

SOA and BPM

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Companies have been working on improving processes for millennia. Systematic efforts at business process improvement began with Frederick Winslow Taylor, whose book, Principles of Scientific Management was published in 1911 at about the same time that Henry Ford launched the continuous production line that revolutionized manufacturing. The first business computer system, a payroll application, was developed at General Electric in 1954, and ever since then, companies have been using information systems to automate business processes. Michael Hammer and James Champy published Reengineering the Corporation in 1993 and argued, among other things, that IT had often been used to automate bad processes - they called it paving over cow paths - and proposed that the proper combination of process redesign and IT could revolutionize the way companies worked. Hammer and Champy's call, in hindsight, was about a decade early, since the widespread use of the Internet and the Web weren't available in 1993. Similarly, workflow, EAI software, and packaged applications to support ERP and CRM were just being developed. Technologies keep developing and new automation possibilities become available each decade.

Broadly, ERP and associated workflow technologies dominated business process automation from 1995 until very recently. Today, we are in the middle of a transition that will shift from the client-server/database-oriented modules used by first and second generation ERP vendors to a more flexible software architecture based on software components, the Internet, and a variety of XML-related protocols. Among those heavily involved in enterprise IT, the Internet, and infrastructure, the popular phrase for this new round of technology is the Service Oriented Architecture (SOA). In the next couple of years, every major IT firm is going to be focusing on selling its SOA capabilities.

For those involved in business process change, the business side of SOA is Business Process Management (BPM). We have tried to urge readers to discriminate between "BPM," which is broadly used to refer to business and management issues that have nothing to do with IT and automation, and BPM Systems (BPMS). The most comprehensive review of BPM Suites ever published which clearly refers to the use of SOA technologies to automate processes. We've had some success, but all too many still use "BPM" to refer to software products.

SOA can also be used narrowly or broadly. Used narrowly, SOA can be associated with IT middleware and Internet protocols. Used broadly, however, SOA includes BPMS. Services – the entities being manipulated in a Service-Oriented Architecture -are ways of linking business processes to software components. SOA's power derives from the fact that it aligns software resources with business processes. (The fact that SOA uses the Internet and XML protocols is of interest to technologists, but that is a small part of the overall SOA approach.) The essence of SOA is that business managers can model processes and then examine services to determine exactly what software components are used to implement specific activities within those processes. (See Mike Rosen's February BPTrends Column on SOA for a nice example of how business processes, services, components and legacy applications constitute successive layers of an SOA architecture.)

In spite of the attention currently focused on SOA, we are still in the "early adopter" phase of both the SOA and BPMS markets. At the moment, most companies are still experimenting with stand-alone BPMS products. Going forward, we will see more attention focused on how existing ERP and CRM systems can be integrated into the SOA-BPMS vision. SAP's Netweaver and Oracle's Fusion Middleware are both early examples of efforts to bring the flexibility of SOA and BPMS to existing ERP systems. We have yet to see industry specific SOA-BPMS applications, but they will predictably begin to appear.

Companies want to improve their business processes. Most have tried ERP systems with limited success. In way too many cases, ERP systems have been installed in ways that are difficult to maintain or upgrade. It is not uncommon for global organizations to have many different versions (instances) of SAP or Oracle running in different parts of an organization. Indeed, one of the reasons the US government launched its Enterprise Architecture initiative was simply to find out how many instances of ERP some of its departments were using in order to consolidate them.

One conclusion that many organizations have reached is that ERP installations led by IT organizations, without a preparatory business process standardization effort, are very likely to lead to failure or disappointment. Imagine an international organization with divisions operating in many different countries. Each division has its own processes and no effort has ever been undertaken to assure that the various accounts receivable or the sales account management processes are similar in the various divisions. As IT begins to install ERP and tries to tailor it for the various processes in the different divisions, it is obvious that the organization is going to end up with a lot of similar but incompatible instances of SAP or Oracle. Any effort at standardizing SAP or Oracle must begin with an effort, undertaken by business managers, to standardize business processes throughout the company. A few smart companies faced with this reality have actually halted ERP installation efforts and shifted to process standardization to assure that the subsequent ERP effort would be more successful.

Business process managers and practitioners are well advised to pay attention to BPMS and SOA. Together, they constitute a new body of technology that will profoundly alter the way companies organize their IT support in the years ahead. At the same time, however, they should bear in mind that SOA and BPM are emerging technologies. The standards are still being developed. The most effective ways to use these technologies have yet to be determined. Other generations of SOA/BPMS products are still being developed. Mature SOA/BPMS products will probably be closely integrated with ERP and CRM applications that will begin to emerge this year.

What is certain is that any automation solution, be it BPMS, SOA or ERP, only works well if it is used in support of an optimized, efficient business process. If you install ERP or SOA before you improve your process you simply make them one more part of the problem you face. Thus, it is not surprising that many organizations are embracing the analysis and redesign aspects of BPM without rushing into BPMS solutions. Companies are using business modeling tools and process redesign methodologies to improve and consolidate business processes before undertaking the automation of those processes.

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