A Strategist's Perspective

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The Seven Deadly Beliefs That Could Hurt SOA Efforts

The amount of attention that SOA is getting by all of IT today means that we had better do it right or risk a significant black eye. The rubber is going to meet the road starting in 2008, and there are dangers lurking that we must be ready to address or suffer significant set backs. While there are a number of pioneer organizations that have deployed a SOA, enjoyed its benefits, and have allowed it to permeate their organization, most organizations are about to jump in with both feet; the result could be an exposure of problems that will have to be anticipated.

Like it or not, there is an implicit link to BPM; particularly for processes that are below the waterline and linked to straight-through activity. While BPM does support SOA for system tasks, BPM can live well managing the human-only activities without SOA. My fear is that a SOA failure will take BPM down with it for a while. To that end, I thought I'd document some of the disbeliefs that I have seen and heard.

SOA is the Answer; So What's the Question?

It is typical for technology folks to project that their world is where most of the action is in a company. The reality is somewhat different than in the non-manufacturing world where automation dominates. Typically 80% of business activity does not include systems integration, straight-through processing and transactions (the playground of SOA). The 20% that is highly automated is certainly the most efficient and productive; therefore, the more work an organization can push there, the better. It is important to understand SOA in the context of an overall process, otherwise IT falls into the myopic world that typical functional business professionals fall into. We have to make sure we have an attitude that SOA helps the company better manage what's automated, so we need to pursue SOA, but not to the detriment of other activities.

SOA Benefits are Obvious to the Business

Like it or not, SOA is invisible to the business crowd even if the power players like Microsoft, IBM, Oracle and SAP are taking it to the executive office. It is important to link SOA to one of the six business imperatives identified by Gartner as shaping IT investments. See below:

- Attract and retain customers
- Improve workforce effectiveness
- Build an agile and innovative organization
- Improve critical processes and workflows
- Manage governance, risk and compliance
- Maximize performance, profitability and competitiveness

You can read more detail by referencing Gartner document number G00152685, published in

October 2007. There is some sage advice in this document. The problem with SOA is that it requires a significant investment without any foreseeable hard benefits. This means that there will be a period of discontinuity before the benefits can be realized. Sounds like the "I" word (infrastructure) that can make some executives run in the other direction. This is particularly true in leaner economic times.

The other alternative is to leverage a significant need for a shared system that is likely to occur in mergers and value/supply chains. The near term and immediate benefits can be demonstrated in a shorter time period. Not everyone is blessed with this situation; however; the alternative is to the wrap SOA in other business efforts over time.

Reuse Happens Naturally

Reuse requires hard work to attain and maintain; especially when the infrastructure is still evolving. There are three major difficulties with the reuse that I have seen to date:

Finding the right service is not a cake walk in a larger context. Even the best directory today only has an abbreviated business description with weak search capabilities. I have not seen a semiotic (visual) directory yet that shows a service in the context of flow or composite application, much less in all the contexts that a service can be used in and its polymorphic behavior in those contexts. I have not seen any that can find things through alternate vocabularies plus be multi-lingual.

Impact Analysis is difficult, especially with more service uses that can be dynamic and real time in nature. And because of the smaller size of the services compared to applications and the number of contexts that they are used in, determining the impact of change is not easy. The analysis process will certainly require more rigors, because of the number of moving parts and all the contexts they are used in to date.

Change Implementation can also be an issue because all the contexts may not want or need the change positioned in the new version of a service. Each use may want to determine if and when they take the new version of the service. This actually slows down the change process when a faster process has been promised.

There may be more big poisonous snakes in the wood pile to add to this list of large challenges, but they have not surfaced as of this writing.

SOA is a Technology; Not a People Issue

SOA is as much a cultural issue as it is a technology issue. Reuse requires an increased level of trust between individuals that is not normally seen on a large scale. Creating a reuse and collaboration environment is not an easy task where individuals are incented towards their own achievement and excellence. How do you incent people to take the extra time to maintain a highly shared service with the necessary care needed to avoid problems in all use contexts? How do you incent people to use services that have not been certified when they may know neither the author/maintainer nor the test mechanisms used for quality control? SOA is a people and cultural issue.

SOA is the Heart of Agility

SOA proponents would have you believe that services are at the core of agility. I would suggest that rules are just as, or more important than dynamic orchestration and dynamic service swapping. A stand alone SOA strategy that does not consider the impact of rule management is a dangerous proposition. Imagine having more hard coding in more components/services than before. I would highly recommend rules externalization guided by a business and technical volatility analysis.

Services Have to be Pure

There are those that believe that services have to follow a strict formula for an excellent service to be considered to be part of the SOA architecture. While where green field services can be fostered and created this makes sense, but in the beginning, I would submit that you will likely have to be stringent on the interface and not the actual composition of the service. In fact there will be a number of pseudo services, like wrapped legacy services and wrapped composite flows that will be important services for organizations. It is imperative that the issues with these services be tested and documented. For instance, a service that is wrapped around a composite flow of three legacy components might have a different performance characteristic than a pure service and the potential orchestrator needs to know this in advance.

Services Need Not Care About Process Context

In order for SOA to be considered a success, it must look beyond its local boundaries into process integrity and context. It is very easy for a service to forget that it is one piece in the end-to-end process, but whenever possible, services should be tested in their entire process context along with anticipated uses. It's very important that a service do "no harm" and consideration must be given to its role in compensating transactions and rollbacks.

Bottom Line

There is a tremendous amount of opportunity when combining a solid SOA implementation with BPM, but care must be taken in moving forward with measured steps with realistic promises. I am most interested in learning about your thoughts and experiences on this issue, so please join me at "Jim Sinur's BPM Blog" at www.global360.com/blog.to discuss this further.