Presses', 'Workflow', 'Wide Format Solutions', 'Supplies', 'Services Portfolio', 'Software', 'Computer Monitors', and 'Scanners and Projectors'. At the bottom, there are three product highlights: 'new Phaser™ 7400 Printer' with 'Fast color tabloid performance', 'new WorkCentre™ 232 Multifunction' as a 'Compact solution', and 'Imaging & Archive Services' to 'Improve process efficiencies within your company'.

Needing a common integration method with its various back ends, Xerox developed an enterprise service bus solution using IBM WebSphere middleware.

Best known throughout the world for replacing the blurry, messy mimeograph with the crisp, clean and sharp photocopy, Xerox Corporation (Xerox) revolutionized office work as its name became synonymous with its flagship product, the copy machine. Xerox research is also credited with many innovations that define personal computing today, including Ethernet, the graphical user interface and the mouse. Based in Stamford, Connecticut, Xerox (www.xerox.com) has 58,100 employees worldwide who are committed to helping people find better ways to work.

“With IBM’s help we can move forward with a service oriented architecture that helps us respond to today’s challenges and gives us a flexible architecture to respond to future challenges.”

—Ram Sunkara, Manager, Integration Competency Center, Xerox

Developing an architecture for flexible connectivity

Key Components

Software

- IBM WebSphere® Message Broker (formerly known as IBM WebSphere Business Integration Message Broker)
- IBM WebSphere MQ
- IBM WebSphere Application Server Network Deployment
- IBM WebSphere Studio Application Developer Integration Edition

Business Partner

- Software Spectrum

While copying has been good to Xerox, the widespread duplication of efforts to custom code new business applications for its many product divisions became a bottleneck that hampered productivity. The multiple corporate divisions that produce Xerox's wide range of products and services require a steady flow of new business applications to automate manual processes, serve customers better and achieve ever more demanding marketing goals. But developing each new application from scratch was a waste of effort, especially since many applications shared common back-end databases and enterprise resource planning (ERP) and customer relationship management (CRM) systems.

To centralize these programming efforts and bring costs under control by using more efficient methods of application development and integration, Xerox created its Integration Competency Center. This group, dedicated to integrating Xerox's business applications with back-end systems, set to work to build an information technology (IT) architecture that would enable them to reuse coding assets and leverage a common infrastructure for integrating a large number of applications.

ESB delivers an infrastructure for flexible connectivity

After several years of integrating applications using CORBA code, the group found that they were writing increasing amounts of custom code, sending costs up and slowing deployment cycles. Xerox began to evaluate middleware for a new enterprise service bus (ESB) architecture—a pattern of middleware that unifies and connects services, applications and resources within a business. The ESB pattern enables the connection of software running in parallel on different platforms and using disparate programming languages and skills, allowing Xerox to more quickly and easily introduce new applications and updates to their users.

To provide the integration business logic for its ESB framework, Xerox evaluated middleware from IBM, BEA Systems and webMethods. In the end, they chose a solution providing universal connectivity—an ESB with full failover capabilities using the message-oriented, event-driven and Web services capabilities of WebSphere software. IBM WebSphere Message Broker (formerly known as IBM WebSphere Business Integration Message Broker), IBM WebSphere Application Server Network Deployment and IBM WebSphere MQ were the foundation for an advanced ESB solution to deploy its growing portfolio of business applications in the most efficient way possible. IBM Business Partner Software Spectrum provided the software solution in a timely manner to help Xerox meet its target project deadline.

“Not only did IBM meet our requirements for scalability, availability and performance, it differentiated itself from the competition with its ability to follow through with research and development to continuously enhance its portfolio of offerings.”

—Ram Sunkara

"IBM was the most credible presence in the market in terms of its ability to develop middleware products and support them with related products and services," says Ram Sunkara, manager, Integration Competency Center, Xerox. "Not only did IBM meet our requirements for scalability, availability and performance, it differentiated itself from the competition with its ability to follow through with research and development to continuously enhance its portfolio of offerings."

With its new ESB solution based on WebSphere software, Xerox estimates it is saving \$720,000 annually in the cost of making changes to its applications, which formerly required custom coding to reintegrate with back-end systems. In addition, application changes take 25 percent of the time they took previously. "We achieved payback in 24 months," says Sunkara. "As for our conviction that IBM would support its software with future product development, IBM repaid that with an entire integration infrastructure for applications and data that includes new products we are considering for adoption."

Flexible, available infrastructure powers 50 solutions

Among the 50 applications that run on the new WebSphere infrastructure are Web services for looking up service providers for Xerox's customer support teams, performing credit authorizations, managing customer problem calls, fulfilling parts orders and capturing user profiles for printers. Many of these applications require 24x7 availability, and the failover capability of WebSphere Application Server Network Deployment ensures that users will have service when they need it. In addition, WebSphere Application Server plays a part in Xerox's disaster recovery plan. Also working to maximize uptime is WebSphere MQ, which provides assured delivery of more than two million messages monthly, an essential part of the integration solution that connects Xerox's back-end databases and other business systems to application front ends.

The open standards-based integration solution supports a service oriented architecture (SOA) that is compatible with multiple methods of communicating with back-end systems, including messaging with WebSphere MQ and WebSphere Message Broker. WebSphere Message Broker transforms and enriches information on the fly to conform to different message structures and formats on back ends. A J2EE and Web services application server with advanced deployment services, WebSphere Application Server Network Deployment supports Enterprise JavaBeans for creating applications that make fast work of the business logic. Xerox also uses IBM WebSphere Studio Application Developer Integration Edition to build modular applications that are designed to adapt quickly to changes.



With its new IBM solution for integrating new applications, Xerox can implement program changes in a quarter of the time it took previously.

"Wherever we have a need for a middleware solution to enable us to develop more flexibility or leverage our existing assets, all we have to do is ask IBM."

—Ram Sunkara

Developing standards for SOA

With its ESB integration solution and SOA, Xerox is moving to standardize application integration throughout its global organization. This entails creating a set of Web services for leveraging some existing mainframe information and making it accessible via the Web. "Right now we're working on tying in our European operations and establishing governance practices for continuous process improvement," says Sunkara. "We're also looking at using IBM WebSphere Host Access Transformation Services (HATS) to extend our host applications to the Web—giving our green screen applications a modern and up-to-date look. Along the way, we'll be looking at IBM WebSphere Data Integration Suite to perform extract, transform and load operations within some of our data management environments. Wherever we have a need

for a middleware solution to enable us to develop more flexibility or leverage our existing assets, all we have to do is ask IBM. With IBM's help we can move forward with a service oriented architecture that helps us respond to today's challenges and gives us a flexible architecture to respond to future challenges."

For more information

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For more information on Software Spectrum, visit:

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Software Group
Route 100
Somers, New York 10589
U.S.A.

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