



Business Process Management (BPM) with PegaSystems

By: Segue Technologies, Inc.



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Introduction

Despite their many organizational differences, corporations, government agencies and non-profits all share a common principle of delivering specific outcomes for their customers and stakeholders. These outcomes are achieved through the design and implementation of connected operations, activities and workflows; also known as a “business processes.” Given the critical link between processes and outcomes, it is not surprising that successful organizations spend considerable time and effort on process improvement. Especially since process improvement often necessitates major changes to their IT infrastructure, particularly when migrating to the cloud or modernizing aging business applications.

MOVING TO THE CLOUD

A growing driver of process and system modernization is the need to migrate to the cloud. Cloud migrations are huge undertakings for any organization; however, they can have tremendous benefits. Some organizations seek hands-off scalability that can handle temporary spikes in bandwidth without paying for that capacity all the time. Other groups take advantage of the high-availability uptime the cloud provides without paying for round-the-clock staffing. In addition, cloud offers a transfer of risk, whether through built-in automatic updates, secure data management, or even disaster recovery plans.

To meet cloud migration goals, many organizations will choose to simply move their existing systems to Infrastructure as a Service



(IaaS) environments - commonly known as the “Lift and Shift” strategy. While this approach checks the box for being in the cloud, it does little to address any systematic issues – you lift and shift the problems along with the application.

SYSTEM MODERNIZATION/REENGINEERING

Modernizing and improving processes typically demands updates to, or a complete reengineering of, existing business systems. This introduces significant areas for consideration on cost, timeline, and resources to implement these changes. The traditional development approach is to gather requirements and work with a development team to custom code an application to meet those needs. Although this is an absolutely acceptable method, these projects often run over budget or are delayed due to factors such as:

- Inaccurate estimation – unclear or changing requirements
- Availability of resources with specific software language/tool experience
- Infrastructure limitations, compatibility, or delays in setup
- Ability to test/verify effectively and early in the development cycle

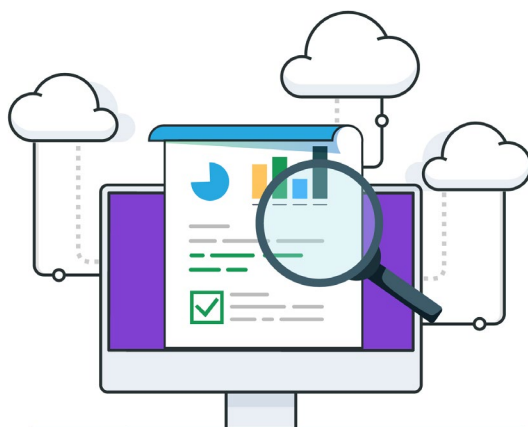
To avoid these issues, many organizations are opting to use no-code or low-code platforms to develop business applications, or more importantly, business capabilities. These platforms are quickly gaining popularity and are typically provided to customers in a Platform as a Service (PaaS) offering so that users don’t have to deal with setting up the infrastructure and development environments needed to support their applications. Ultimately, these PaaS models minimize the need for formal development processes and even development teams at all, allowing business users to go straight from identifying requirements, to implementing capabilities themselves.



BUSINESS PROCESS MANAGEMENT

To meet these challenges of cloud migration and modernization, organizations are implementing Business Process Management (BPM) solutions as an essential organizing practice. BPM gets to the heart of analyzing and improving operational capabilities to meet evolving business needs. Organizations across a wide range of industries – Financial, Government, Insurance, Healthcare, Transportation to name a few – are realizing substantial return on Investment (ROI) from their BPM initiatives.

In the past, BPM efforts were often focused on internal processes like finance, operations, or human resources and partner facing processes like supply chain. However, there is a growing focus – particularly in the expanding digital environment – on customer facing processes such as insurance claim processing, new subscription service onboarding, requesting government services, submitting property taxes and so on.





In this eBook, we look at how a leading BPM Platform offers an adaptive, cloud-architected software that empowers people to rapidly deploy and easily extend and change applications to meet strategic business needs. [PegaSystems](#) is no/low-code application development platform which includes BPM and Case Management, Mobility, Robotic Process Automation (RPA), Social (chatbots and virtual assistant), Analytics and Artificial Intelligence (AI)-powered decisioning tools. Use of a BPM platform such as Pega can address the cost and complexity associated with BPM efforts and minimize these challenges when future evolutions require an organization to again modernize their processes. These platforms allow organizations to focus on the capability; extracting what they need to run their operations from the constraints of standalone custom applications.

CHAPTER 1

What is Business Process Management?

Business Process Management (BPM) is the effort by which an organization defines, models, understands, improves and monitors their activities, operations and workflows. BPM coordinates the behavior of people, systems, information, and things to support an organization's strategy and goals. It focuses on delivering maximum value, as defined by the organization, in the most efficient manner possible. Organizations implementing BPM initiatives look to achieve the following benefits:

- Increased alignment of process to outcomes
- Meaningful and measurable costs savings
- Improved customer experience and satisfaction
- Revenue growth
- Higher quality products or services
- Increased process transparency
- Increased responsiveness
- Agility to quickly adjust to changing conditions
- Accelerated time to market
- Continuous improvement

Typical Phases of a BPM Effort

Most organizations are not static. They operate in larger, competitive environments that continually create new challenges and new opportunities. As an organization changes – grows, pivots into a new line of business or new market, faces new competitors, or adjusts to new regulations – so too must its business processes. It's important to recognize that processes do not operate in a vacuum. For this reason, it is useful to think about business processes as a set of discrete, but connected, activities involving a range of related stakeholders. Therefore, business processes must be specific to the stakeholder mission, tied to the larger organizational context, and current. To effectively achieve this within an organization, BPM efforts will vary in size, scope and complexity, however, most involve the following basic phases:



1. **MODEL:** Identify, define and create a representation of the complete process so it can be easily understood and communicated
2. **EXECUTE:** Based on the model, develop and implement the process so that it can be repeatably performed - Apply automation if possible
3. **CONTROL:** Ensure the process is consistently followed
4. **MONITOR:** Collect meaningful and measurable data to determine the effectiveness of the process in delivering the expected value and benefits
5. **OPTIMIZE:** Use the data collected through monitoring and feed back into the modeling, to determine if further process improvements can be made

Choosing a BPM Tool

BPM initiatives that leverage leading software platforms can effectively drive digital transformation initiatives across the enterprise. These solutions allow users to digitally model, build and run a variety of related processes and workflows to support strategic objectives. Collecting process data through monitoring features, directly supports optimization efforts. Not surprisingly, the BPM solution market is broad, with a large number of vendors offering a wide range of products - everything from large, enterprise platforms to small products with a niche organizational focus.



When choosing a BPM tool, you must first consider the organizational goals that you are trying to achieve. Next you need to analyze the current state of your process management and what



resources are available to devote to the improvement effort. In addition, you need to forecast future requirements that could affect process management. This is not something to rush; gaining a clear and complete understanding of your needs may take some time, especially if there are multiple stakeholders with differing opinions to align. Thorough analysis, with documented options aligned with the business needs, is critical to gaining organizational concurrence in BPM tool selection.

Once you have a clear vision of where your organization is and where it wants to go, it is time to evaluate potential BPM solutions to get you there. The following are factors to consider of the various tools:

1. **COST:** BPM software prices vary widely depending on several factors such as capabilities, userbase size, customizations, on-site versus cloud software, to name a few. Generally, an enterprise cloud BPM solution is likely to be priced between \$50 - \$100 per user per month. Some on-site BPM software requires you to purchase expensive licenses and pay annual maintenance fees that can be cost prohibitive if you have a smaller userbase and budget.
2. **USABILITY:** A poor user experience will slow adoption of the BPM tool, whereas an intuitive user experience motivates adoption. The more intuitive the interface, the less training it will take staff to produce results. Most BPM tools are based on a drag-and-drop interface to create workflows and forms, but more complex actions such as setting up integrations may be less intuitive to non-technical users. If the timeline of your implementation is short, a more intuitive BPM tool can be implemented with little to no training. If your timeline is less compressed or you choose a more complex BPM, you can take the time to have your staff trained prior to implementation. Usability may also need to consider the technical proficiency of your staff.



3. **INTEGRATION:** BPM is what brings your business software together into your operational workflow. This is an essential feature if you have multiple backend software tools that support your processes. A BPM solution that cannot communicate with legacy software systems may not be a complete failure, but without proper integration, you could be doing a lot of manual data transfers between systems, which negates the gains of automation. Be sure that your BPM offers integration paths for your core processes such as API support, REST APIs and webhooks.
4. **RESPONSIVENESS:** With the proliferation of mobile devices, the quality of the User Interface (UI) to support a better user experience has grown tremendously. A better user experience often depends upon that user's device and browser, so if you have a userbase with a diverse set of workspaces, you need a BPM solution that is dynamic to provide a great UI for a wide range of devices. The idea behind responsive web design is that instead of writing multiple design UI's for multiple devices, a single design will automatically support viewing in multiple devices. Many BPMs include built-in mobility capability that delivers responsive, mobile and web user experiences with one deployment.
5. **HOSTING:** Essentially all BPM tool options you might consider will have cloud and on-site hosting offerings. The most important consideration for this option is whether you have the manpower and technical resources to support on-site hosting, and then whether that route is more advantageous than the cloud. Security concerns, for example, might make on-site hosting more appropriate for your organization. However, the trend is for organizations to move towards the cloud and this is even being seen in government enterprises. Cloud hosting offers low upfront investment, significantly lower risks and more scalability options.



Additionally, technologies such as Robotic Process Automation (RPA), Artificial Intelligence (AI), Analytics, and Mobile applications are natural extensions of effective BPM initiatives. These have the potential to deliver significant benefit, not just for cost savings, but for greatly improved customer experiences.

Choosing the right business process management software can enable process improvement efforts throughout your organization. Carefully evaluate your options to ensure you have the right tool for your needs, before committing significant resources to one solution.

CHAPTER 3

The Pega BPM Solution



Pegasystems (Pega) is a BPM tool that allows you to build scalable Customer Relationship Management (CRM), process automation, Case Management, and Artificial Intelligence (AI) apps, all on one unified platform. Pega uniquely leverages digital process automation (DPA), including artificial intelligence and robotics, to unify business processes and customer journeys from end-to-end. Pega's visually driven, low-code development environment fosters collaboration between business and IT, enabling quick development of applications, faster time to value, and reduced development costs.

Pega focuses on enterprise-wide implementation by maximizing re-use across departments. Pega empowers business stakeholders to manage their processes in a no-code environment, while allowing developers to architect applications in a low-code environment. As an enterprise platform, Pega can be transformational to the culture and productivity of your organization. Instead of passively watching the backlog of feature requests grow, users can spec out or even implement new functionality themselves. Applications that were



previously siloed based on technical or functional requirements can now be grouped or combined based on the business cases surrounding their usage.

Pega is a single, unified platform, which contains model-driven code components, a standardized database architecture for all hosted systems, case management tools for requirements building, and an operating system which ties everything together. All Adaptive and Preventative Maintenance activities for the platform are done as part of any Pega upgrade release and consider the impacts of changes for any component that resides on the platform. Pega's unified architecture makes it one of the best BPM tools for large enterprises which deploy it fully.

Pega empowers your expert users, analysts, and tech-savvy support staff to contribute directly to developing applications instead of relying on specialized IT staff. This reduces the dependency on IT to create the functionality for you, while also placing the decision points in the hands of the people who know your business needs best. Pega users are business stakeholders that aren't professional developers but are still able to build applications through the tool. While there is a learning curve to educate "Citizen Developers" on Pega's solution development methodology, Pegasystems offers an extensive training suite that includes online training courses and sandbox exercises, a robust knowledgebase, and an active community forum.

Pega is a Platform as a Service (PaaS) offering. Pega Cloud enables you to scale your BPM solutions to your needs without worrying about overprovisioning or hidden costs. Additionally, Pega facilitates building for change - change in what your users need, changes in your regulatory environment, or even changes in how your business works. If your needs change in the future, it's relatively



straightforward for users to update business rules, or move your cloud deployment to another environment or security posture that better suits your needs.



VISUALLY-DRIVEN

**Fosters Collaboration Between Business & IT
Enabling Quick App Development at Reduced Cost**



DIGITAL PROCESS AUTOMATION

**Leverages Artificial Intelligence (AI) & Robotics to
Unify Business Processes & Customer Journeys**



TECHNOLOGY READINESS

**Level 9 -Actual Systems Proven Through
Successful Mission Operations**

The Pega BPM platform has the capability to not only support your current business operations, but also to grow with your business needs. It is a leading BPM solution because it aligns with the Enterprise modernization needs of large organizations. Pega provides a federated development environment that allows for sharing apps between organizations, governing data fields, rules, and processes. Pega users can set up foundation levels for business rules that allow rule inheritance and enforce data standards. Furthermore, automation tools move applications across different development environments and development teams.

Segue has significant experience in system analysis and assessments and working with customers to determine the tools and approaches that best support their missions within their constraints. In working with Federal customers in selecting BPM platforms, we have found that Pega is the best choice among highly rated solutions.



Modernizing Business Processes with the Pegasystems Platform

The Pega platform is centered on the Agile SCRUM methodology. While it is becoming increasingly accepted to adopt Agile for system development, by pushing smaller and more frequent releases into production faster and efficiently, an Agile approach is also a major benefit in system maintenance, often referred to as “DevOps”. Pega has Agile baked into its entire suite of tools, with guidelines and “models” coupled to Agile principles, which significantly enables modification choices and decreases time-to-delivery. The Pega suite supports each member of the Agile development team in their roles:

- **BUSINESS ANALYSTS (BAS)** can quickly create working prototypes using the Designer Studio to help elicit requirements;
- **DEVELOPERS (PEGA CERTIFIED SYSTEM ARCHITECTS (CSAS))** can use the App Studio and Dev Studio to quickly build and test intuitive user interfaces;
- **CSAS AND TESTERS** can easily create automated unit tests to ensure rules and other application components function as intended and bolster the Continuous Integration pipeline;
- **RELEASE MANAGERS** can create release pipelines with guardrails, test execution, package, and deployment to seamlessly take applications from development into production



APPLICATION DEVELOPMENT

Pega supports Agile development through “Agile Studio” – an Agile-oriented work tracking system based on the Scrum framework. Agile Studio has the four standard Scrum roles of Stakeholder, Product Owner, Scrum Master, and Development Team. It includes Products, Releases, Backlogs, Sprints (time-boxed iterations of work), Planning tools, Dashboards and Reporting, and everything else you need to successfully manage an Agile project.

Work in Pega Agile Studio is organized around Products and Releases. A Product is the top-level organizational container and represents the system being developed. You might have one or many Products depending on your business model, or in the case of a single large Product, you might break it down into multiple smaller Products. One example of this would be a System-of-Systems, where each subsystem is organized as its own Product. Each Product then has one or more Releases, which are planned and tracked against a schedule.

Agile Studio includes several Backlogs, which contain Epics and User Stories. The highest-level backlog is the Product Backlog, which is the full collection of epics and stories for the Product. Beneath that is the Release Backlog, which contains only those items which have been chosen for inclusion in a release. At the lowest level is the Sprint Backlog, which is limited to only those items which are part of a time-boxed Sprint.

Dashboards and Reports allow you to monitor the progress of your application development. One of the most important charts available in the Agile Studio dashboard is the Burndown Chart, which shows how much work is planned for a sprint or release, the planned rate of work completion, and the actual rate of completion, so you can quickly and easily see if you are on track to meet your goals and



timelines. Agile Studio also has a wide variety of canned reports, and if those don't meet your needs, you can also create custom reports for the information you need.

RAPID PROTOTYPING

The Pega BPM platform uses an approach called Directly Capturing Objectives (DCO) to allow BAs to visually capture requirements directly in the Pega Designer Studio, creating effective prototypes in real time. Prototypes created by a BA, and more complex requirements, business rules, and algorithms can then be refined and perfected by a CSA. This approach is more agile than a traditional Requirements Document to Software conversion because it:

- Produces working software more quickly (even if not complete)
- Fails fast (if the customer sees you building the wrong thing, they'll identify it sooner)
- Is responsive to change (real-time collaboration inherently welcomes and captures change throughout the process)

TESTING & QUALITY

The Pega platform provides several mechanisms to support continuous testing per Agile. First, when an Analyst or Architect is building a component of the system, they can run the component (isolated from anything else) to see how it behaves. Through this, they can ensure their configuration has the intended effect at the component level. Unit Tests can be created to test components, processes, data models, transformations, and other isolated and integrated aspects of the system. Scenario testing allows developers to record interactions with the system to develop automated tests, not only for individual components, but also to test the full user interface and process flows as well.



Pega has a dashboard which shows test statistics, including overall scores for guardrail compliance, test coverage, and pass/fail rates of unit and scenario testing. This dashboard also shows tests broken down by case type, allowing you to quickly see what areas of your system need additional test attention.

DEPLOYMENT MANAGEMENT

The Pega Deployment Manager enables assisted or fully automated migration of applications between environments (e.g. from Staging to Production). A CSA, build manager, or other designated person creates a deployment package containing all products, components, rules, user interfaces, and other pieces of an application. The deployment pipeline can be configured to check application quality, ensure guardrail compliance, validate successful test case execution, and deploy to one or more environments. Deployment pipeline execution can be fully automated for hands-off, repeatable deployments, and include stage gates that require manual intervention to proceed (such as review of test results prior to approval to proceed to release.) The Application Packaging wizard can also export an application for deployment in disconnected environments.

SYSTEM MODIFICATION

Code manipulation, database design, and implementation have been drastically simplified with Pega and do not require staff to have a specialized computer language or Computer Science Degree. This feature of being a no-code solution alone is a cost game-changer for Pega, when compared to looking at an aging system written in a software language no longer current or supported, or that requires reverse engineering in order to implement any modifications or enhancements. With a supportable and modern platform like PEGA, future maintenance costs are more manageable, predictable, and sustainable, with business users able to make updates on their own.



USER INTERFACE – RESPONSIVE MAINTENANCE SUPPORT

In addition to updating actual application code as part of maintenance, developers and testers must validate the potential impacts to the User Interface (UI) given various browsers and device (laptop, tablet, mobile) platforms. The Pega Omni-Channel UX™ is a responsive, standards-based UI that reduces the time and cost to design and deploy multi-channel applications by employing a “Design once and Deploy everywhere” capability. Applications automatically adapt to the user’s device screen size, tailoring the experience to the current user and situation. This eliminates a tremendous amount of development and testing.

SYSTEM REENGINEERING

Re-engineering involves building processes into specifications and then implementing those into the system. Even among the most efficient software teams this identification and implementation phase often becomes chaotic and much time is spent on validating and tracking these processes through configuration management and version control. Pega has incorporated features where instead of creating many processes to meet various situations, you create one process that is automatically tailored to each situation, reducing time to delivery and once again the cost of maintenance. The Pega Situational Layer Cake™ automatically specializes processes to match a current situation, adjusting the solution by any number of dimensions, such as customer type, product, channel, department, geography, language and time, all of this while providing reusable functional logic for adaption to other requirements when needed. Pega efficiently delivers repeatable, differentiated solutions by first capturing those policies and procedures that are common and shared, and then specializing them to meet the diverse needs of the business solution being addressed.



MAINTENANCE WORKFLOW MANAGEMENT

Pega greatly assists organizations in automating workflow (handling, receiving, routing and reporting) across multiple channels and organizational silos. Pega's Adaptive Decision Management features allow business users to leverage big data for intelligent business operations that adapt and improve in real-time and go beyond workflow to retrieval of relevant data and adapt decisions. Business stakeholders can act independently of software engineers and not require their support to create specialized data views and reports.

Case Lifecycle Management features within the platform organize work by goals, stages, and steps instead of complex processes and transactions, which allow greater understanding and comprehension among stakeholders and leads to faster identification of modification requirements and implementation.

When one considers all components and tools offered by the Pega BPM platform vendor, ROI becomes apparent. When reviewing BPM platform options, an IT decision maker must ask:

“Can we substantially increase time-to-delivery while also reducing maintenance costs?” Pega achieves this through a no/low code platform with a comprehensive Agile development tool suite. In addition, the ability to train business users to develop and maintain applications, along with streamlining licensing costs with hosting creates cost efficiencies over what would be incurred if the tools and platform were managed separately.

Credits

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If you are interested in working with Segue, please
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plan a development path that works for you.

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