LARGE COMPANIES CURRENTLY SPEND MORE than 30 percent of their IT budgets integrating their business applications under the banner of enterprise application integration (EAI), trying to get their internal act together for yet another step, business-to-business integration (B2Bi). Why are they going to all this effort and expense? They are tying together fragments of their stovepipe applications to create end-to-end, multi-company business processes—those activities that bring ultimate value to customers. It is indeed the entire value chain, not a single company, that delivers the goods or services. Value chain management is now clearly recognized as the next frontier for gaining new productivity and competitive advantage. If end-to-end business processes are the focus of internal and cross-company integration, why not deal directly with the “business process” instead of “applications?” Past approaches to both human and application integration have delivered the partially integrated enterprise—a partially satisfying state, ill prepared for the future. To achieve integration, companies have deployed limited-purpose middleware—file transfer, EDI, message queuing, workflow, Internet business-to-business gateways, direct database access and synchronization, EAI brokers, and custom point-to-point coded interfaces. This software has delivered important efficiencies, but has also created specific pockets of integrated applications across an overall value chain that remain substantially not integrated and unmanaged.

Correspondingly, internal and cross-company integration initiatives must be managed and deployed in a coherent fashion.
A systematic approach to integration is required. Increasingly, firms realize this and view integration as a long-term strategic requirement. They also have come to realize that the target, and hence the focus of the effort, is not the end-to-end business process, but not technical integration of applications and data. A business-process approach to integration requires a new type of strategic-integration solution software, which is called business process management (BPM) [BPM]. The BPM must deliver a rich integration toolset that supports both internal EAI and external B2B integration as well as leverage today’s loosely coupled loose-couple middleware. It must complement this toolset with a framework that can rapidly and securely deliver emerging visions for collaborative cross business and cross-business unit processes.

A business process approach to integration facilitates change management and reuse. It addresses a fundamental management and productivity problem inherent in first-generation middleware solutions: the reliance on a technology view of integration rather than a business view of integration. In the first generation, integration deals with low-level integration objects, such as file names, queues, directories, executable program names, and low-level transport semantics. A business process approach to integration recognizes this layered approach that greatly simplifies representing interaction flows among participants in a process. It makes explicit the implicit relationships among separate point-to-point integrations, and extends those integrations into broader realms.

A business process approach to integration provides a strategic framework for incremental advances in business process management. Most end-to-end business processes today involve substantial manual processes. Even in cases where manual processes are recognized as inefficient and substantial automation is viewed as the cure, an overhaul conversion into a 100 percent people-less electronic process flow doesn’t make good business sense. There are substantial organizational barriers to a revolutionary upheaval, and an exhaustive software project re-engineering analysis effort would be required for a “bang” approach to automation. It is much more expensive to introduce automation incrementally. Luckily, a business process approach to integration facilitates gradualism.

It provides for the integration of human processes [workflow] with application integration, enabling a general-purpose automation and management strategy. First, processes that currently involve a high degree of manual activities can be brought under a management umbrella, providing—for the first time—a framework for process tracking and problem diagnosis.

Second, once the initial process management is in place, greater amounts of automation can be introduced incrementally, sometimes unknowingly to humans using the process.

BPML is open to all developers and creates a standard language that helps businesses coordinate data internally and with outside partners. BPML can share process descriptions without divulging implementation details, which will help break the proprietary programming cycle that spawned too many custom solutions—solutions that developers can’t manipulate and users can’t read.

BPML is unique because, as an XML-based language, it’s easy for most developers to use, and as an executable language, it can be executed directly by a business process management system (BPMMS), making the software development process unnecessary. The chief benefits of BPML are its capabilities both to model and to execute complete business processes. These processes are end-to-end BPML represents the next evolutionary step in workflow management systems. It provides a standard XML-based syntax for process models and a rich set of execution features, including security and transaction integrity.

Because the BPML is used to model and deploy mission-critical applications over the Internet, it implements a looser, more open architecture than its predecessors. After considering the business architecture, the company determined that it needed to optimize its existing vendor-managed inventory (VMI) process. It was lacking the value chain problems involving information exchange and data validation with external partners and internal division. The scale of requirements dictated an approach that would ease the integration challenges throughout its worldwide trading community of customers, suppliers, and carriers. The requirements included EDI, SAP, and Internet-based transactions with internal applications—within a single manageable platform.

The company realized that though the barriers to implementing the end-to-end processes were largely technical, it also needed to focus upon more than the technology. The technical barriers were a manifestation of the complexity and diversity of the data leasing SAP. Though projects of both point-to-point and end-to-end processes were used over the years, as well as the varied choices its partners had made in the deployment of their systems. Going beyond these issues, the company also wanted the ability to directly enable business processes and—critically—the ability to derive insight and decision-making based on data passed between participants in the process as it executed. To improve order and forecasting accuracy with its customers, the data had to be understood in the context of its use, as business processes proceeded from activity to activity, across the value chain.

The company deployed a business process integration solution rather than technical systems integration. The processes were complex. It was necessary to probe the processes by collecting IBM messages before moving the data into an SAP system. This was done by posting the data to a Web extension component—much like a portal—where a knowledge worker could correct misapplied data and direct it to an SAP application.

The company was pleased with the impact of BPM on the competitive advantage of the company—critically—the ability to derive insight and decision-making based on data passed between participants in the process as it executed. To improve order and forecasting accuracy with its customers, the data had to be understood in the context of its use, as business processes proceeded from activity to activity, across the value chain.

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