A Business Oriented Architecture
Combining BPM and SOA for Competitive Advantage

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Introduction

In a recent survey of 1,400 CIOs by Gartner Executive Programs, the top business priority identified by CIOs was business process improvement[1]. This has led to a renewed focus on core business processes – how they are performed today, how they can be improved, and how quickly they can be changed. Succeeding with process improvement requires the coordinated effort and communication of groups from across the company – from line of business managers to software developers. Their discussions will range from a discussion of key performance metrics to which activities are performed by which groups down to what data is required from existing systems.

Today, IT groups are working to put in place the architecture and tools that will allow their companies to support process improvement. In many cases, they have been implementing a Service Oriented Architecture (SOA) in order to re-orient their core technology to reflect new consumption patterns. While most companies have used their SOA to support data integration and system rationalization to this point, SOA provides an excellent technical basis for the business process improvement initiatives ahead. The benefits that an SOA provides – simplification, flexibility, consistency, ease of change, encapsulation – will help IT groups implement process improvement. However, SOA is only part of the story. As valuable as it is, an SOA and its tools are still fundamentally technically focused. By design, SOA presents an atomic view of the functions and data a company supports. However, if you present a line business manager with a list of services, he will probably have no idea how he can use those services to drive process improvement. The service oriented context is a part of the process improvement equation, but it needs a partner.

Leading IT groups are recognizing that they also need to deploy Business Process Management (BPM) technology and practices to enable process improvement. They recognize that enabling their business teams with BPM will give their company a competitive advantage in driving process improvement. This competitive advantage is realized through self-sufficiency in process discovery, better prioritization and requirements of requests to technical teams, a more efficient environment for collaboration, and the ability to drive requirements down into the SOA layer. This paper discusses these benefits in more detail and shows how leading companies have recognized that implementing BPM and SOA together gives them unique capabilities. However, before reviewing the benefits, it is important to understand what a combined BPM and SOA architecture looks like at a high level. It is this combined architecture that will enable business process improvement.

A Business Oriented Architecture

Consider this typical process improvement example from a leading group life and health insurer. With projected revenue growth of over 50% in the coming years, this insurer decided that it needed to improve its core business processes to support high revenue growth with low staffing growth. One of the most labor-intensive processes was reconciling disputed charges on monthly invoices. In determining how to improve the process, business and technical teams had many questions to answer: What is the process today? What are the target performance objectives for

the improved process? Who performs which activities? Where are the bottlenecks in the process? What changes to the process will drive better efficiency? What visibility and controls do the

business managers need when managing the running process? What information is required from existing systems? What business events affect this invoice dispute process? What information does the process need to write to existing transactional systems? All of these questions had to be answered to deliver the solution. This insurer combined BPM with their SOA to deliver a combined architecture for driving process improvement. Figure 1 provides a simple functional architecture of what this business oriented architecture looks like.
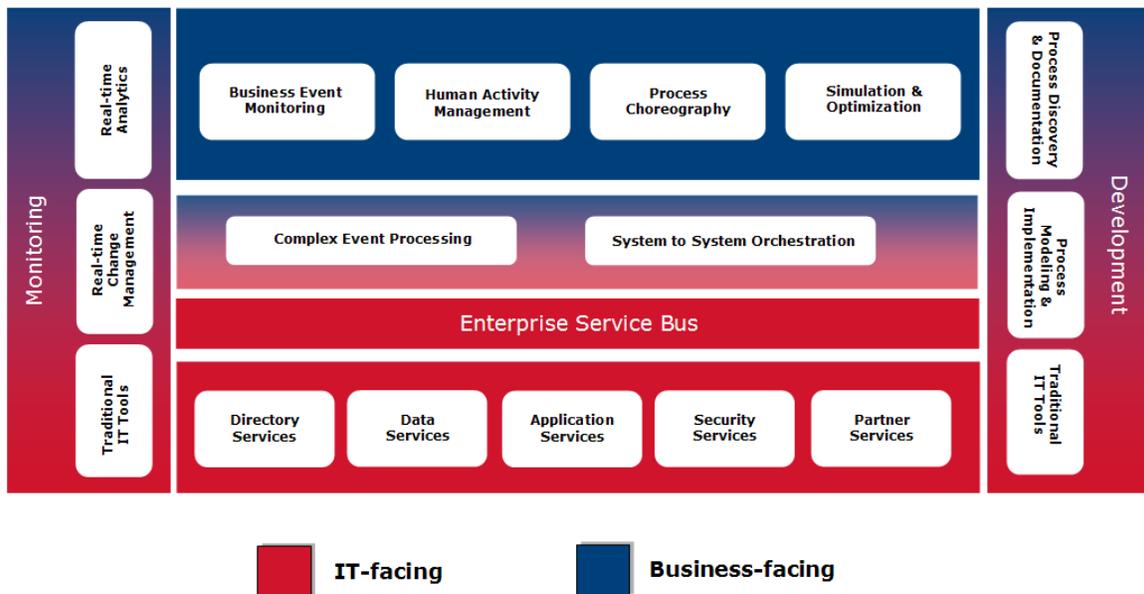

Figure 1. A Business Oriented Architecture

The red, IT-facing components in Figure 1 are familiar elements of an SOA picture. SOA provides IT groups with an architecture that allows rationalizing of data across multiple stores. Similarly, with consolidation a major source of cost-reduction, SOA provides a model for abstracting out system-specific calls. These "services," then, are really better ways to expose and govern the hard-core IT assets so that they can be more easily consumed and therefore more easily re-used. Building access to data and systems in this way also means that consolidating and changing specific underlying data structures and engines is not only easier now, but in the future, too. SOA, then, provides a strong technical basis for process improvement. It also provides the tools that technical teams will use to build out the services that implement a business process. However, at this point, technical teams need the input from their business counterparts about which events matter, who uses the specific business services and when. In short, how these services are organized and consumed to drive process improvement is not defined here in the red layer. That work is done in the blue, business-facing layer and is discussed next.

The blue, business-facing layer is where you will find the core functions delivered by BPM. It is here that the questions of how to improve the process itself are answered. The tools in this layer must be designed for business users as those are the people that answer what must be done to improve the process. Furthermore, these tools must allow business users to move directly and seamlessly from the design of a process to the active management of that process and finally to the analysis that leads to the next round of process optimization. The best BPM tools allow business teams to transition between analysis, design, and management without ever losing the process context. Properly enabled, a business team can access to real-time process performance information, directly manage process instances, define goals and simulations, and run those simulations using against production data to discover new opportunities for

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improvement. More importantly, when it is time to implement the changes, BPM provides a familiar picture of the process that both business and technical teams can use to understand what must be changed and what benefits are expected. This shared picture of the real process is the cornerstone of communication and alignment required for successful process improvement. And only the BPM layer delivers it in a context that both business and technical users can understand.

The Emperor's New Flows

But don't most SOA diagrams from Oracle, IBM. and BEA include process (and sometimes BPM)? Yes, they do. So, do these SOA platforms provide the business-facing capabilities required? No, they do not. There are two essential facts to remember about business-facing process improvement capabilities. First, they must be designed for business users to adopt simply. This means that a business team can simply manage running processes and identify new opportunities for improvement – self sufficiently. Second, the capabilities must be tightly integrated. In fact, at Lombardi we feel that they must all be based on a shared model of the process. This is the only way that business teams can validate that the process they designed is what is running and that the performance data gathered by running the process can be used to evaluate how to improve that process. If this information is dispersed across four different tools and four different data stores, no business team will ever be able to drive process improvement with confidence. They will need constant technical assistance to try to make sense out of the loosely related process information they see.

Today, the leading SOA vendors provide a technical environment for process improvement that is inaccessible to business teams. With the exception of a basic modeling tool, business users and teams cannot practically use the myriad technical tools required to design or analyze a process. And with different portals to go to for business activity monitoring and work management, getting a unified picture of process problems and potential improvements is virtually impossible. In most cases, the SOA vendors can list all of the boxes in Figure 1, but you can color them almost entirely red. Because of this, companies using just their SOA stack for process improvement will miss opportunities for competitive advantage in driving process improvement. By delivering BPM to the business, IT groups can help to lower the risk, cost, and time to market in delivering business process improvement projects. These opportunities are the subject of the next three sections.

Lower Risk, Increase Value with Better Prioritization

Delivering BPM tools to business teams enables them to analyze and define better processes. In particular, process analysis and simulation allow teams to understand where their opportunities for improvement lie and which changes can have the biggest effect. Furthermore, through simulation, business teams can understand the benefit they can expect to achieve by deploying the process design. This creates a bias towards deployment that encourages business teams to keep the scope of each process release smaller – and not focus on a single "big bang" deployment.

Through business process discovery and analysis using BPM, a large telecommunication company was able to successfully manage down the initial scope (and risk) of their first process. After doing an end to end design of the process, the business team learned that integrating to a specific legacy billing system would require several thousand hours of development time. When faced with this estimate and the potential project delay, the business team did an analysis of how much time would be gained by supporting automatic integration compared with having customer service agents simply type billing adjustments into the legacy system at the end of the process. They determined that entering the final billing adjustment was only a small part of the value to be gained from deploying the new process. So, they decided to deploy without the billing system integration. This decision eliminated one of the biggest project risks. In the first quarter of deployment, the improved process saved this customer over $2M in recovered revenue and reduced processing effort. This prioritization would have been difficult to justify if the business teams had not had such a clear understanding of where the value in the process was being gained.

Save Money with Better Requirements

Some SOA vendors suggest that companies postpone BPM work until they have all of their services in place. The rationale is that having the services defined in advance will foster re-use and save money. In fact, the opposite is true for most business process improvement initiatives. Consider the following two customer examples. One major retailer committed very early on to service-enabling their core systems to ease integration. They worked together with a SOA vendor to build a catalog of over a thousand services in anticipation of future integration and process demand. In theory, this would speed implementation and foster re-use for future integration and process projects. However, on the first process project, they tried to use four web services from their existing catalog. The services did not adequately work for the process because they did not have all of the information that the process required. So, the web services had to be rewritten to meet the actual needs of the process. In contrast, an insurance company is using the requirements of their business process improvement initiatives to drive development requirements for defining service interfaces to their existing claims and billing systems. This "demand driven" approach saves them time by providing exact requirements of what is needed by the process. As an added benefit, the process improvement project provides the economic justification for building the required services.

Speed Time to Market with More Effective Collaboration

Great BPM suites allow business teams to design the actual process that will run. While technical teams will certainly help define the implementation of specific activities, BPM allows business teams to define the scope, focus, and flow of the process. It is important that the process looks the same no matter whether a business person is conducting simulations, identifying process bottlenecks in running processes, or showing a new employee the process documentation. And when it is time to collaborate with the technical teams on the implementation of each of the process activities, this same picture of the process will be used. There is no confusion caused by transforming a high level picture to a low level executable. With BPM in place, the business and technical teams' understanding of the actual process is the same. This shared viewpoint is the basis for a change in how companies manage their business process improvement projects. They are changing their approach from waterfall project management with a heavy focus on formal requirements definition up front to a project approach that uses multiple iterations with complete requirements, design, implementation, and testing in all iterations. Furthermore, they are using interactive "playback" sessions attended by both business and technical teams to provide constant feedback on progress and prioritization. This level of interaction is made possible because BPM provides the process context that business and technical users can both understand. With each passing iteration, the teams see the process becoming more and more operational and they are able to provide consistent feedback. The picture stays the same (unless everyone agrees to change it), but the details get filled in. This iterative approach has proven effective not only at reducing risk, but also at dramatically reducing the time required to deploy process improvements. BPM customers typically deploy processes in under 100 days. In many cases, companies are deploying new versions of a process every 6-8 weeks.

Competitive Advantage

Combining BPM and SOA to drive process improvement provides competitive advantage for companies. No SOA stack today provides the business facing capabilities delivered by the leading BPM suites. It is these business facing capabilities that are critical to the success of process improvement initiatives. Without the business identifying process problems, opportunities, and priorities, technical implementation teams will struggle to understand which services to work on, what capabilities to deliver, and in what order. The best implementation of these services would still not drive process improvement – because the objectives and management of process improvement cannot be effectively expressed in the SOA layer. For that clarity, understanding, control, and optimization are exactly what BPM was designed to deliver to the business. The sooner IT groups deliver BPM to their business teams to complement their SOA efforts, the sooner they will have a business oriented architecture that allows them to drive process improvement faster, cheaper, and more consistently than their competition.

References

[1] "Growing IT's Contribution: The 2006 CIO Agenda", Gartner EXP, January 2006

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