Trends in BPMS

I spent most of last week in Monterey, California, attending a new business process conference, bpmNEXT. This conference was the brainchild of Bruce Silver and Nathaniel Palmer [1]. Unlike other business process conferences that try to cover a whole range of business process topics, this conference was focused on BPM software technologies—and even more specifically, on the new technologies that will help define the next generation of BPMS products. You could think of the conference as a long series of vendor presentations, with this difference: the presenters were the chief technical officers of the companies they represented. In several cases, the discussions among technical experts that followed the talks were as valuable as the talks themselves.

I had the pleasure of keynoting the conference, and tried to lay out an overview of the world of process during the last decade. To classify the range of change that has taken place, I organized my analysis in terms of three types of change which I have depicted in Figure 1.

First, there has been a change in the types of process problems that business people are trying to solve. For example, business has moved from trying to solve more or less stable, procedural processes, to trying to build solutions for more dynamic processes.

Second, there has been a change in the types of software tools vendors are offering, ranging from workflow tools to suites that combine workflow, EAI, business rules and process mining.

Third, there has been a change in the infrastructure or platforms that organizations have relied on. We have gone from workflow tools based on client-server environments to workflow tools offered as services in the cloud.

Figure 1 hardly lists all of the changes, but it lists enough to support the argument that the process market isn’t a simple market and that the changes have been so unrelenting that it should be no surprise that the market hasn’t consolidated or settled down yet.

All of this change has made it impossible to point to finished BPM software products. Instead, we have witnessed a continuing evolution in the problems being addressed and the tools available to address them. And, we are in for lots more change in the future.
In the course of two days 80 attendees listened to 25 speakers, each describing research or a specific product that offered an idea about where the BPMS market might be going. In an effort to understand what I was hearing, I kept revising a Venn diagram that I picture as Figure 2. I tried to reflect the broadest trends in the largest circles and then tried to include specific topics within smaller circles.

Thus, for example, one theme that emerged from the conference is that BPMN 2.0 is beginning to have an impact on BPMS products. The earlier version of BPMN was a notation, but it didn't have rigorous underlying semantics. BPMN 2.0 does and, since its release, vendors have begun to incorporate roundtrip engineering into products that wasn't possible with earlier products. It's now much easier to keep things in sync.

The Cloud and Social Media
Even more important is the role being played by the cloud and by social media. A casual listener could be forgiven for thinking that all BPMS products were about to become cloud products. Moreover, it seems likely that individuals will increasingly be able to interact with BPMS products, either in the course of developing new process solutions, or while using an automated process application, from almost anywhere. Imagine the manager who is traveling, who checks in on how an application is performing, and perhaps updates instructions via his or her cell phone or iPad.

Some presenters discussed BPMS products that make it easy to diagram and generate BPMN based process applications and field them on various devices. We were shown several nice examples of how users could make changes or utilities could capture changes and route them back to the basic application, keeping the two in sync.

**Making BPMS Easier**

There were several demos and discussions about how BPMS could be made easier. In 2003, in the wake of Smith and Fingar's book on BPM, there was a lot of discussion about how it would be possible for business managers to create and maintain process applications. By 2008 most of that talk had disappeared and the emphasis was on BPMS products that only an IT developer could use. Those tools have been consolidated into today's large BPMS packages that are offered by IBM, Oracle and SAP, among others. At the same time, a wide variety of new BPMS products have appeared and the best are targeted at end users or managers who are expected to tailor or dynamically improve the processes in real time. Coming away from this conference, I'm inclined to say that the idea of manager and end user development is alive and well among some of the new BPMS products coming to market.

We saw new tools, for example, that offered simple processes that could be quickly tailored by the user, and we saw vertical applications that the user could modify as the process was executed in new situations.

**Adaptive Case Management**

Still another major theme of the conference was Adaptive Case Management (ACM). The idea here is to create software tools that can support processes that are constantly changing. One approach that was widely discussed, for example, is the preparation of a large menu of task templates. When a user is faced with a new problem, he or she (or perhaps a team coordinating via the Web) assembles and sequences the set of tasks into the process they believe is the best solution to the problem. Once this unique process has been created in the tool, the individual or team begins to execute the process. At any time during execution the individual or team can modify or extend the tasks, rearrange the tasks or add new tasks, capturing the changes for future use by other users.

Obviously, all this ferment is taking place in the broader context of new interfaces and a social media environment operating within a cloud. For example, a hypothetical real estate dealer uses her iPad to pull up a list of possible tasks from a list maintained on a BPMS real estate application running in the cloud, arranges the tasks for the problem she faces, and works through the task checklist that is also downloaded to her iPad or smart phone. As exceptions are discovered they are recorded on the smart phone and stored in the cloud-based BPM real estate application for future use by other realtors. (As I listened to some of the applications described, I realized that some vendors are beginning to focus on vertical markets because the best way to tailor applications that can be very responsive to particular problems is to understand those problems in depth—as only someone specializing in a vertical market can do.)

Other speakers addressed things like the Web of Things, where an application running on your smart phone triggers changes in the thermostat of your home.
Data, Rules and Analytics

Many of the vendors, including the larger vendors like IBM and Oracle, are focused on integrating BPM more closely with databases and taking advantage of Big Data, which is being generated by the millions of users using smartphones and iPads, to inform business processes of things that employees might want to consider as they deal with specific problems. Indeed, as one of the speakers emphasized, modern BPMS applications ought to routinely establish data models so that others are prepared to consider new ways to provide or extend the data used by key processes.

Still another theme running through the conference was the role of rules, analytics and decision management. Most of the various links and much of the intelligence that vendors were discussing depend on the use of rules and inferencing techniques to adapt processes to specific situations. One speaker discussed layers of sensors and monitors, each with a few rules that gradually gathered data, analyzed it, and determined if it should be forwarded, via wireless connections, for human decisions and actions.

There were also discussions of the use of process mining techniques to help vendors trying to develop applications where data already exists, or to improve applications as data is accumulated. The presentation voted best by the participants themselves was a Process Mining presentation by Anne Rozinatt and Christian Gunther of Fluxicon that described how a BPMS tool that incorporates process mining can, among other things, constantly review instances, determine when bottlenecks or exceptions are impacting a process flow and alert the process manager.

BPM Next

Quite a bit of consolidation has taken place in the BPMS market. Software tools like those currently offered by IBM and Oracle represent impressive syntheses of many different techniques. Overall, however, these large BPMS packages are more focused on providing a platform for business process development by IT developers.

While the larger vendors have been consolidating first generation products, however, smaller vendors have been busy creating a whole new generation of tools, designed to run in the cloud, designed to be accessed by any of a variety of different hardware and, most important, designed to be developed, or at least modified, by end users as they execute business processes.

Obviously, both first and second generation BPMS products have their value and each will be widely used. For practitioners, however, the larger message is that the BPMS market has not even begun to settle down. There is a lot more to come and it is going to expand what we can do in all kinds of different directions. I’m already looking forward to the next bpmNEXT conference [2].

Till next time,

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[1] Bruce Silver is a well known BPMS product analyst, author of BPMN Method and Style and instructor of popular BPMN training classes. He can be contacted at bruce@brsilver.com. Nathaniel Palmer is the editor of BPM.com, the executive director of the Workflow Management Coalition (WfMC) and BPM and SOA Practice Director at SRA, International. He can be contacted at nathanielpalmer@gmail.com.

[2] bpmNEXT is tentatively scheduled for March 25-27, 2014 and my guess is that many of the people will return to continue the dialog. A survey is under way to determine if the conference will be held at Asilomar again, or if it will move elsewhere. For more information on the conference, check
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