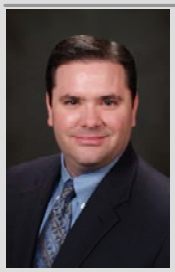

# Innovation

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## A Simple Approach to Accelerating Innovation: Driving SOA Services from Your BPM Initiative

*The authors sought the expertise of Puspendu Pal in preparing this Column for publication. Mr. Pal is the Lead Architect for Project Performance Corporation's Business Process Improvement Practice. He has extensive experience architecting solutions using BPM, SOA, and Portal technologies. During his time at Project Performance Corporation, Mr. Pal has helped architect and deliver BPM solutions for both public and private sector clients, including HUD, Integro Insurance Brokers, and Crown Castle International. His contribution to this Column is immeasurable.*

As you probably know by now, there are numerous approaches to implementing SOA in your organization. In many ways, Service Oriented Architecture (SOA) is a key component to driving innovation within organizations. With a SOA framework in place, IT is able to rapidly deliver business-driven solutions that drive innovation to customers and key stakeholders.

While SOA delivers obvious and indisputable benefits to organizations, deciding upon an approach can be tedious and controversial for IT and line-of-business managers. Some SOA gurus suggest using a "bottoms-up" approach to building up a core set of services that are common across the business environment.

However, based on our experiences, we have found it easiest for organizations implementing BPM initiatives to build their SOA framework using a "top-down" approach. With a "top-down" approach, a 20,000-foot view of the organization is used to identify key services, as processes are defined and automated. Since higher-level management and business users are usually involved in enterprise-wide BPM initiatives, the services identified can be pushed to every level of the organization for adoption.

### Using BPM to Discover Reusable Services

Today many companies have already adopted BPM capabilities and are moving towards process-centric operations. These companies have established BPM Centers of Excellence that identify, implement, and improve mission-critical business processes. However, many of these same companies are grappling with challenges around implementing SOA in parallel with their BPM initiatives.

In many cases, BPM can be used to provide a standard approach to building out a SOA-compliant framework. Using a classic top-down approach, BPM can be used to drive the development of services. There are many advantages to using BPM to drive SOA maturity, including

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- **Well Documented and Modeled Process** – When implementing BPM, the process is modeled and documented using BPMS software. If a question arises in the future (e.g., why a specific service was needed and developed), service owners can fall back to the business process model to provide traceability and justification.

- **Service Identification and Prioritization –** Generally, BPM teams focus on automating core business processes or processes that have high ROI and visibility. Due to this, services identified via the BPM implementation are usually core to the business of the organization and will be have a higher priority. This helps the organization in getting their core business SOA enabled faster.

- **Common Platform** – BPMS software follows standard notations agreed upon by business and IT. Hence, the service identification and implementation decisions can be easily evaluated and agreed upon between IT and business by going through the business process model.

- **Commitment from Business –** Since the business is committed from the start to the end of the process, it becomes easier politically and strategically to overcome some of the hurdles which might come across while implementing the services.

- **Avoiding Implementation of Unwanted Services –** Using a top-down approach, the team develops services that are ready to be consumed by the process. There will never be a scenario where services are developed in silos with the assumption that they will be heavily consumed but never used after implemented.

However, there is the challenge of how services are identified and defined while walking through the business process. There is the potential tendency to create a service for every activity in the process. This should be avoided, as this leads to the creation of services which cannot be reused in other process activities or places. If possible, instead of creating one service for an activity, break down the service to another granular level for maximum reusability.

## Delivering a SOA Framework While Implementing BPM

Typically, BPM projects begin with process discovery sessions. The business identifies which process needs to be automated using the BPMS tool. The as-is process and the to-be process are defined by the business, and KPIs are identified. Once these are documented, the technical development team is brought in to design and implement the process, using the BPMS tool.

At this point, if the following methodology and steps are followed, it will guarantee the creation of enterprise services, which will lead to SOA compliant organization.

- **Model the Process** – Develop a detailed model of the process. The details should include the identification of external and/or legacy systems involved. Using the documentation feature of any BPMS tool and generating a report of the process would help the technical team to understand the process in detail.

- **Identify and Analyze Systems Involved -** Step through each activity in the process from start to end. Discuss the input and output arguments in each activity. Identify: From where the process variables are populated? These steps will help you identify and analyze all the external systems involved in the implementation of the process. There could be a possibility that a new system needs to be developed for the process. Categorize the systems as existing and non-existing systems.

- **Identify Services** – Service identification is the most critical step of implementing a SOA framework. Using a top-down approach provides a clear picture of the service landscape, allowing the technical team to identify the right services. When identifying

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services, it is important to consider the granularity of a service. The more granular the service, the more reusable it is. However, in most cases, more granular services are more difficult to manage. Interestingly, on BPM projects, business analysts are ideally positioned to balance granularity vs. manageability. They are in a position to identify whether a service is small enough (i.e., granular enough) to be reused, and large enough to have impact on the company's processes.

- **Identify Enterprise Components –** A component is a piece of software which can be reused in multiple services. For example, in a typical "Online Checkout Service," a "Cart," an "Item" is a component. "Adding an item to the cart" is a service. Components can be "existing" or "new." In most cases, organizations already have many enterprise components that can be combined to create new services. Before creating a new service, the organization should identify whether there are components that already exist and could be used by the service.

- **Implement Non-existent components and services:** While implementing services, certain design standards need to be followed. Laying down a set of standards and maintaining them should be the responsibility of "SOA Architecture Group." A wealth of information is available on specific frameworks or design patterns to use while creating services. In his book, *Implementing SOA: Total Architecture in Practice,* Paul C. Brown provides a good foundation for the technical details of creating components and services.

- **Implement Process by Plugging in Services –** Once the non-existing services are developed and existing services are ready for use by process, use the service plug-in feature of the BPMS tool to consume those services. The services can be exposed in a variety of ways, including as web service or enterprise java beans (EJBs). The advantage of using a BPMS tool can be realized when it becomes a piece of cake for developers to consume disparate services exposed in different ways.

**Conclusion**

Moving towards a complete process-centric organization or attaining the highest level of maturity in the SOA maturity model for an organization can be Herculean tasks. Using a process-driven top-down approach to implement SOA ensures that the business and IT teams collaborate on implementing the most reusable and high-value services within the organization. This top-down approach also increases the chances that developed services will be adopted enterprise-wide.

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