Software Tools for BPM

In the late Sixties, when I first began to work as a business process analyst, the focus was on looking at what managers and employees were doing and identifying ways to rearrange their work to make it more efficient and effective. Computers had little to do with how work got done. They were locked in temperature controlled rooms and were largely used for data processing functions.

By the late Seventies, I began working on projects to automate processes, and that generally meant determining how people would interface with terminals that provided access to information in mainframe databases.

Today, computers and software applications are an integral part of all aspects of business and it is hard to think of a business that functions without PDAs, laptops and PCs, the internet and email, and ERP applications and databases. Any discussion of a large business process invariably involves a discussion of both the people and the software and computer hardware that support the managers and the employees involved in the processes.

Business Process Management, as a body of theory and practice, relies on software and computers. One can begin a process analysis effort with interviews and diagrams on notepads, but in a short time, one wants a software-based modeling tool to document and store the details. At the low end, one may use Visio, however there are currently a variety of much more sophisticated modeling tools being used.
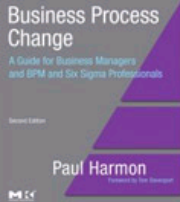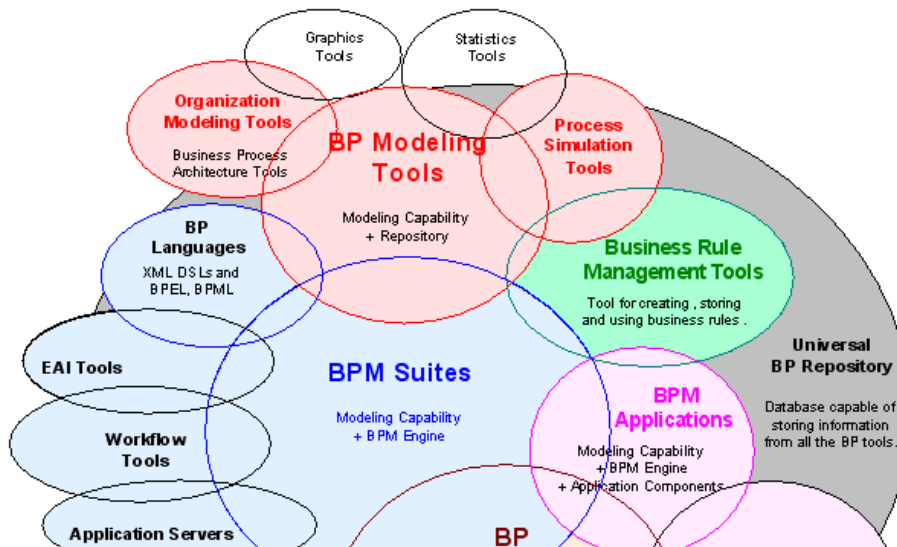
In the Seventies, there was an important distinction between the software tools that BPM practitioners used and the software applications developed by IT. I, as a BPM practitioner, would create a To-Be process diagram that specified that a set of activities should be automated, but, once accepted, the diagram would be turned over to IT and software analysts would work up requirements and use software development tools and languages to generate code that would ultimately automate the activities.

Today, the distinction between process analysis tools and the tools used by software developers who seek to automate processes has become fuzzy. Many business analysts still use software modeling tools, like Visio or ARIS, and then turn the resulting diagrams over to IT to be coded in Java. It is increasingly common, however, for the business analyst to model in a BPMS tool that is used by both the business analyst and the software developer. Thus, the business analyst begins by defining what he or she wants, in a general way, using BPMN, and the software developer then takes over and uses BPMN to generate BPEL code and supplements that with screens and other utilities developed in a BPMS suite.

Unfortunately, it is not a matter of simply using a BPMS suite. There are many different BPMS products, each with different features. Some are better for defining processes with people. Others are better for organizing a set of ERP applications. Still others are better for reporting process results to managers, or helping software developers make effective use of the Internet. There is no perfect BPMS suite.

In 2003-4 we saw a number of Enterprise Application Integration (EAI) and Workflow vendors propose their products as BPMS suites. In 2005-6 we saw EAI vendors buy up Workflow vendors and vice-versa. And, we watched as both tried to acquire Business Rules vendors to try to create more comprehensive environments. In 2007 we saw BPMS vendors buy up process modeling vendors to acquire better user interfaces and stronger modeling capabilities. At the same time, we watched as the popular BPMS vendors acquired Business Intelligence (BI) and Data Mining vendors to provide better reporting capabilities and the ability to create more useful executive dashboards. And through it all, BPEL has continued to develop, the Service Oriented Architecture (SOA) has continued to evolve and the OMG's Model Driven Architecture (MDA) has continued to generate standards that the vendors can use to integrate and organize their BPMS efforts.

Today, the leading BPMS vendors probably have the major components they need to assemble powerful BPMS products, but they still face problems integrating their various components and adding the infrastructure needed to support applications that can scale to support thousands of users. At the same time, the BPMS vendors are still working to figure out exactly how companies will actually use their products and how to tailor their products to support the work of business analysts. There is still no ideal BPMS suite - it is still a work in progress. Figure 1, which we have used in conjunction with the BPTrends BPM Product Reports we publish, provides some idea of the complexity and the overlaps that characterize the market. There is growing consolidation around BPMS, but all of the other categories also remain.
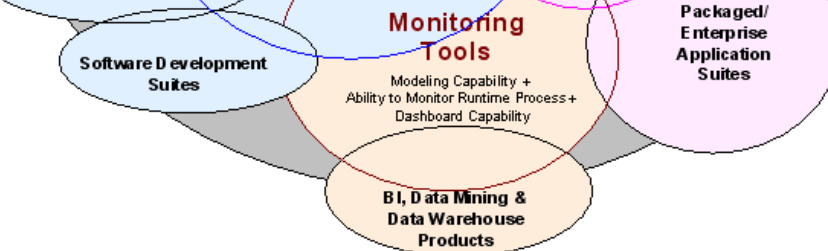
Figure 1. An Overview of the variety of software products being used by Business Process Management practitioners

As the market for BPM software tools has evolved, we have published articles in an effort to keep our members and readers informed. In 2003-4 we published several articles on BPEL, in 2005-6 we published articles on BI and Rules and in 2007 we published more on SOA. Following are some of the articles, publications and reports related to BPM software tools that we have published over the years:

The BPTrends Reports

The most comprehensive review of specific BPM vendor software tools can be found in the three BPTrends BPM Product Reports listed below. Each report includes an overview of the BPM software market, a detailed analysis of the specific product category covered by each report and individual reviews of some of the most popular vendor tools in each category.

- The BPTrends Reports on BPM Suites
- The BPTrends Reports on Enterprise Architecture, Process Modeling and Simulation Tools
- The BPTrends Reports on Business Rules Products

Articles on BPM Software Techniques and Products

Following are some of the articles that were especially insightful or offered strong views on some of the BPM standards, technologies and techniques:

Getting the Process of BPMS Right: The Need for an Implementation Methodology
Salman Akhtar - June 03, 2008
Salman Akhtar and Haleem Vaince argue that successful deployment of a BPMS project requires an approach that differs from the standard IT implementation methodology. They take into account all of the challenges involved in the process and propose an alternative methodology that responds more effectively to these challenges. This Article is a must read for any and all who are engaged, or will be, in a BPMS project.

Real-Time Six Sigma with BPM Suites
Setrag Khoshafian - October 03, 2006
Dr. Setrag Khoshafian, VP of BPM Technology at Pegasystems Inc., asserts that BPM, like Six Sigma, is about "process improvement" using automation, management and continuous improvement. He then categorizes different types of "process" within an organization and, ultimately, demonstrates how BPMS Suites can help support Six Sigma projects.

And Your Future BPMS is? Microsoft Office
Howard Smith - December 06, 2005
Howard Smith reflects on the recent announcements by Microsoft of its new Windows Workflow environment. Smith feels that Microsoft has adopted a process centric approach and is laying the foundation for a BPMS-based version of Microsoft Office.

BPM: A Global View-- BPM as SaaS: The Next BPM Frontier
Rashid Khan - June 03, 2008
From his first-hand experience as CTO of Ultimus, Rashid Khan discusses the opportunities and the challenges to BPM vendors as a result of the Service-as-a-software trend currently in vogue. Although he foresees that the journey for BPM toward SaaS will be slow but steady, the process, done with care, will ultimately yield more adaptable BPM systems that will deliver significant benefits to the customer. Read Rashid's Column for a thoughtful perspective on this important topic.

BPM A Global View: Checkbox BPM
Rashid Khan - September 04, 2007
Rashid Khan issues a warning to unsuspecting buyers of BPM software whose companies use RFP's to select products. A "yes" in the check box does not necessarily signify a fully developed feature. Caveat emptor!

Making the Case for BPM: A Benefits Checklist
Jim Rudden - January 02, 2007
In this Article, Jim Rudden argues convincingly that an investment in BPM software, along with new approaches to project implementation, will enable companies to institutionalize a sustainable business process improvement program.

BPM and SOA: Where Does One End and the Other Begin?
Mike Rosen - January 03, 2006
This month, our new columnist, Mike Rosen, lays out an overview of the relationship between BPM and the software technologies that make up the Service Oriented Architecture. Together, Mike suggests, BPM and SOA provide the perfect platform for enterprise computing.

Workflow and Business Rules: a Common Approach
September 06, 2005
Heinz Lienhard and Urs-Martin Kunzi, of Switzerland's ivyTeam-SORECOGroup, consider how Business Rules should be combined with workflow. Rules can be developed independently, but the authors argue that it is much more productive to combine the two approaches using the latest software tools.

Leveraging Business Process Management and Six Sigma in Process Improvement Initiatives
Forrest Breyfogle - October 05, 2004

In this article, Forrest Breyfogle, the President of Smarter Solutions, a well-known Six Sigma consultancy, describes how they used Lombardi software's BPM suite to enhance the value of a Six Sigma project. We expect that lots of other Six Sigma groups will be using BPM suites in similar efforts and will find the description of this project useful.

BPMN and Business Process Management
Martin Owen - March 02, 2004
Martin Owen and Jog Raj, software architects at Popkin software who recently added BPMN to System Architect, provide a systematic introduction to BPMN and discuss how it can be used.

Using BPMN to Model a BPEL Process
Stephen White - March 01, 2005
Stephen White, IBM's BPM architect and the Chair of the BPMI's BPMN task force, walks readers through a step-by-step example of exactly how a BPMN model can be used to generate BPEL code.

The Third Wave: The Next Generation
Howard Smith - February 01, 2005
This month, Howard Smith and Peter Fingar shed light on where the next generation of computing lies. They argue it is not a BPEL Server designed for programmers, but a BPMS platform designed to support business-led process management tools.

BPM and SOA: Orchestration or Choreography
Mike Rosen - April 01, 2008
Inspired by a thought-provoking session he attended at a recent conference, Mike Rosen decomposes the elements of orchestration and choreography--two alternative approaches to using BPM and SOA in an organization. Each approach has distinct advantages in certain scenarios. Read his Column this month to learn which approach would yield the greatest benefits to your organization.

Service Design Essentials
Srikanth Inaganti - February 04, 2008
Srikanth Inaganti and Srini Chintala offer advice to managers overseeing SOA transformation projects. During their years of experience as consultants in Enterprise Architecture, they have compiled a set of best practices to apply at the various steps in the transformation process, and they provide them as guidelines in this Article.

SOA Maturity Model
Srikanth Inaganti - April 01, 2007
Believing that pursuing either technology or process in isolation will not produce the best result, Srikanth Inaganti and Sriram Aravamudan propose an SOA maturity model for assessing the effectiveness of processes, people, and technology options, as well as the maturity of the architecture.

BPM and SOA: A Strategic Alliance
Gopala Krishna Behara - May 02, 2006
Dr. Gopala Krishna Behara of Wipro Technologies provides a discussion of the relationship between SOA and BPM and suggests why, together, they provide such a great combination for enterprise computing.

The Business of SOA: Evolving An Agile Enterprise With Service Oriented Architecture
Jerry Huchzemeier - March 07, 2006
Jerry Huchzermeier, a founding partner and CTO of Proforma, has spent the past several months talking with clients to determine just how they will use SOA and what features a business process tool will need to support corporate development in the years ahead. In this important White Paper, he discusses the role he believes SOA will play and the features modeling products will need to support SOA development.

A Critical Overview of the Web Services Choreography Description Language (WS-CDL)
Alistair Barros - March 01, 2005
Alistair Barros (SAP Research Centre) and Marlon Dumas and Phillipa Oaks (Queensland University of Technology) have collaborated on this critical overview of WS-CDL and how it can be used to support business processes in an SOA environment.

Paul's Advisors and Newsletters

BPM, BPMS and SOA
Paul Harmon - March 11, 2008
In the BPTrends BPM Market Survey we published in February, we found that most practitioners discriminate between BPM, which is a broad approach to process change, and BPMS, which describes a software approach to automating process management. They also increasingly link BPMS and SOA. In this Advisor, we consider how they all fit together.

The State of the BPMS Market
Paul Harmon - September 18, 2007
The BPMS market is definitely consolidating. During the last five months, software AG bought webMethods, TIBCO bought Spotfire, IBM bought TeleLogic, and Metastorm bought Proforma. We argued that 2007 would be the year that everyone recognized the relationship between BPMS and SOA. Similarly, we believe that 2008 will be the year that everyone recognizes the important relationship between BPMS and BI. Thus, while the market is consolidating, it is also expanding and growing in new ways.

Exploring BPMS with Free or Open Source Products
Paul Harmon - July 31, 2007
Some BPMS vendors are offering free versions of their products to help companies learn about the technology. In addition there are some open source BPMS products. In this Advisor we look at what options are available for an individual or company that wants to explore BPMS prior to making a major investment.

A Single Instance of ERP
Paul Harmon - April 25, 2006
In recent discussions with business people engaged in business process work, the goal of standardizing ERP continues to play a major role in many discussions. Most companies use ERP, and most have different versions to support different processes in different locations. Getting the processes standardized so that the company's ERP software can be simplified is a major driver of many business process projects.

December 2004: IBM's BPM Strategy, Products, and Architecture

Paul Harmon - December 07, 2004
The November BPTrends Newsletter focuses on IBM's activities in the business process space. IBM is one of those dominant technology vendors whose efforts tend to shape the development of any new market. In this BPTrends Newsletter, we review IBM's BPM software strategy and look at its BPM architecture and current products.

Till next time,

Paul Harmon, Executive Editor