

Leveraging Process Portals: A Case Study PC

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***Building customer self-service applications?
Think process portal.***

Imagine this scenario, sadly a far too common experience: it's been six weeks since you mailed in a rebate application for a GPS product you purchased. Yet, you still haven't received a rebate check. You call customer support only to spend 45 minutes getting transferred to three service representatives and two managers, having to re-explain your rebate issue with each new contact. In the end, you hang up in exasperation just hoping your rebate was indeed finally processed. Yet the company who wasted 45 minutes of your time, likely spent at least \$45 to process a \$50 mail-in rebate!

Effective Customer Services practices are not only about keeping customers happy. It can and should also be about great business efficiency – and saving money. Business process management (BPM) and Portal together can play a very important role in improving customer satisfaction through self-service functionality.

Offering customers self-service can strengthen customer relationships and improve customer satisfaction. Customers feel empowered and have direct visibility into the process when they are able to use self-service. But, offering self-service functionality is not a trivial undertaking. Although many organizations are taking multiple measures to better serve their customers (consolidating customer information, using sales force automation and customer data mining, implementing customer relationship management systems), they still lack a holistic view of customer service processes.

Customer service processes are rarely limited to customer relationship management (CRM) systems, and span multiple enterprise applications, such as order management and financials. These applications often have silos of customer data, where the lack of integration inevitably hinders process visibility. This is often a problem, as the need for human intervention to resolve critical business exceptions requires the ability see what is happening with the process in real-time.

The need for visibility into the state of the process as it spans multiple systems highlights the critical requirement for effective customer service of presentation, integration, and security -- these all play important roles in building customer self-service functionality. In fact, this is where process portals can best add value. For example, BPM can automate core customer service processes, manage human intervention, and handle exceptions, whereas portals can bring information and processes into a more effective working environment for all involved stakeholders.

The Anatomy of Process Portals

Process portals, in the simplest sense, present a combination of portal and BPM technology – the portal provides a rich collaborative user interface, while BPM enables key processes to be modeled, simulated, and automated across multiple people and applications. Applying this to customer service scenarios, however, introduces specific requirements surrounding disparate audience, richer collaboration, dynamic processing for agility, and process analytics. Below is a set of issues and requirements that should be considered in the context of process portal, notably those designed for enabling customer self-service. These have been characterized into four primary criteria.

#1 – Addressing Disparate Audiences

Disparate audiences, such as customers, service representatives, and service managers, all access self-service applications. They access the same interface to perform their respective job functions. Disparate audience implies support for role-based personalized access. For example, a portal should be able to show customers the products they've purchased and/or current order status, whereas service representatives need access to order management and CRM systems.

In effect, each role-based UI drives different business processes, which in turn access different applications. Embracing an SOA strategy of extending enterprise applications can be service-enabled to create a common framework of business services. These services can be aggregated in different ways for different audiences based on their requirements. This reduces the tight coupling between the UI and process layer. The end result is a new composite UI that is less complex and more closely matches the everyday business needs of end users.

#2 – Supporting Rich Collaboration

Traditionally, process portals have been built to assign tasks. Then people use the portal to act on those tasks (i.e., perform action, add comments, request information). It is imperative that the BPM layer has the ability to manage work queues and assignments through human workflow integration. In other words, to support the ability to see outstanding tasks, and to delegate/transfer/escalate them to individuals.

Yet, the layer should go one step deeper. Through user interface, process should enable a single interaction point for all linear and nonlinear communication. Users should be able to collaborate using instant messaging, video calls, and e-mail to resolve ordinary issues and perform tasks. Using the same interface, customers should be able to chat or place VoIP calls to get instant customer support or get common queries answered. This Web 2.0-based collaborative interface not only enhances the user experience, but also speeds up the resolution of tasks that would otherwise take longer to resolve.

#3 – Enabling Agility Through Dynamic Processing

Business rules change frequently, but that does not mean that processes need to change or be redeployed. Process portals should provide agile process layers that can be changed on the fly. An example of this can be found in an organization had to ensure that before a product was shipped, trade compliance regulations were met. Shipping policies were static, but trade compliance rules changed frequently, requiring frequent updates to the order-fulfillment process. They finally separated business rules (trade compliance rules) from business process (shipping) by storing rules in a centralized repository. The end result was a process that was flexible enough to withstand changing compliance rules.

We can extend this concept of dynamic processing one step further through dynamic binding of BPEL processes. By manipulating end-point references at runtime, BPEL processes can invoke different Web services at different times. This could be extremely helpful when handling business exceptions (If compliance checks failed, dynamically call order cancel process else call order fulfill process). You can keep adding more error handling services. Exception-handling process will call appropriate error-handling services based on contextual information.

#4 – Enabling Visibility Through Process Analytics

Process portals should also provide intelligence and recommendations to its users. It can show a manager at a glance where the work is building up and where the bottlenecks are. BI and BAM tools can sit on top of the process orchestration layer to provide these real-time and historical process insights. This enables you to monitor processes at an individual level – allow customers to ask “Where is my rebate?”

From the business' analytics allow monitoring processes at an aggregate level – “Are we meeting SLAs by issuing rebate checks within 14 days of application receipt?” Ultimately, the performance data captured and analyzed within an process portal should be available to feedback into the process environment, enabling the optimization of processes along business objectives – “How can we reduce the percentage of rebates that are not resolved for more than 120 days?”

Process Portal Case Study:

Warranty Claims Processing at Universal Lighting Technologies

Universal Lighting Technologies (“ULT”) is a global leader in ballasts and controls for commercial lighting applications, who processes a large volume of

warranty claims from their customers purchasing various types of ballast products. The processing of warranty claims must conform to a specific set of ballast replacement rules, including date of purchase, reason for replacement, ultimately leading to the creation of a Return Merchandise Authorization (RMA).

Once an RMA had been issued, claims are distributed to different groups of customer service associates (CSAs) based on customer demographics. Following the rules of replacement, customers were allowed to order a replacement, dispute a no-replacement decision, or otherwise buy a new product (at which point the customer was required to make a payment using a credit card).

Historically, the manual and time consuming, and most of the replacement rules were not properly followed. As a means of for improving both customer service and business efficiency, ULT sought to automate the warranty claims submission process, management, and monitoring through a common Web interface that was secure, easy to use, and allowed access controls, roles, and privileges for customers and employees. In addition, ULT also required a wizard-driven approach for customers to submit and track claims and queue based-claims management for CSAs.

ULT required a cost-effective and quick-to-deploy solution able integrate their existing e-commerce environment with a hosted credit card processing application and a homegrown J2EE application, as well as able to support a secure, unified interface across multiple types of users. It was resolved that packaged call center applications, which might otherwise be applied to this scenario, wouldn't meet ULT's criteria. Rather, it was determined that ULT's warranty claims processing system was an ideal candidate for self-service process portal.

ULT's Process Portal

Using the four core issues described above, below is a description of how ULT leverage a successful customer self-service process portal to realize gains in both business performance and improvement in the customer experience.

Disparate audience: Customers, ULT agents, customer service advocates, and their supervisors access this application. Customers use it to submit and track warranty claims, order replacements, and dispute no-replacements. ULT agents use the same interface to process claims. All users are authenticated through an LDAP-based Internet Directory. Authenticated users can only see the areas of the application that are included in their access roles and responsibilities. Access Control Lists within portal groups and profiles ensure that the appropriate content is shown to logged-in users. Granular security is implemented at the application level, which controls actions that can be performed while in the worklist application. For example, a CSA cannot reassign claims to other team members but a supervisor can.

Richer collaboration: A customer can create a purchase order, authorize a credit card, or speak to a customer service representative through BPEL Process Manager-based workflow, alerts, and notifications. New claims entered by customers invoke multiple BPEL processes that notify the customer of the claim details via e-mail and route the claim to the appropriate CSA groups using out-of-the-box BPEL task-management, or worklist applications. Customers have the option to instantly chat with the service agents to resolve basic claim submission FAQ.

Customer service agents process the claim using the task-management application exposed through the portal. The task-management application allows for supervisors to intervene, reassign claims, and send notifications in case of delayed processing. Customized screens present the claim information in easy-to-use forms. After the claim is processed, the claims data is updated appropriately. The task-management application is currently embedded as an HTML portlet and appears under a portal tab. As an enhancement and for better accessibility, BPEL and task-management portlets can be easily integrated into ULT's process portal.

Dynamic processing for agility: Changing process behavior on the fly is necessary in highly volatile customer-facing processes. For example, at ULT, the CSA group assignments are based on geographic locations mainly driven by customer zip codes. Changing CSA-assigned groups by changing geographic location is needed on an ongoing basis as new CSA groups or customers are added.

Business processes should be able to adapt to changing requirements on the fly. ULT's claims processing system achieves this agility by delineating and storing business rules in a metadata repository. For example, any CSA geographic mapping changes are performed at the metadata level. The process flow reads those metadata changes on the fly (dynamically) and routes claims as per new mapping rules.

This approach offers significant flexibility. Business users (supervisors and managers at ULT) are now able to modify these business rules themselves without any IT help. Claim management processes are flexible to changing business demands through this clear separation between business logic and business rules. Processes do not need to be redeployed to bring these changes into effect, thereby shortening the development time. Illustrated below is the BPEL Process for warranty claims processing and how routing of claim is driven by business rules

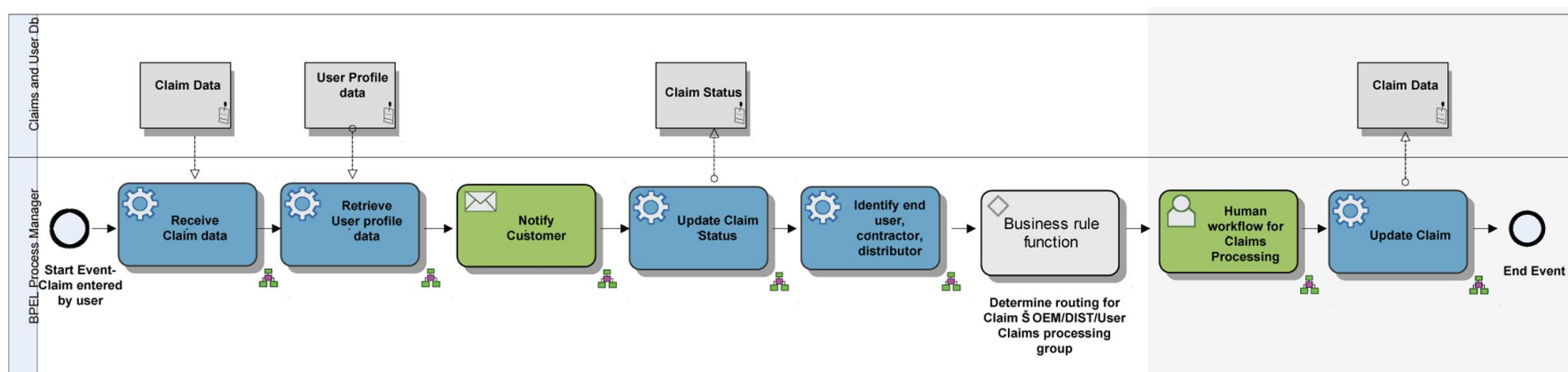


Figure: Dynamic BPEL Processing Offers Agility

Process analytics: Warranty claims activity reports are generated to help CSA supervisors with claim workload management. The portal provides analysis of tasks by priorities, analysis of time taken to complete tasks from assignment to completion, and task productivity reports that provide analysis of tasks completed in a given time period.

Using worklist application's reporting capability, ULT reports on various process metrics, such as unattended tasks, cycle times, productivity, and prioritization. These reports are exposed in a warranty claims portal as report portlets. These analytics show slices of data over time, enabling managers to spot trends such as the most productive CSA in the past three months, as well as perform impact analysis such as slower responses due to high volume of warranty claims. Managers and CSAs can use an operational dashboard like business activity monitoring to monitor SLAs. For example, to show how many warranty requests are outstanding for more than a week, and then take corrective actions to resolve them on a priority basis.

This solution was implemented within three months from software acquisition to deployment. It went live in January 2007. This portal can now be accessed from www.universalballast.com. It currently supports 10,000 plus registered and 50 plus concurrent signed-on users. It processes approximately 5,000 claims per month. Universal Lighting estimates that the solution saves them more than \$2 million per year, provides better customer and internal employee satisfaction (due to ease of use) as well as better inventory tracking, and allows them to leverage existing technology, in line with industry best practices.

Offering self-service functionality through a BPM-driven portal can improve customer satisfaction by automating standard processes and streamlining the customer service experience. By taking an SOA-based approach, a set of data and business services can be created. Business processes can be composed quickly by orchestrating these services. By putting a rich UI layer on top of the process layer, process portals can be delivered quickly and can be customized for each particular audience. BPM and a UI layer leverage underlying services fostering reuse, thereby reducing cost of development.

The use of business rules to capture policies and guide the dynamic processing at runtime increases agility. It's not just enough to automate processes, you need to monitor and improve them. Operational and historical awareness of process can help identify deficiencies. This data could be fed back to processes for incremental improvements. By pulling process, data, analytics, and communications into a single UI shell, visibility improves and issues get resolved quickly.

Consider again the scenario described at the beginning of this article. He as the company in question offered the self-service functionality to process the \$50 mail-in rebate, it would have saved them approximately \$45 in call-center costs. Arguably just as important, it would have led to far better customer experience as well. The combination of customer satisfaction and cost savings – that is the promise of a successful customer self-service process portal.

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David Harper, an IT Director for Universal Lighting Technologies, has worked in the high tech manufacturing arena for the better part of the last 20 years. David was one of the first IT leaders in Nashville to adopt SOA as an enterprise strategy for his business and has leveraged components of Oracle Fusion Middleware for their integration and java development capabilities for well over four years. David is a prominent member of the Nashville technology council and the Oracle Advanced User Group

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