



## BPM and SOA

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## Collaborative Knowledge Processes

Collaboration, social networks, Enterprise 2.0, they're all in the news these days. But the questions about how to use them to provide business value have hardly been answered. Advice falls along the lines of "develop a social networking policy" or "determine how deeply collaboration should penetrate into your organization." True, but it seems that organizations (and pundits) have few ideas on how to harness these new technologies to improve their business. One challenge is that we cannot continue to think about business in the same old way and expect to find the best fit for new opportunities.

Business process improvements, supported by new analysis and design techniques and BPMS tools, have brought great improvements in productivity in recent decades. When done intelligently, the techniques have allowed enterprises to assess business requirements and implement IT solutions that meet those requirements, align them with business strategies, and operate in a managed environment that leads to performance analysis and continuous improvements. And, with resources like BPTrends, the industry continues to get better all the time. Up to this point, however, we have mostly focused on defining and improving routine and predictable processes based on the flow of business documents (electronic or otherwise), either in a human workflow, automated process, or a combination of the two.

Unfortunately, while significant progress has been made in improving traditional business processes, little attention has been paid to improving the productivity of knowledge workers. Knowledge workers represent a significant investment and expenditure for most enterprises. These workers need to collaborate to perform their jobs. Many in the industry report a crisis in what is called 'White Collar Productivity.' While there are a variety of reasons for this, they boil down to the fact that the ad hoc processes and collaboration of knowledge workers does not easily lend itself to traditional BPMS solutions. These knowledge processes can be characterized by a variety of factors:

- Performed by knowledge workers – The primary participants in these processes are knowledge workers. To perform their jobs, they need access to accurate, up-to-date information, whenever and wherever it is available (often in other peoples' heads).
- Unpredictable – It is difficult or impossible to predict at the outset who will be needed to participate in the process. Instead, knowledge workers evaluate the scenario and then pull in the necessary experts on an as-needed basis.
- Interactive / collaborative – The overall process depends on the collaboration and exchange of information between many different participants.
- Subject to error – Human interaction, by its very nature, is subject to error. Errors occur because workers don't have access to accurate, up-to-date information, or occur through misunderstanding, ambiguity in communications, etc.
- Not document based – Voice, email, video, and other communications media support the collaborative aspects of the process. A document may be the final output of the overall

process, but it is not the primary medium for the interaction between workers.

Furthermore, today's business environment is much different than in the past include:

- The commercialization and consumer capabilities of the internet have awakened users to the power of interaction, social networking, collaboration, etc. Knowledge workers want to use these same capabilities to improve their productivity on the job, not just outside of work.
- Communications supports a wide variety of rich media types, including voice, video, etc.,. Workers expect to communicate using all media, not just documents.

Major productivity gains are possible if we can expand our attention from traditional, predictable processes toward the activities of the knowledge worker. To do this, we need to accommodate the unpredictable, interactive nature of these processes and address the error modes from available information. As well, we need to meet the expectations for collaboration, communications, and rich media. This requires both a powerful platform for collaboration and enhanced business process capabilities.

In previous articles (Collaborative Business Applications: Part I and II), I presented the architectural foundations that positioned collaboration technologies into an enterprise n-tier architecture. Then I illustrated that with an example of an extended, collaborative business process. Of course, this is usually an SOA related column, so remember that these new capabilities are provided as services in the workspace tier and in underlying domain services in the enterprise tier. These capabilities for rich information exchange are overtaking the traditional ways of thinking about record keeping, as well as the way we implement information exchange in processes. Collaboration capabilities that will become part of knowledge processes include

### **Collaboration Capabilities**

- Voice – Synchronous verbal communications. Includes traditional telephones, mobile communications, and Voice-over-IP systems.
- Video – Allows for the display of video information and the use of real-time video to enable video conferencing, web cams, etc.
- Messaging – Provides the ability to send brief, asynchronous messages to others.
- Conferencing – The use of voice and video to create a virtual conference between two or more participants.
- Communities and Social Tools – Networks of participants with common interests or interactions.
- Content Management – Management and publication of content, including storage, versioning, searching, and knowledge management. Publication options include forums, wikis, blogs, documents, portals, etc.
- Identity – Provides a secured identity and role for each participant.
- Presence and Location – Provides current information about the location and status of participants.
- Security – Provides for authentication, authorization, encryption, and other services, as required.

In other words, BPMS implementations have to catch up with today's communications capabilities and enable all of these different aspects to be fully integrated into processes. In addition, we need to extend our definition and implementation of business processes to support the more ad hoc, collaborative, long-running nature of knowledge worker transactions. These capabilities for business processes include

### **Business Process Capabilities**

- Visual Process Modeling – The ability to create visual models to define processes which incorporate collaboration, rich media messages, etc.

- Choreography – The ability to have autonomously cooperating participants with emergent behavior, yet still within the confines of a managed process.
- Long-running transactions – Consistent transactions that span hours or days.
- Management / Monitoring – The ability to manage and monitor processes. To see the current state of any process, perform restart, recovery, etc.
- BAM – The ability to measure and monitor process activity in real-time and link the output to business dashboards, KPIs, and instantaneous process adjustment.

Management, monitoring, and analysis of these knowledge processes are key. These capabilities allow for continual process improvement and the corresponding increases in productivity. These capabilities, the all-important “M” of BPM, allow an enterprise to

- Measure and report on the success of the processes
- Understand the performance of each participant
- Reduce process latencies
- Eliminate redundant and unnecessary activities
- Reduce errors and delays through auditing and traceability
- Etc.

Improving the productivity of knowledge workers is the next big opportunity for business processes. But these workers require a next generation BPM that is not limited by traditional implementations of workflow and documents, and provides collaboration and rich media across end-to-end processes.