IBM

Chemdex distills an architecture worthy of its ambitions.

Applications	LabPoint, Science360: Online marketplace and procurement applications for life science research chemicals, supplies and equipment
Business Benefits	A scalable, flexible and available system bred to absorb growth and provide excellent customer service
Software	IBM WebSphere™ Application Server, IBM VisualAge® for Java™, MQSeries®, Oracle database, Oracle Financials®
Hardware	Sun
Services	IBM Global Services– Integration Services

As a "born-on-the-Web" business, Chemdex, the leading provider of business-to-business e-commerce solutions for the life sciences industry, faces an unusual business challenge: rapid success leading to meteoric growth.

Chemdex brings together life sciences enterprises, researchers and suppliers to efficiently buy and sell products on the Web, streamline business processes, enhance productivity and reduce costs. Acting as a Net Market Maker for 2,000 suppliers and thousands of researchers in more than 70 enterprises, Chemdex offers nearly a million individual products in an extensive online marketplace and procurement application tailored to the unique business requirements of each customer, along with comprehensive service and support.

Many traditional businesses might consider this an enviable scenario, but to a new e-business, customer volume that you're unprepared to handle means lost revenue and, quite possibly, irrevocable damage to your brand. Pierre Samec, CIO for Chemdex, is familiar with this pitfall—he's the former senior vice president of retail technology for the highly successful Web business unit of Charles Schwab, where he used IBM technology and services. Samec's experience with Schwab convinced him of the need for scalability and availability in e-business system architecture.

e-business

"Under our current business plan, we need about $50,000 in orders per day. We're comfortable that our technology can easily handle up to $100,000 in orders per day with our current technology. But as our company grows, we don't know what that number will be. To accommodate for that growth, our system requires two features: scalability and availability."

Pierre Samec, chief information officer, Chemdex

Preparing for success

Chemdex knew that to build a highly scalable and available solution, open standards would have to be part of the equation. Trusting IBM's commitment to e-business, Chemdex adopted the principles of IBM's Application Framework for e-business methodology, which is dedicated to open standards. By aligning with this platform-independent set of methods, Chemdex maintained the flexibility it required—at any given point it could swap platforms without drastic consequences.

Building on a UNIX base, Chemdex chose IBM's WebSphere Application Server to handle its catalog and procurement application, and IBM VisualAge for Java as the development tool. "One of the things we looked at was how well the tools work with the application server. So it wasn't a decision that we made in a vacuum. We looked at both tools and application servers together," says Brenda Fox, director of engineering for Chemdex. "VisualAge is a product that runs on UNIX, which is very important to us. Since our production unit was UNIX, we also wanted our development environment to be UNIX. We also decided that since VisualAge and WebSphere were both developed by IBM, we would have a more cohesive experience by using those two products together."

Suppliers are permitted to access the catalog to edit and update content through this interface, a crucial function for a clearinghouse that holds a million products.

The WebSphere Application Server serves as the platform on which Chemdex builds the applications that are presented to the customer on the Web. The choice of application server is absolutely critical, notes Samec, because it works upon the layer most interactive with the customer. WebSphere includes load-balancing features that help it to scale and maintain Chemdex's 24 x 7 availability. And since WebSphere and VisualAge are Java tools, their applications are easily portable to other systems (Chemdex currently uses Sun servers).

Chemdex
Accelerating Science

Chemdex also uses MQSeries middleware to link its sales channels to its transaction systems. According to Samec, MQSeries has the "resiliency, proven scalability and transactional integrity" that allows Chemdex to develop these two systems independently, without disrupting customer service.

Formula for growth

Chemdex's architecture is situated to easily absorb spikes in growth. WebSphere and VisualAge for Java's open standards give flexibility and portability to the front-end of the Chemdex Web site, allowing Chemdex to manipulate its platforms as necessary.
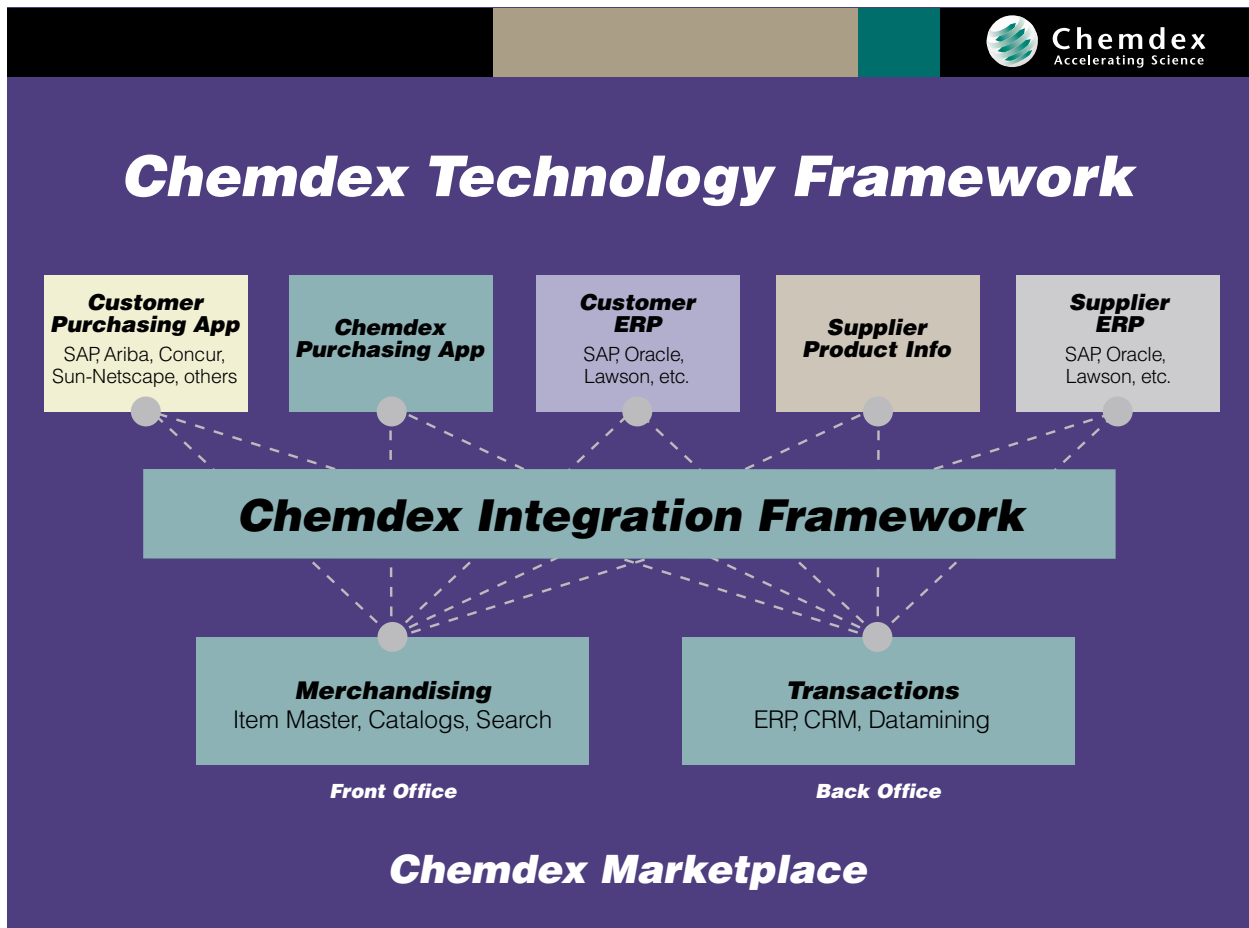
Why IBM?

Chemdex knew from the beginning that it needed to rely on open standards as well as scalable products and methods to be a viable e-business. Several factors influenced Chemdex's decision:

- IBM's commitment as an e-business leader and visionary in both technology and services

- IBM's product quality and the open standards of the Application Framework for e-business

- The depth and experience of the IBM Global Healthcare team

- A relationship with IBM that includes cooperative marketing and sales efforts, integration services from IBM Global Services and Web-hosting assistance.

"We chose WebSphere because of IBM's commitment to building a platform that is hardware/operating system independent, highly scalable and has the portability of Java."

Pierre Samec, chief information officer, Chemdex

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Chemdex Technology Framework

Customer Purchasing App
SAP, Ariba, Concur, Sun-Netscape, others

Chemdex Purchasing App

Customer ERP
SAP, Oracle, Lawson, etc.

Supplier Product Info

Supplier ERP
SAP, Oracle, Lawson, etc.

Chemdex Integration Framework

Merchandising
Item Master, Catalogs, Search

Transactions
ERP, CRM, Datamining

Front Office

Back Office

Chemdex Marketplace

For more information

To learn more about the IBM Application Framework for e-business, visit *www.ibm.com/e-business* or contact your local IBM representative or IBM Business Partner.

To learn more about Chemdex, visit www.chemdex.com.

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