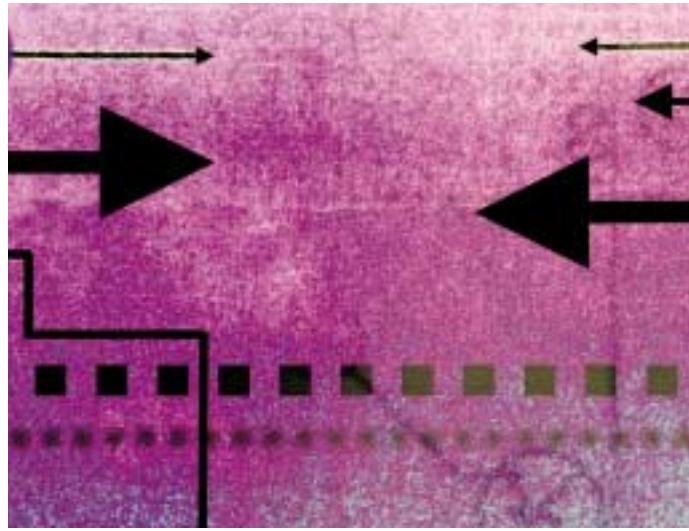


Change Nothing – Integrate Everything

By Paul Roth

It's an all-too-familiar scenario. New applications created from scratch whenever a new business need arises. Different teams within the organization developing applications, using diverse data models, software technology, operating systems, programming languages, and communications protocols. Familiar, yes, but such practices are ill-suited to the fast paced, competitive e-business age.



Integration and more cost-effective, rapid approaches to development activities are crucial to success. Long development cycles, perennial re-writes, and brand new applications for each and every business requirement are no longer tolerable.

Today, businesses need to develop and adapt new applications to support evolving business processes while leveraging valuable data and logic from legacy systems.

So integration has become something of a Holy Grail. As any developer knows, though, integration of business processes, technology applications, and data represent both a window of opportunity and a challenge. Sometimes, it can feel as though you're between a rock and a hard place.

Due to the enormous complexity of the average application environment, it's expensive to link applications together or expose them for use with new systems – especially if it involves altering legacy environments or extending their reach. The drive toward more process

automation compounds the complexity of isolating and coding the process path.

The Cost of Integration

By some estimates, up to 70 percent of all code today consists of interfaces, protocols, and other procedures to establish linkages among systems. There's a great need to do this work faster and at much less expense.

To achieve successful integration, companies seek technologies that let them link multiple platforms. To avoid the need for massive, expensive re-writes of code, they also need a more flexible technology framework in which new business processes – spanning different applications and systems – can be introduced quickly and cost-effectively.

So far, despite the amount of resources invested, most integration solutions haven't provided a thorough answer. Traditional approaches to integration reveal a tendency for companies and vendors to produce solutions

that sit in one or another technology camp. In any organization, there'll usually be different technologies competing as the preferred integration method. This kind of tightly coupled approach to integration is ultimately inflexible and counterproductive.

A Loosely Coupled Paradigm

A loosely coupled paradigm is preferable. Some may argue that Java developments can deliver this already. Theoretically, you can write once and run anywhere with Java, but it will take at least another 18 months before performance is acceptable. Moreover, companies don't necessarily have the systems to support Java anyway.

So, where should companies look for a more agnostic, loosely coupled approach—one that provides integration solutions that cover the waterfront by natively supporting a wide variety of different operating platforms? Two promising technologies

are messaging software and Component-Based Development (CBD) solutions.

Messaging products such as the market-leading IBM MQSeries family offer valuable functionality, including asynchronous connectivity, guaranteed delivery, and the ability to share information between multiple platforms.

Newly emerging CBD solutions are building on this by introducing the simple idea of software reuse. While object-oriented paradigms have provided significant reuse, the benefits have typically been derived via a single application effort, with little extended reuse throughout the organization. With CBD, however, the ability to assemble an application is based on linking larger, more functional components to define business processes. These components may already exist as portions of proven legacy applications or they may be newly devel-

oped functions following CBD guidelines. The linking of application components is a non-invasive form of application integration that precludes the need for business logic duplication.

CBD also enables business process integration, extending the lower-level integration capabilities of file, data, and message brokers to a realm where actual business processes are mapped and integrated into systems. This lets you maintain business rules externally from the component logic.

CBD is gathering many enthusiastic supporters. A recent International Data Corp. (IDC) report said that CBD is rapidly taking hold as the next evolutionary phase in the industry's quest for a better way to build and maintain distributed application programs. GartnerGroup estimates that by 2003, 70 percent of all new applications will be assembled using pre-written software components and application frameworks.

Unlock, Assemble, Integrate

So what benefits does CBD offer? It unlocks investment trapped in existing applications, making them available in integrated business processes that are easy to modify and extend. It also facilitates assembly of legacy logic into dynamic business systems, opening gateways to access, reuse, and interoperability. So CBD could end the practice of creating and re-creating processes in each new application simply to avoid the difficulty of integration.

CommerceQuest has been building its EAI solutions based on MQSeries and CBD concepts. For instance, enableNet Business Process Integrator provides distributed, flexible functionality addressing the full spectrum of integration requirements—from simple point-to-point solutions to complex business process management—in a framework fully supporting CBD. Such solutions provide the ability to unlock the value of data and processes in existing applications, extending their life and reducing the wasted effort spent rebuilding existing functions. It also provides a graphical environment to simply assemble business processes from components

CBO unlocks investment trapped in existing applications.

built in many of the popular programming languages. The product set further aids integration by providing a distributed model that works easily with other enterprise strategies. Companies can, thus, use the best tool for each integration effort, rather than force-fitting tools into a solution.

Enter the World of Web Services

Messaging and CBD have a natural affinity with the newly emerging world of Web services. In many ways, Web services applications are a logical extension of CBD methodology and business process management.

Global-class applications depend increasingly on transactions operated across application environments and the enterprise. Technologies such as Simple Object Access Protocol (SOAP) and eXtensible Markup Language (XML) leverage the Web-based infrastructure to enable e-services and programming models that use components and cooperate across multiple Websites.

While Web services will certainly change the way software is delivered and how businesses interoperate, they won't replace the challenge of disparate systems integration. For companies that choose to move to Web services today, non-invasive integration of new infrastructures with major back-office components remains a key challenge.

To address this need, business integration products could provide a powerful production-ready environment for Web services, radically reducing the time and costs of creating new business processes. For example, a new loan approval process for use in several applications, including Web applications, could be easily assembled and delivered much faster than the time required with more traditional approaches. In addition, it could be rapidly adapted as needs change (see Figures 1 and 2). Users could dynamically change business processes without re-writing code. What once took weeks or months to change could be accomplished in minutes.

Business Process Coordination

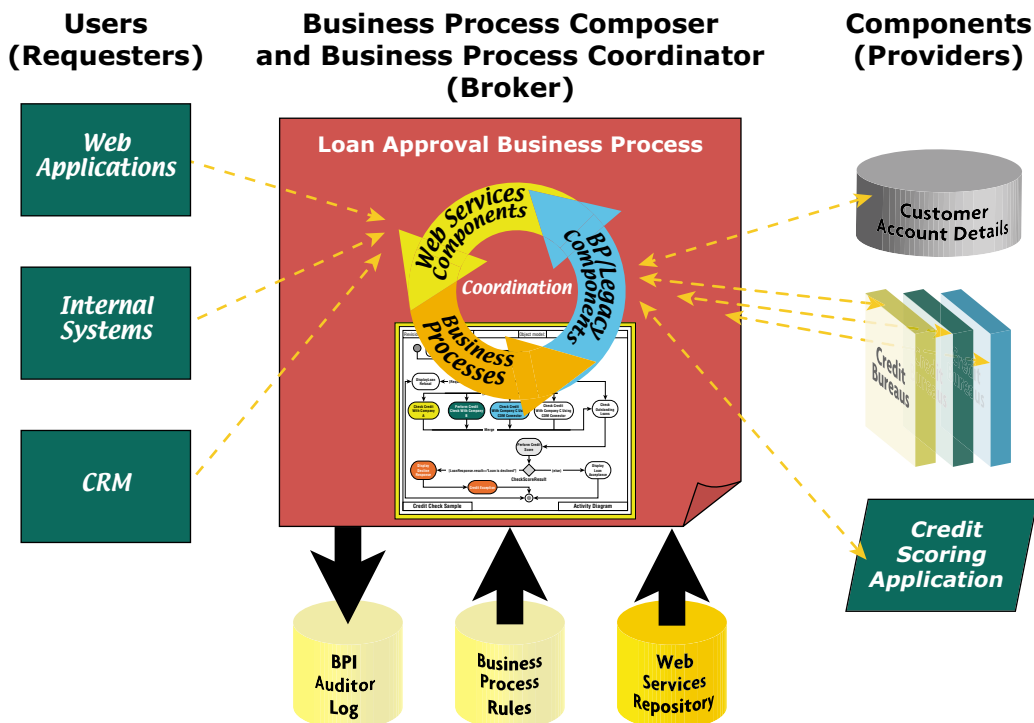


Figure 1. Business Process Coordination

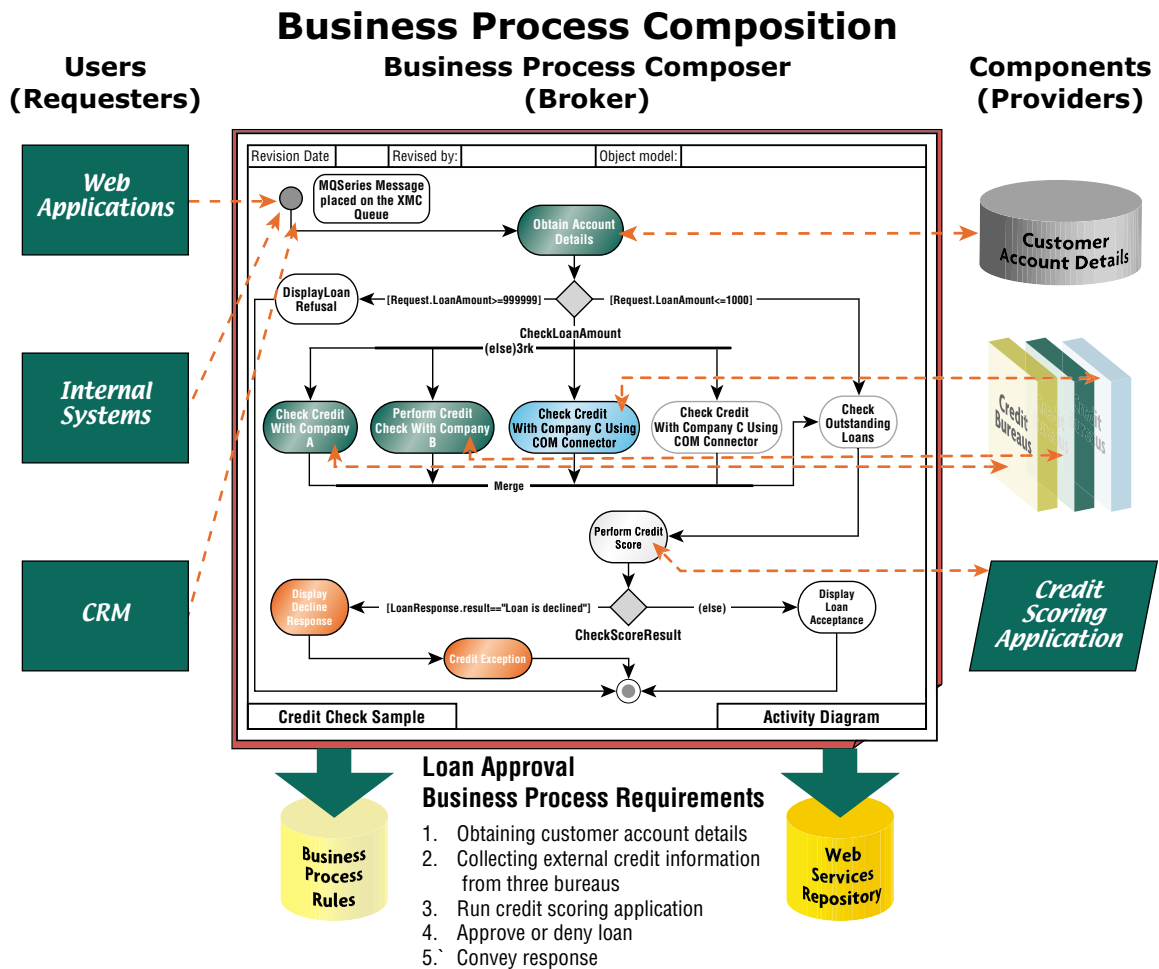


Figure 2. Business Process Composition

Additional advantages include total visibility and a complete audit trail of business processes. This represents a huge bonus from the systems management viewpoint and because it enables companies to gain insights into the performance of business processes.

Conclusion

Clearly, as more companies discover the combined benefits of CBD and messaging in the Web services arena, IT will really begin to fulfil its promise as an enabler, not an encumbrance, for efficiently reacting to market changes. CBD and business process management promise to bring new power and efficiency to application environments, including Web services, while unlocking value from legacy systems. **IBM**



Paul Roth joined CommerceQuest in 1994 as chief technology officer and was responsible for initiating CommerceQuest's message-

oriented-middleware focus. He is a leading advocate for open standards, e-business and business process integration, and serves as the company's technology evangelist, speaking on the technical issues surrounding business integration. Previously, Roth worked for 12 years at IBM in various roles, including senior systems analyst for value-added networks. At IBM, he was also responsible for marketing strategies and sales initiatives for the company's New Ventures business unit. He holds a bachelor of science degree in computer information sciences from the University of Florida.
Website: www.commercequest.com.