

WHITE PAPER

Serena Business Manager Targets IT-Led Process Automation and Continuous Improvement Initiatives

Sponsored by: Serena Software

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EXECUTIVE SUMMARY

IT organizations are shifting from the automation of point activities to a broader focus around end-to-end process improvement. This process improvement almost always involves the implementation of software to handle the automation.

There are many choices involved with the best type of automation for process improvement. Popular choices include a dedicated packaged application and a business process platform.

There are strengths and challenges to each choice, and a third choice — which combines prepackaged process logic with a business process platform — is emerging for IT organizations. This allows an enterprise to gain the benefit of packaged logic with the flexibility of platform that can be leveraged to extend to additional processes.

Worthington Industries' new CIO saw an opportunity to improve his IT operations using concepts from Information Technology Infrastructure Library (ITIL). However, this steel processor lacked sufficient tools to implement ITIL. The company adopted a hybrid approach built on Serena Business Manager (SBM), a business process management (BPM) platform. SBM delivers core and extensible capabilities for automating IT processes as well as additional processes inside the IT organization and across lines of business (LOBs). SBM is also the underlying technology that powers the IT Service Management (ITSM) solution, Serena Service Manager.

Related to making a selection, Worthington's team offers advice to others: evaluate on speed to results, build process competency inside your organization with the first projects before using third-party professional services organizations for process improvement projects, and meet cultural resistance by focusing on training for success. The company is evaluating leveraging Serena Service Manager as it expands its ITSM initiative.

SITUATION OVERVIEW

IT organizations are looking for ways to streamline their internal operations and to improve business productivity. To do this, there is an increased focus on improving the processes that support their internal operations as well as those that serve the business.

Similar to other units of an organization, IT organizations manage complex core processes that are dependent on internal competency as well as cooperation across various departments and lines of business. Traditionally, IT manages these processes similarly to lines of business, with packaged applications, custom applications, and the use of tools such as project management, spreadsheets, and databases to keep track of requirements and status.

IT is shifting from the automation of point activities to a broader focus around end-to-end process improvement. Examples of operational processes include those related to tracking requests for new servers or the progress of a ticket from the service desk through the incident, problem, and change management process.

As a key player in end-to-end processes, IT is also tasked with finding ways to help internal customers be more productive. By automating and improving processes that support the business (e.g., employee onboarding, accounts payable, purchase order processing, and contract management), the business and IT partnership is working to ensure end-to-end efficiency and effectiveness, whether a step in the process is controlled by business or controlled by IT.

Approaches for IT-Led Process Improvement

As with any type of process improvement involving automation, enterprises have the option of buying or building solutions that achieve their objectives. Improving IT processes are no different.

Packaged Applications

Packaged applications are available to improve processes that streamline IT as well as business operations — for instance, an IT service desk application or an HR application. The strength of a packaged application is the process expertise embedded in the application that is then adopted as the components of the applications are implemented.

The challenges can be the cost of implementing a packaged application, the potential of a relatively long time to value during implementation, and the relatively narrow focus that may not offer the cross-process interoperability of other important areas of IT and coordination with lines of business.

Business Process Platforms

As IT organizations become more process centric, they are also opting to improve IT processes by automating workflow and task management using a business process platform. These platforms include both development and runtime capabilities and consist of the following key capabilities:

- ☒ A model-driven development environment that models how work should progress through a process (Most BP platforms execute directly from this model once the process is moved into production.)
- ☒ Rules for supporting policies — such as service-level agreements (SLAs) — and the advancement of work items through a process

- ☒ User interface development environment
- ☒ Integration capabilities to support cross-process interoperability
- ☒ Work management features that automate the assignment and routing of work
- ☒ Task management capabilities that allow a process worker to manage and execute the work relevant to the task
- ☒ Monitoring and reporting

The use of business process platforms is an increasingly popular approach within IT shops that need to gain BPM skills to prepare for adoption within lines of business. The benefits of this approach include the knowledge and skill gained through the implementation that can be leveraged to support process improvement efforts for LOBs, the ability to improve interoperability between IT and business areas, and the ability to deliver value in small, incremental steps.

The challenge is the lack of process expertise available through this approach — expertise that would be available through the packaged application. A business process platform is a horizontal platform used to automate processes, but it requires a process expert to identify the correct processes.

Hybrid: Process-Based Solutions for IT

BP platform vendors are increasingly packaging process logic with their offerings to create process-based solutions. The goal of these solutions is to combine the benefits of a modern process platform with the benefits of packaged process expertise. Prepackaging the process logic, user interfaces, and monitoring of different processes associated with IT Service Management is an example of a hybrid BPM/process application approach that optimizes the flexibility of a horizontal platform with the benefits of prepackaged logic.

The challenges are the need to fully understand the longer-term business case of a process-based solution versus a packaged application suite. Processes automated using a horizontal process platform tend to be implemented using an agile methodology, with value delivered in each increment. But a packaged application may deliver a better longer-term result. Meanwhile, a hybrid solution that provides better leverage in improving a greater number of IT processes or integrates with other processes may yield far greater business value. Trade-offs must be weighed when comparing the various options.

Organization Overview: Serena Software

Serena Software is a privately held, \$225 million software provider focused on helping IT organizations automate and manage their processes. It offers a broad portfolio of software supporting application life-cycle management and IT service management in addition to other process-based solutions for IT built on its business process platform. Serena is based in Redwood City, California.

Serena Business Manager

Serena Business Manager is a BPM suite with core functionality around a model-driven development environment, rules, user interfaces, and monitoring. The development and deployment environments are browser based. Process applications are built codelessly via graphical user interfaces, which include functionality around modeling human and system processes, business rules, user interface, data tables, KPIs and dashboards.

Architecturally, SBM is event driven, with changes in state advancing work through the process. Rules are important to SBM because they are the mechanisms for changing the state to route work and displaying the correct user interface. The platform was designed to be interoperable with external applications and platforms, including Microsoft SharePoint, third-party widgets, and rich Internet interfaces.

Event-driven architecture is a straightforward approach to receiving events from external applications, composing user interfaces, and orchestrating complex IT systems. For example, if an enterprise implements a self-service portal for customer support, upon submission of a problem, an SBM process would receive a message and initiate a task that could be displayed in SharePoint and advance the problem through to resolution.

The approach also makes it straightforward to change a process workflow based on external events, such as a cancellation or message from another system.

While BP platforms are used to deploy standalone process applications, enterprises are increasingly building applications that are, by nature, interoperable. Therefore, it is increasingly important that a BP platform can:

- Receive data from applications
- Send data to applications
- Include third-party applications as part of a process model
- Report on the handoff between applications within an end-to-end process context
- Render into or interact with enterprise user interface standards

SBM's core, event-driven architecture and graphical approach to process modeling make it easy for IT developers and end users to hand off tasks, orchestrate applications, and monitor results.

Design Capabilities Mix Process with Process Life-Cycle Development

Designing a process application involves developing a process model from a series of activities, assigning logic to each activity, and assigning the user interface when the task is executed manually. Workers and systems are assigned to roles, and work assignment logic is developed, such as logic for automatically routing a task to a queue, a queue to a worker, and the escalation procedures when the task is in danger of not being completed on time. The software links workers with locations, workdays, holidays, and availability.

SBM can be integrated with Serena's project and portfolio management (PPM) software to automate the assignment of tasks to workers based on skills and workload. This improves the sophistication of task routing by assigning tasks requiring specific skills to available workers with those skills. PPM software can also be used to analyze resource/staffing utilization.

SBM also has a native BPEL engine to manage tasks requiring system orchestration, which is useful for automated tasks and for integration.

SBM has a visual application composition environment for drag-and-drop creation of application functionality and dynamic user interfaces from components, such as Web services, Flex components, AJAX, and other Web-oriented widgets. The ease of use and flexibility make it a relatively straightforward development effort to display application functionality via a REST interface, through end devices such as smartphones, and natively embedded in portals.

BPM suites are in the process of evolving to process platforms as enterprises use them to build sophisticated applications. Because of this, these business process platforms are evolving their UI capabilities from forms to a much more sophisticated set of capabilities, including support of rich Internet applications, mashups, and sophisticated, rules-driven pageflows.

Serena also offers requirements management and visual prototyping capabilities that can be used with SBM. While most BPM projects develop requirements interactively with lines of business, there is frequently a secondary process where the requirements are gathered by the development team, managed, and tested. The fact that requirements management can be integrated with the SBM development environment improves the development life cycle of BPM projects.

Monitoring/Reporting

Similar to other BPM suites, SBM has several useful monitoring and reporting features. SBM provides built-in reports and drill-in dashboards for identifying process and team bottlenecks. Any authorized user is able to track the status of work moving through a process. Users are able to see what steps have been completed and what more needs to be accomplished. This is useful for customer-oriented processes where the customer needs to be informed about the status of a request.

In addition, where decisions are made, the audit trail of the decision as it progressed through various activities is also useful.

Serena Service Manager

Serena Service Manager is an example of a process-based solution for IT that leverages Serena's BPM suite to automate the service delivery process across incident, problem, and change management. This complete ITSM solution comes with a configuration management database (CMDB) and has an intuitive service request portal that serves as a single point of contact for all IT services. The solution provides role-based experience to all service desk users and delivers complete visibility into the status of issues across the service life cycle via rich reports and dashboards. It also aids ITIL compliance while providing a foundation that extends to other core IT

processes. With packaged applications, the process logic is hardcoded within the application itself. Serena Service Manager allows service desk users to change processes graphically and provides a foundation for integrating and optimizing other core IT processes.

Serena has deep process expertise in the application life-cycle management arena. As organizations seek to transition applications from development to operations and effective IT service management, a process-based solution that can automate and streamline end-to-end processes potentially increases operational efficiency and business agility.

The traditional schism between development and operations teams translates to complex handoffs with limited insight into service requests and long-term application management issues post-deployment. Combined suites that include workflow, visibility, and analytics position organizations to be responsive to business stakeholders and to drive cost efficiency through the IT organization.

CASE STUDY: WORTHINGTON INDUSTRIES

Worthington Industries is one of the largest steel processors in the United States. The company reported \$45 million in net income in 2010 on \$1.9 billion in revenue. Worthington has many global subsidiaries and partners that include Dietrich Industries, Gerstenslager, ThyssenKrupp, and United States Steel.

For this case study, we interviewed Bryan Cummings, the Serena Business Manager developer at Worthington Industries.

Challenges and Solution

Before Worthington purchased Serena Business Manager in April 2008, the company's IT division used Serena's Tracker product and a variety of manual processes to manage IT service delivery. The organization handled service requests, change management, and other IT functions without the ability to track progress or access status updates.

"If you wanted to know where something was in a process, you found yourself looking through pages and pages of notes that people had entered. There was no definite way of figuring out where something was," said Cummings. "The biggest pain point was that nothing was tied together. Everything was just in one system. Somebody called in and requested a new keyboard, a developer was working on a code change — this was all in one system. It was one big mess."

Then, Worthington hired a new CIO who saw an opportunity to improve the company's IT operations using concepts from Information Technology Infrastructure Library. However, Worthington's existing technology lacked sufficient tools to implement ITIL processes. Tracker was old; support for the product was being discontinued, and it lacked features that would enable a migration to the ITIL model.

The IT division realized it needed a workflow tool to manage its processes. Cummings and his team began an initiative in early 2007 to select an ITSM product.

Evaluation and Selection

The team at Worthington spent a year briefing vendors, evaluating product demonstrations, and laying out high-level requirements. Team members wanted a solution they could easily tailor to fit their organization's environment. They began by looking at packaged ITSM applications from a couple of large vendors. Following a series of product demonstrations, the team decided that the tools were too complex and too expensive.

The team did not want to pay for extra features and functionality that it would not use. In addition, the packaged applications lacked the flexibility necessary for customization and would not allow them to extend functionality to other adjacent IT process areas.

Serena software, including Tracker, was already used in Worthington. Serena's PVCS was also used for source code control. The selection team decided to look for a solution in Serena's offerings and identified SBM as a product that would fit their requirements and was also the evolution of the company's Tracker product.

Serena's demonstration impressed the team with several features:

- The product's prebuilt ITIL-based business logic would save the team the time and effort required to build ITIL processes from scratch.
- The team knew it would be able to easily customize SBM, which could be extended to additional process areas.
- The price of the platform fit the team's needs.

Worthington selected and purchased SBM in April 2008.

Implementation

Cummings went to Serena's four-day training session in May 2008. A month later, he put together an implementation team and launched development of the first SBM application. The team consisted of Cummings and a backup developer, one professional services consultant from Serena, a team of service desk managers to provide subject matter expertise, and a compliance manager. Service desk managers sent Cummings requirements via Excel spreadsheets, and a prototype was developed from those requirements. The next step was a review with the business team for feedback and adjustments. This rapid, iterative development cycle was key to Worthington's success with SBM.

From June through August 2008, the team developed three workflows for IT service delivery — service request, incident management, and problem management — and went live in October 2008, just five months after purchasing the platform.

"The easiest thing about using SBM is developing applications. It's drag and drop to get a basic application up and running. There's no code, no HTML. You can do it in a couple of minutes if you know what your process is and what kind of data you need to work with," said Cummings.

Even before they had completed the initial set of service delivery workflows, Cummings and his team realized that SBM's capabilities had the potential to improve processes in many other areas of IT.

In 2009, Cummings completed three additional IT service delivery processes. The first was an improvement in Worthington's change management process by automating software change requests and request tracking. With a different team of subject matter experts, he completed the software development requests process application in approximately four months, and the process went live in May 2009. Change management went into production in August 2009.

Then, in November, Cummings finished a workflow that handles requests and delivery of IT purchases. The most recent project completed was an application for security access control. Prior to the SBM implementation, Worthington's IT division had no system to track which employees had access to different system resources. Now, when a new employee comes into the organization, SBM tracks the employee's permissions and ends them when the employee leaves. This SBM-based process went into production in February 2010.

Results

SBM allows service desk representatives to easily find requests, contact request owners, and see the audit history of who worked on resolving a particular issue. SBM automatically tracks change history for easy access to status reports. Finally, when a service request has been resolved, SBM sends an email to users to tell them.

Software development requests close themselves when they are completed and then automatically notify the change management system to put new changes into production. "People aren't sitting there trying to track down where requests for changes are coming from and how they will tie back to the development request because they don't even have to worry about that anymore. They can just let the change management application take care of it. All the information they need is right there," said Cummings.

SBM has managed Worthington's IT service delivery operations for two years. Today, there are 92,000 service delivery items entered in the system without any performance problems from the platform.

Benefits: Visibility, Prioritization, Compliance

SBM allowed Worthington's IT division to differentiate among data items, track progress and productivity, and update customers with status reports. Separate application workflows interact and update one another with new information to manage change. This process-oriented approach to ITSM and change management improved operational efficiency and customer satisfaction.

"I doubt if anyone outside of IT knows that we're actually using SBM, but based on talks I've had with the businesspeople, they certainly see an improvement in the delivery since we've implemented this. The results of some of surveys show that satisfaction levels have gone way up," said Cummings.

Setting and meeting customer service-level agreements have been important aspects of Worthington IT's migration to SBM and are currently being implemented across the different processes. The software allows the organization to attach an SLA to each service request that comes into the system. Worthington is able to run daily and weekly reports to determine which tasks are approaching the SLA deadline or have been missed. Rules tell the platform to check for different situations around SLAs and send out automated email notifications to handle escalations.

Finally, SBM has helped with IT governance and compliance. Prior to the implementation, the organization struggled with audits. SBM's capabilities around security permissions and visibility across processes, as well as collaborative development with a compliance manager, allowed Worthington IT to build its process applications according to standards-compliant guidelines from the beginning. Since the implementation, the organization has passed all of its audits.

Future Plans

Worthington IT has a detailed road map for expanding the use of Serena's solutions. Key future developments include integration with SharePoint using Serena's SharePoint adapter to build an integrated document management system. The team also plans to integrate the security access control application on SBM with the company's Oracle-based HR system to automate the IT employee onboarding process.

An ITIL-based release management project was slated to kick off at the beginning of 2011. This process involves integrating the change management application on SBM with the organization's other code deployment tools.

The team is also looking to integrate software change management and version control with SBM in the 2011 time frame, as well as evaluating and choosing automation for requirements definition and management.

The team also plans to expand the organization's use of SBM's monitoring and escalation capabilities. So far, the organization has only implemented finalized SLAs in its service request application. This will extend to several of the new process applications.

The team is also actively evaluating Serena Service Manager as team members explore capabilities for their broader ITSM initiative.

Lessons Learned and Advice

- ☒ **Evaluate based on performance.** Cummings said a critical part of choosing Serena's product was the vendor's performance in demonstrating SBM's capabilities. Serena could develop a simple application on the fly much more quickly than the other vendors on Worthington's list. This was a key differentiator for Serena and, in the eyes of Worthington, a conclusive assessment criterion.
- ☒ **Use your resources.** After a four-day training session, Cummings could begin developing applications using the platform. In addition, Worthington hired a professional services consultant from Serena who contributed knowledge and experience during the initial implementation phase. This was particularly helpful

during the initial design phase. Cummings notes that the consultant's input was invaluable in moving the project forward in the right direction. Cummings has also used Serena's SBM forums to advance his development skills and download additional product features and templates to learn more about how the platform is used.

- ☒ **Train for success.** In some cases, architectural evolution that increases visibility into productivity and changes the way work is done can meet with cultural resistance. As part of bringing in the product, Worthington IT worked hard to get employees accustomed to SBM. "Weeks and weeks prior to going into production, we held training sessions and gave people plenty of opportunity to play around with the system and give their input. When we went into production, we didn't get a lot of push-back. People had suggestions, but we didn't have many problems at all," said Cummings.

CHALLENGES AND OPPORTUNITIES

IT process improvement initiatives benefit by applying a BPM discipline around them. This discipline involves identifying and documenting a process, including process touchpoints, to determine how the process operates and whether and how it could be improved. The discipline also looks at a larger set of processes to determine where to start the improvement effort, measured by an optimization of return on investment and time to value and working from there to develop a process improvement road map.

Once those decisions are made, it then makes sense to decide where the greatest return on investment will be for tools to improve those processes through automation. It is critical to find the maximum benefit across the following factors:

- ☒ Strong leverage from existing assets
- ☒ Support of all critical process roles, including customers, process workers, managers, developers, and systems
- ☒ Incremental delivery of value
- ☒ The ability to support common processes across datacenters, business units, or geographies while adapting to local concerns
- ☒ Strong potential for reusability of the tool itself as well as services, models and user interfaces, methodologies, and the leveraging of skills into adjacent and new areas
- ☒ Smooth interoperability of the automation with other critical processes in the organization (including life-cycle management areas such as requirements, change management, and project portfolio management)
- ☒ Real-time monitoring of status and reporting and auditing of process performance
- ☒ Price and how pricing scales for incremental, continuous delivery of value

By focusing on process requirements to determine gaps as well as the best fit for the automation strategy, IT organizations will be able to build processes that are

amenable to change and able to interact efficiently with other processes. It is key to focus on existing pain points as a point of entry to shift existing behavior.

Challenges include selection of the best initial process. If the process cannot be implemented in an agile cycle, significant business value is required to justify the longer time to value.

In discussions with customers that have embarked on process improvement, there also needs to be buy-in from management, and similar to the experience at Worthington, training is important so there isn't confusion about how to participate and work effectively in the new process to leverage the solution.

Serena Business Manager is a process platform that delivers core and extensible capabilities for automating processes inside the IT organization — and across lines of business.

Conclusion

IT organizations are looking for ways to streamline their internal operations and to improve business productivity. To do this, there is an increased focus on improving the processes that support their internal operations as well as those that serve the business. There are several approaches to IT-led process automation and improvement:

- ☒ Packaged applications, such as IT service desk and HR applications, are built around embedded process expertise; however, implementing packaged applications is often costly and time consuming. In addition, organizations can't leverage the investment into other process areas.
- ☒ A business process platform provides horizontal functionality to automate processes. Platforms lack prebuilt process expertise; instead, developers and process experts work together to handle the process improvement and automation. The benefits include the opportunity to automate exactly what is required as well as the ability to leverage the platform for additional process improvement needs.
- ☒ A hybrid approach offers embedded process logic built on a business process platform, providing built-in process expertise and the benefits of leverage for further process improvement projects.

Serena Software is a software provider focused on helping IT organizations automate and manage their processes. Serena Business Manager is a business process platform. Serena Service Manager is a hybrid approach. It is a complete ITSM solution built on top of SBM. By leveraging SBM at the core of the solution, customers gain greater process flexibility, better visibility across the integrated service delivery life cycle, and easy-to-use interfaces resulting in better performance at the service desk. And, the solution is extensible to other core IT processes as well.

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