WHAT IS A "PROCESS-BASED APPLICATION"?

AND HOW CAN IT BE A COMPETITIVE ADVANTAGE FOR YOUR BUSINESS?

Bonitasoft

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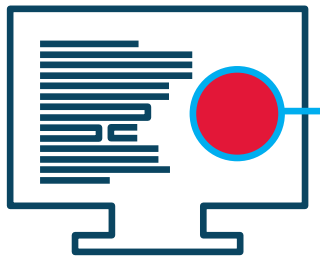
Processes are your business

Virtually every business mission statement, goal, or differentiator ultimately gets expressed in a business process. A business links those processes together to create its e-commerce platforms, reservation systems, human resource management, cloud computing, and other customer-facing and internal platforms.

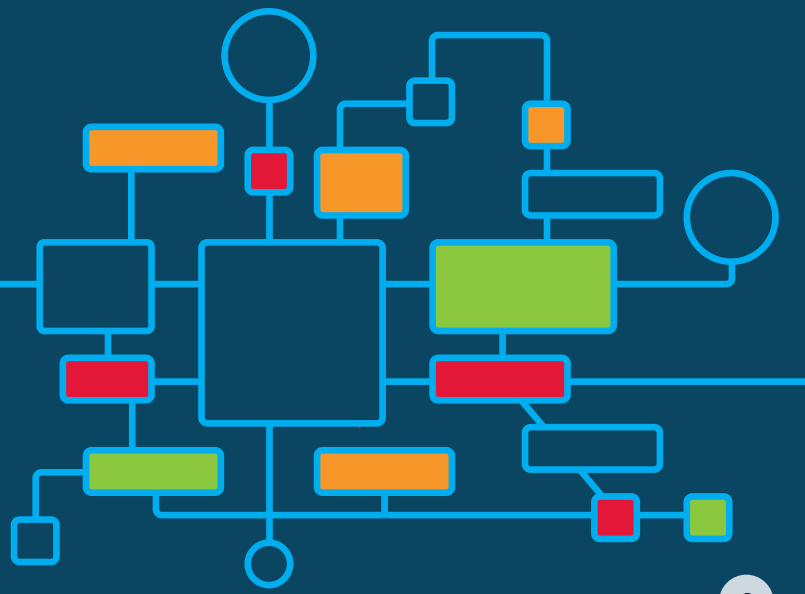
You could say every business is the sum of its processes, because processes spell out how a business conducts its activities. It follows that a business must design its processes thoughtfully, to reflect its unique requirements and value propositions.

Specialized applications that implement those processes support the organization in maintaining competitive advantage. But typically, two problems prevent companies from developing those strategic applications successfully: **lack of coordination between business experts and IT, and poor decisions about how to build the applications.**



Examples of processes that can define critical business differentiation

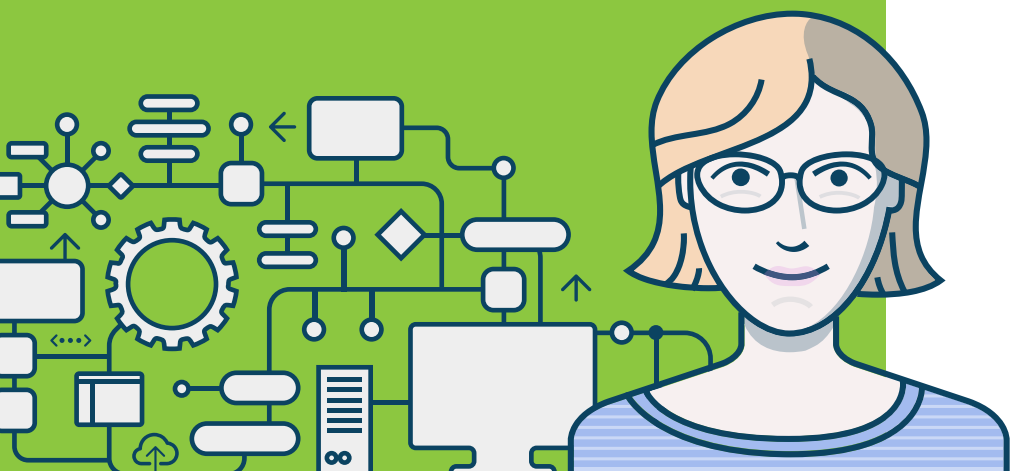
+ Customer order management
+ Help desk / technical support
+ New product development, production, and delivery
+ Energy usage management
+ Warranty management, after-sales service



What is a BPM application platform?

A Business Process Management (BPM) application platform provides a single integrated environment for the development and deployment of business processes through its enabling technologies:

+ BPM notation (BPMN) modeling tools
+ Process (workflow) engine
+ Business rules engine
+ Integration capabilities to connect applications with third party services (bidirectional)
+ User interface designer



Business and IT must work together

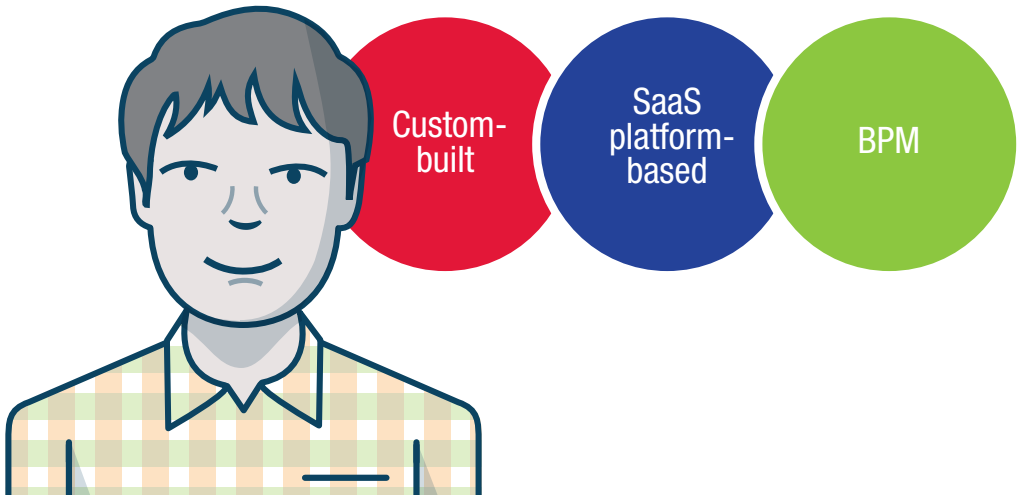
Too often, IT develops applications with little involvement from the business people who have a deeper understanding of the goals that the process is supposed to support. This lack of communication often results in poor-quality applications and inefficient development.

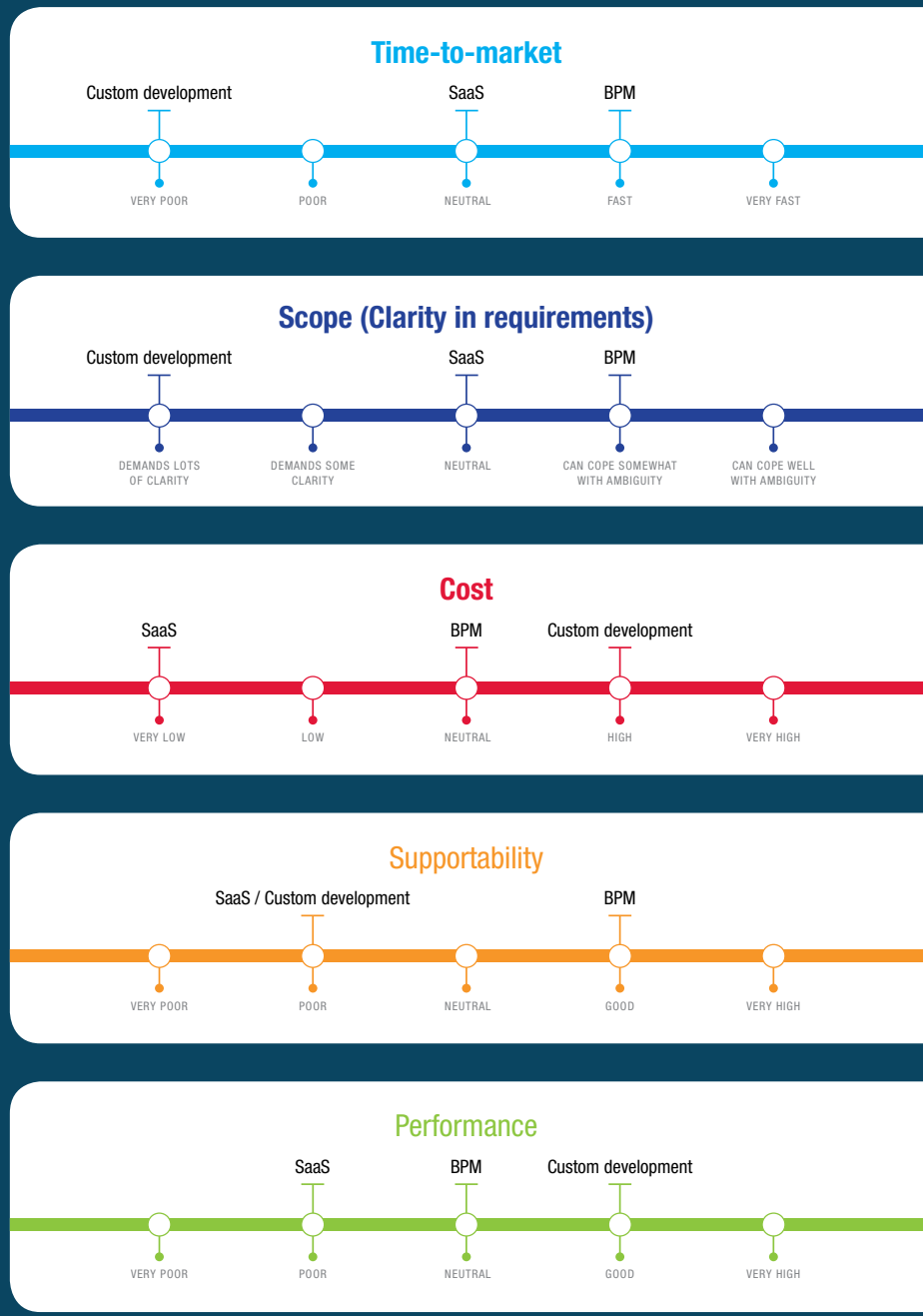
Developing on a BPM application platform can solve this problem, because some of the most sophisticated BPM application platforms are remarkably intuitive to use. Such BPM solutions “speak the language of business” with business-oriented views of related tasks and data. This enables business experts to participate with IT in defining and creating processes that support business objectives.

This can save tremendous amounts of frustration, time, and money compared to traditional approaches, which typically require one or more cycles of rework because of poor communication between business and IT experts.

Pick the right development approach

Companies often assume that because their processes are unique, they need custom development to build their applications, but there are better ways to create apps with customized functionality. Or they underestimate how much customization they need, and assume they can just tweak an existing ERP, CRM, or other SaaS workflow. But both custom and SaaS platform-based approaches limit a company's possibilities for innovation and differentiation in its business models, restrict adaptability to change, constrain the capacity to work on process improvement, and inhibit new competitive advantages through IT.





Source: Choosing Among Custom Development, BPM, and SaaS

Too much effort: the custom approach

In custom development, an IT team has to invest an enormous amount of time in creating generic functionality before it can even start building the capabilities that will differentiate the application from others. The amount of time IT spends adding unique value is miniscule in proportion to the amount of time it spends recreating functionality that already exists in commercial applications.

Developers spend weeks recreating functionality that competitors probably bought and implemented last week, for just a few hundred dollars.

Custom apps are extremely difficult to upgrade, so most companies don't upgrade frequently, and can't benefit from new capabilities. Upgrading applications becomes almost impossible if the original developers have left the company, because there's often no record of how exactly they developed the application and implemented its functions.

Not enough flexibility: software with workflows

Other companies make the mistake of not fully appreciating the uniqueness of their processes.

They choose an ERP, CRM, or SaaS offering with workflows and try to configure an application based on one of the workflows.

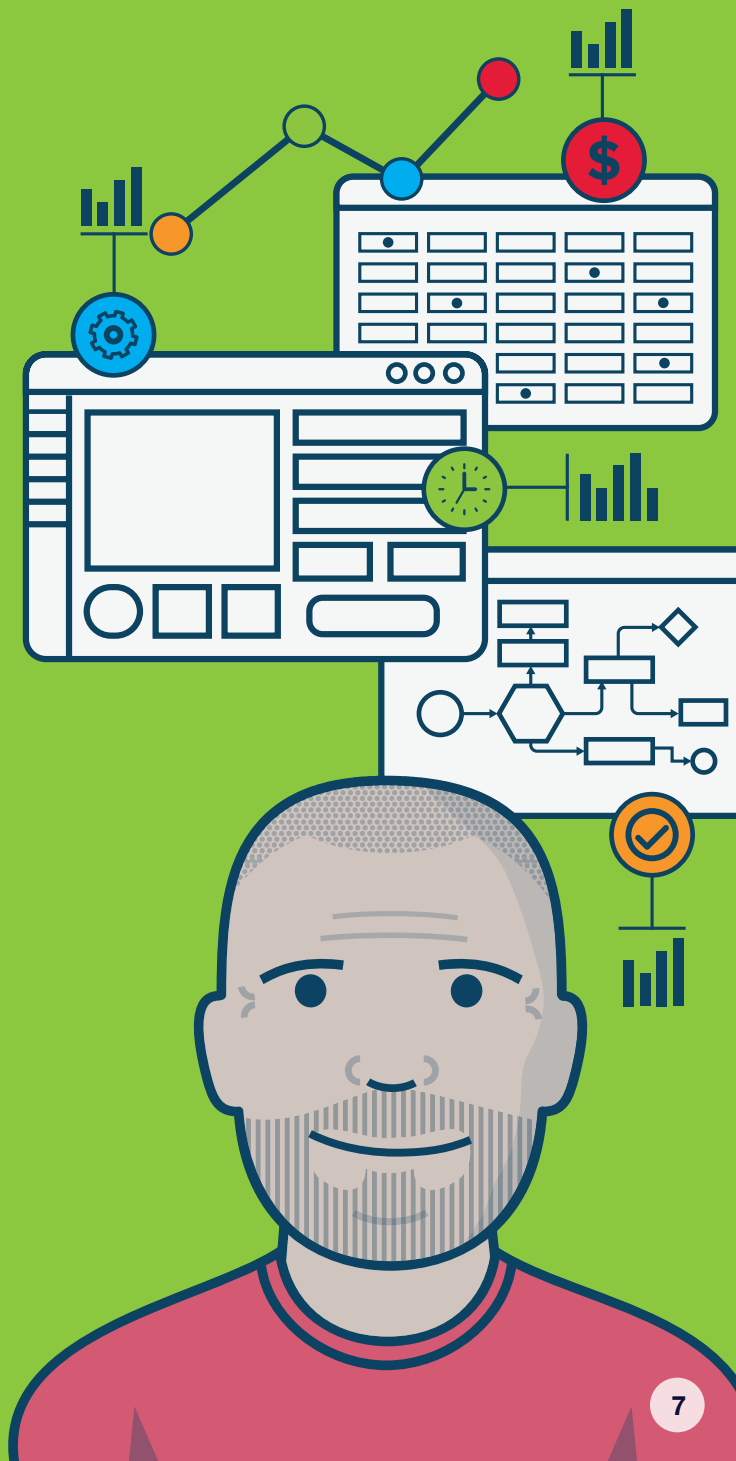
While this is typically a faster approach than custom development and avoids some of its pitfalls, it generally doesn't offer enough flexibility, frustrating the business as it tries to differentiate based on its processes.

Flexible and fast: BPM platforms

But there's a sweet spot between the custom and platform approaches: the process-oriented model of BPM. A BPM application platform can deliver even more customization than "custom" development, and a richer and more extensive framework than CRM, ERP, or other platforms.

A BPM application platform provides a framework that brings flexibility and functionality to applications. It comes with a set of prebuilt services, so developers can get a head start by reusing code and deploying it to meet business needs.

BPM is a "low code" iterative approach that helps business and IT to collaborate and quickly build applications that are easy to upgrade and align with new requirements.



Compare development approaches

While intuitively it would seem that custom development would offer the most flexibility, in practice BPM process-based application development brings more flexibility to every stage in the application life cycle: requirements specification, development, testing, deployment, and maintenance.

BPM applications are built to support business processes as defined in the requirements stage. The best BPM platforms make it easy to specify requirements, automate processes using code, and then test and deploy the completed applications.

BPM shines in the maintenance stage, too: All team members, with or without IT expertise, can look at user interfaces and the process flows and make modifications quickly in response to changes in the business environment. Compared to custom or workflow-based applications, applications built on a BPM platform enable companies to rapidly implement new functionalities in response to competition, suppliers' requirements, regulations, new markets, or new business models.

Applications developed on a BPM application platform enable businesses to continually align processes with the strategy, goals, and objectives of the company, helping it operate at maximum efficiency.

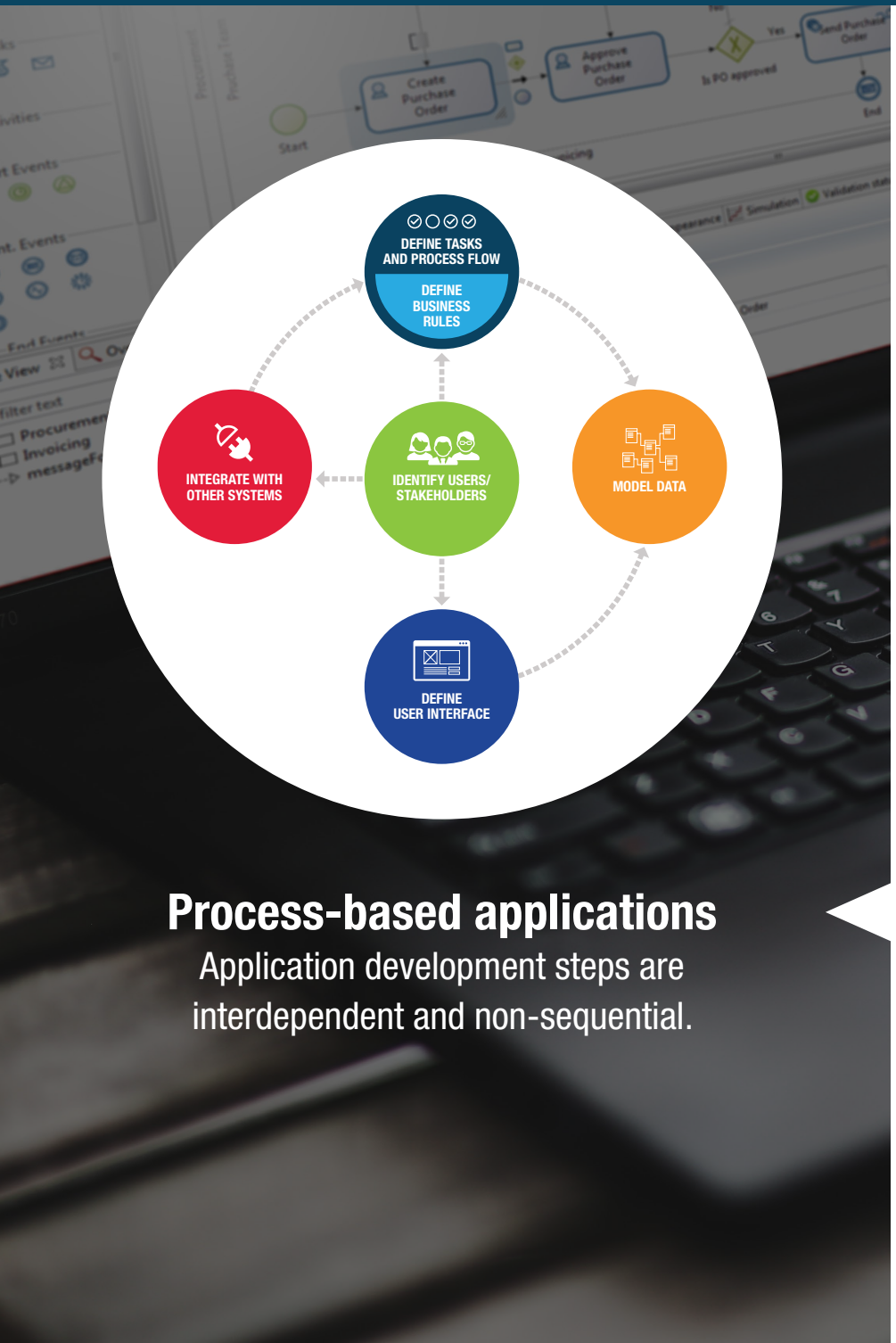
The BPM-based process approach typically delivers the following benefits:

- Faster time-to-market
- Collaborative, flexible, and functional scope definition
- Lower cost
- Easy usability
- High reliability
- Rapid adaptation to change
- Excellent performance in real-world implementations

Download these other ebooks for additional reading:

Build the applications you need at the speed of business:
How BPM adds value to each stage of the application life cycle

Application Development: Custom or BPM Platform?
7 ways that process-based applications may be what you need



Process-based applications

Application development steps are interdependent and non-sequential.

Develop process-based applications on a BPM platform

While BPM platforms differ, working with them usually involves the steps described below. Many of these steps take place simultaneously. For example, in modelling the process, teams are also defining the user interface and the underlying business process rules.

The best BPM application platforms provide parallel definition of the application's logic, data model, and user interface requirements to permit a full view of the application and support these simultaneous steps.

- Model/diagram the process
- Define the user experience
- Define process data and business rules
- Integrate with other systems
- Test and deploy
- Monitor, report, and maintain performance and reliability

We'll look at each of these in the following pages.

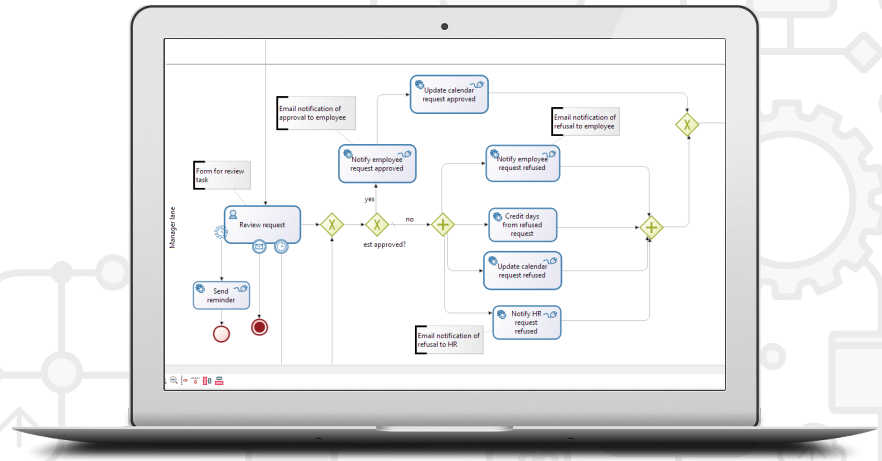
Model the process (create a diagram)

Scoping out an application and the processes it supports is typically the most difficult phase of development. With a BPM application platform, teams develop applications by creating graphical models that show the logical process of execution, and all team members can understand this intuitive flow.

Because BPM encourages communication with a collaborative process-based approach, it helps to bridge the disconnect between business users and software developers. This helps IT to build applications that meet the needs of the business without significant rework, and offers a straightforward way for the company to change and evolve processes and applications over time.

To bring together business people and enable IT to model the processes that will become the application, a BPM process modeler should use a standard notation, such as BPMN, which provides a common language for business people and IT.

BPMN's graphic symbols help all team members communicate about the process flow and manage details including integration of sub-processes, control of automatic activities, involvement of additional participants, and handling any exceptions to the process.



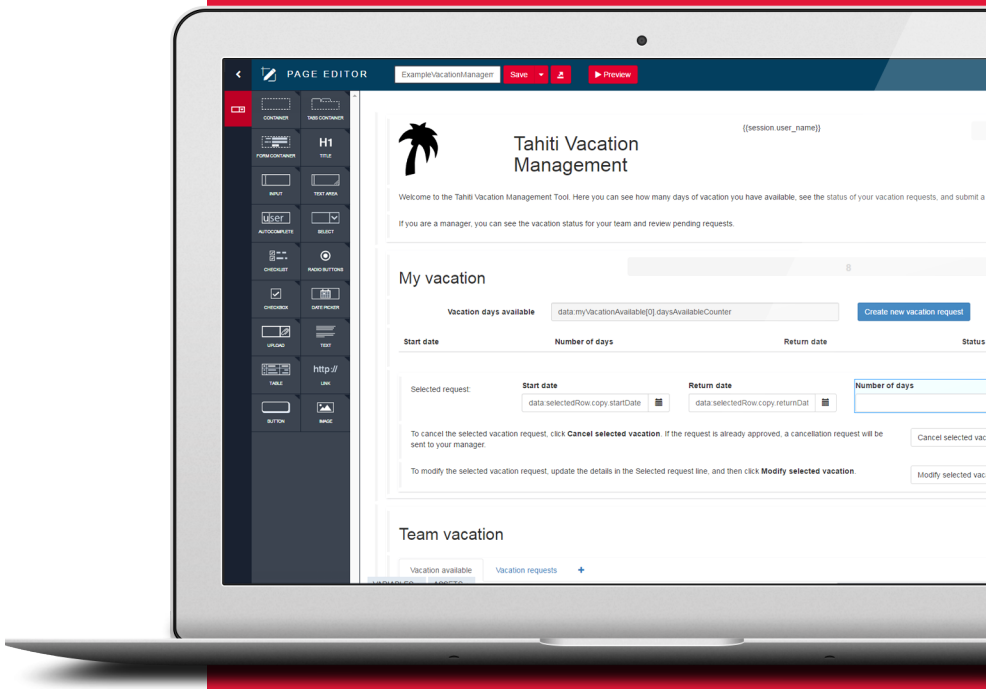
Define the user experience

There are two types of “users” who must be satisfied: those working with the finished application, and the IT and business people who create the applications with the BPM application platform.

To help the first type of user be more productive, process-based applications can “hide” the underlying process logic so that users focus on the immediate task(s) at hand.

The best BPM application platforms enable the second type of user—the application creators—to quickly generate a user interface on top of the data model so business people can see the level of process detail revealed to users. This real-time feedback ensures business people fully understand and approve the app under development early on, which virtually eliminates delays and rework later.

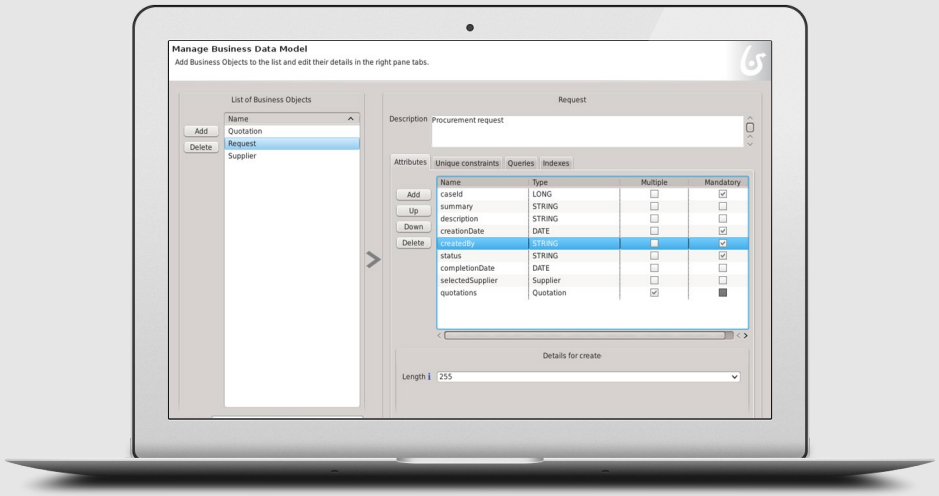
For developers, BPM-based process development makes it easy to create customized user interfaces without the drawbacks of a fully custom development approach. The BPM application platform helps to create a rich user experience with full support for a responsive UI. Developers can further personalize interfaces by roles so that all of the information (forms, data, and more) is tailored to the needs of each group.



To help developers design a customized user interface that works on all devices, some BPM application platforms use tools based on open and current technologies such as Angular JS and HTML 5. They may also use widgets to make it easy for IT to define the characteristics of form fields and to customize the interfaces. When these platforms are not locked into proprietary technology, IT has the scope for growth and flexibility to extend the UI based on business needs.

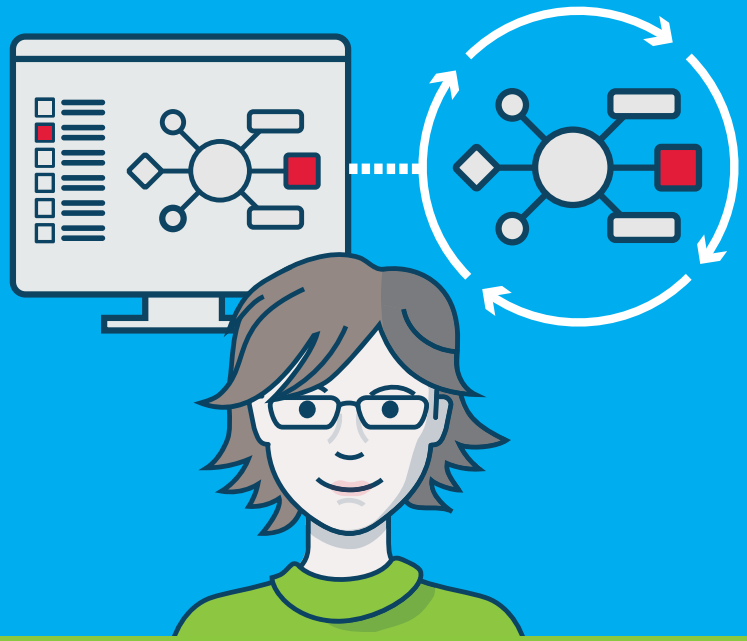
Define users

BPM application platforms provide varying degrees of granularity in defining users. Ideally, an organization should be able to define and assign the participants responsible for performing each activity in a process. The development team can directly assign tasks to each of the participants individually. Or, to scale up more easily, it can leverage services such as LDAP or Active Directory and assign tasks to users based on their directory-defined roles, groups, or rights and privileges.



Define process data

Developers use a model to introduce the data required by the process. BPM application platforms provide a data modeling entity relationship diagram, a managing editor, and the capability to use different data formats such as XML or Java Objects.



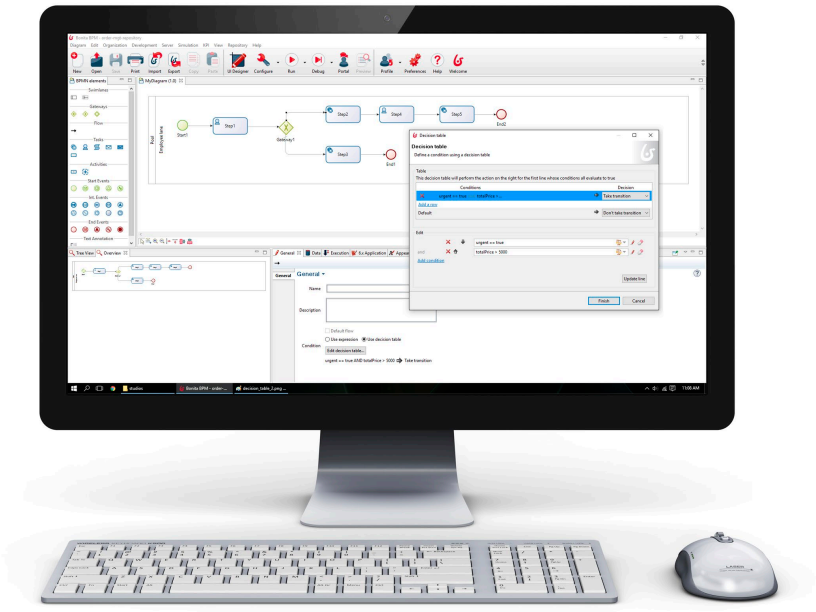
Complete the full process model

The full model of the process underlying the application is completed with the process diagram, definition of business rules and the data model, and with integration to external, third-party systems.

Define business rules

BPM application platforms offer a business rules editor to help teams design the business rules that will govern the operation of each process.

The rules editor integrates decision tables that allow users to directly define business rules. Processes can operate differently in response to changes in the environment, such as a shift in the value of specified variables.



Integrate with other information systems

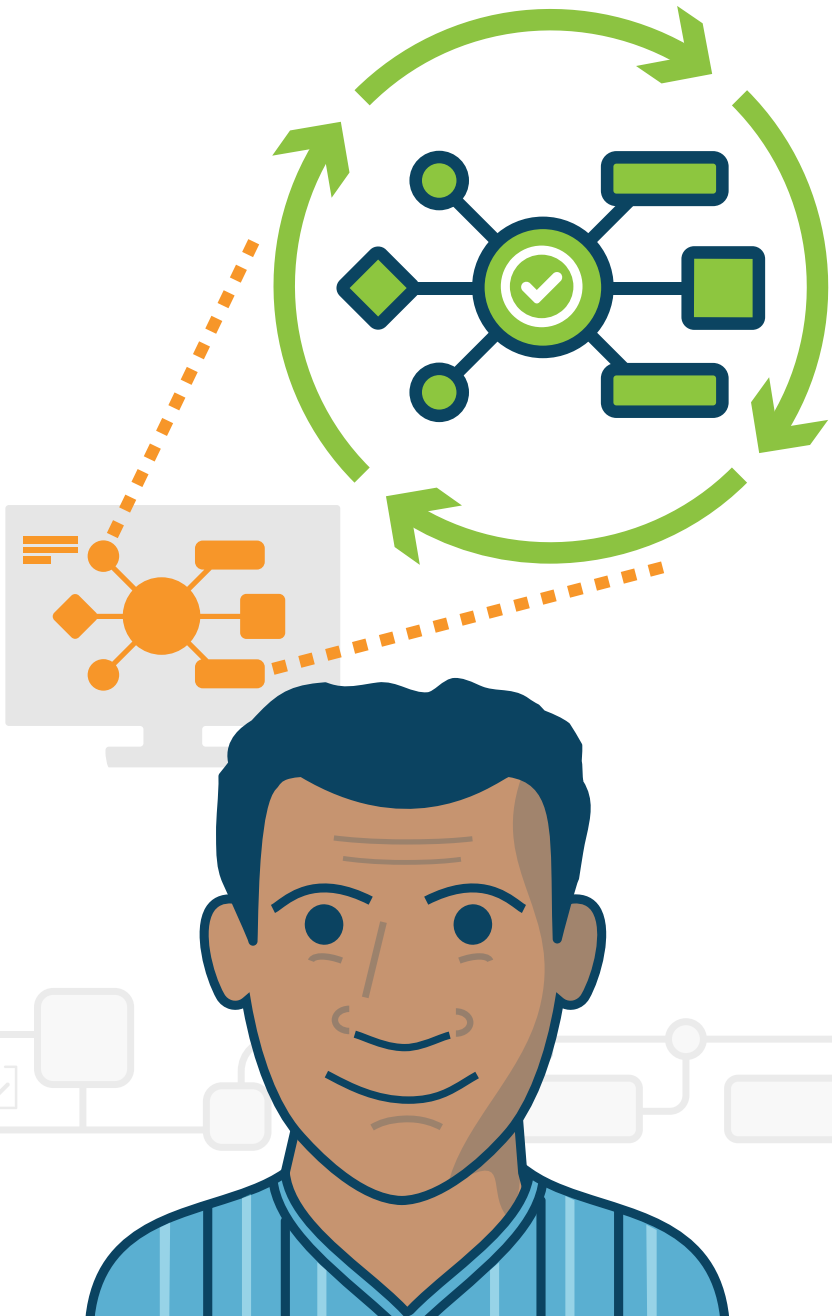
For the most comprehensive solution possible, IT should be able to leverage a large number of connectors for different types of services and applications including databases, messaging, ERPs, ECMs, data warehousing, and CRMs.

The best BPM application platforms offer connectors for MySQL, Oracle, Microsoft SQL Server, Jasper, SAP, Salesforce, Alfresco, and many more, and also offer an interface to create custom connectors.

A BPM application platform offers engine APIs that enable developers to control execution of the process from other systems. Some BPM application platforms are very open to extension and will also enable IT to create its own API to support complex processing. IT can connect and integrate the BPM platform to third-party systems using an extensible framework.

IT can connect and integrate a BPM platform to third-party systems using an extensible framework.

The capability to create your own connectors and APIs means you can connect with just about everything.



Test & deploy

Once the combined business and technical app development team has completed and tested its BPMS process model, the DevOps team deploys the resulting app.

A BPM application platform can simulate and test different combinations of processes, so that developers can study alternatives, predicting behavior, failures, bottlenecks, and opportunities for improvement, in order to anticipate situations and scenarios before implementation.

Finish the application

Organizations deploy generated applications in a web container, making the application available to end users through their usual web browser.

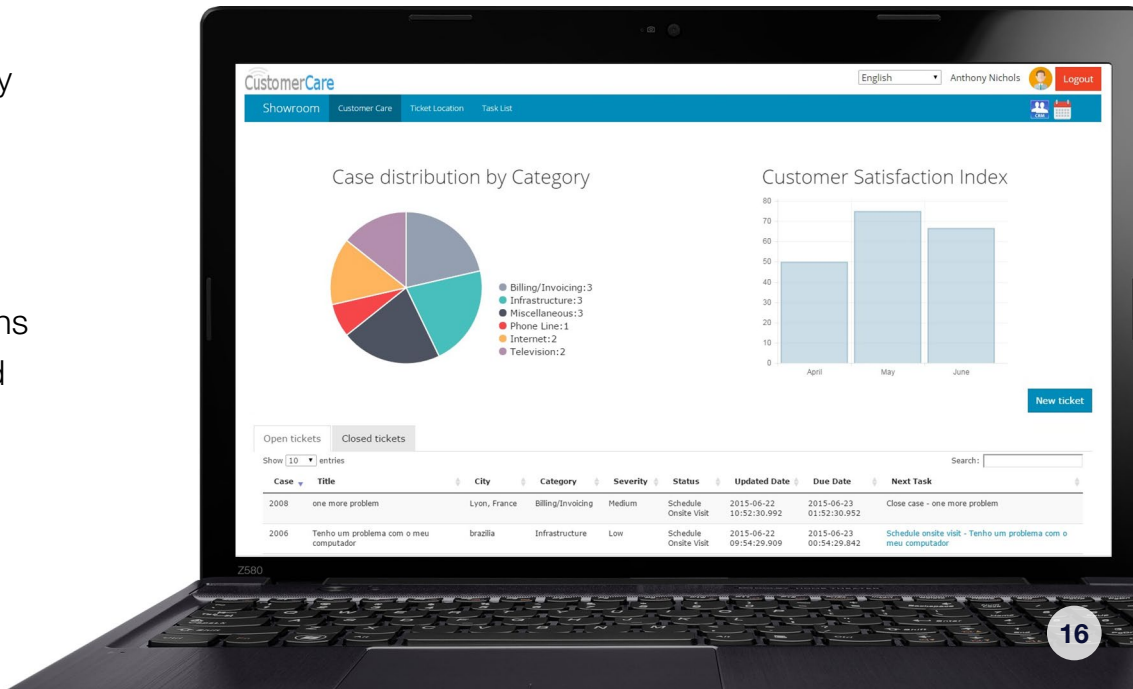
Monitor, report, and maintain performance and reliability

Numerical and graphical monitoring and reporting on processes helps organizations track performance in real time. Companies can set and monitor KPIs and create reports and custom dashboards as well as integrate BAM (Business Activity Monitoring) and BI (Business Intelligence) functions.

A solid BPM platform provides tools to improve transaction speed with optimized database schema, sophisticated caching, multi-threading, thorough session management, and support of distributed transactions and clustering. Developers get the tools they need to deliver applications that perform well and provide business users a consistently top-notch experience.

IT teams using a BPM application platform can support reliability by clustering applications and providing native fail-over to avoid downtime. These fault-tolerant applications continue to operate properly in the event of an unexpected failure in one of their components.

Only a few sophisticated BPM application platforms provide a “live update” capability, which enables developers to modify an artifact without stopping the application. Developers can make changes to a running process instance that are immediately available in the live production environment. This saves money for the business, avoids end users getting annoyed or losing trust in the application, and reduces the total throughput time needed for developers to deliver a fix or new feature.



Seize the advantages of using a BPM application platform

Organizations in all types of businesses and sectors have leveraged BPM application platforms to develop their applications — and to seize competitive advantage. Companies that have adopted BPM consistently report process and application development improvements that have led to:

Increased efficiency: they now run their business activities and processes and achieve the same results in less time, with fewer materials, and at lower cost. Closer collaboration of business and IT experts leads to new insights that can enhance productivity.

Greater agility and responsiveness to change: BPM helps them implement changes swiftly and effectively, so that businesses can rapidly adjust their ways of working to take advantage of new opportunities or avoid potential threats.

Achievement of their goals: customers report operational improvement, easy restructuring of the IT infrastructure, improvements in quality management, reduction of costs, improved production processes, and better customer service.

Specifically, companies using a BPM application platform experience most or all of the following benefits:

Faster time-to-market

The sooner your software application is available, the more likely your organization will be able to secure a "first-mover advantage," respond quickly to market demand, and deliver business value.

BPM application development saves time in the requirements definition and scoping phase and also during development.

Out-of-the-box capabilities such as connectors for system integration, user interface generation, support for mobile devices, clustering and fail-over, and user management all boost developer speed and productivity.

Collaborative, flexible, and functional scope definition

The BPM application platform offers a collaborative modeling environment, graphical tooling, robust process engine, and integration capabilities with external applications. This helps avoid the miscommunication and rework that characterizes most traditional application development projects.

Lower cost

Faster application development, and easier-to-make changes, cuts time and costs of developing and maintaining applications. Developers can change business logic, the user interface, and the data model independently, modifying components independently to save time and money.

Easy usability

BPM application development helps teams design and develop better user interfaces, faster. IT can build on what already works by reusing existing processes to generate new or improved processes.

When BPM application platforms embrace open and current technologies like Angular JS and HTML 5, companies can enjoy the flexibility to change and extend the UI to suit their latest business needs—without being locked into proprietary technology.

High reliability

Clarity and insight into process flows, and the ability to change applications while running, helps ensure consistent performance from applications.

Rapid adaptation to change

With BPM, you can change the business logic without having to modify the entire application. This dramatically reduces development and testing time for maintenance and adaptation of applications—and minimizes lag time for the business.

Excellent performance in real-world implementations

BPM is a proven technology with a well-established track record of helping organizations to build applications that reflect and support their unique business processes.

Get results from BPM—
like these successful businesses

Banque de Commerce et de Placements

BCP has realized shorter customer onboarding times for a long, complex process – involving up to 40 forms and 800 different questions – to ensure compliance with international regulations to combat illegal financial activity.

Coreso SA

Coreso has transformed data from multiple formats to a unified format, based on a meta-model. By creating one reference for all data used across 20 processes, it has both simplified data management and improved its accuracy.

Dorel Juvenile Europe

To take product creation from ideation to delivery, Dorel has integrated a long chain of decisions and validations – through R&D, production, finance, marketing, Q&A and logistics – leading to more efficient operations and a shorter time to market.

EnerNOC

EnerNOC operators are able to easily handle more traffic with automated monitoring that reduces human error. It can now take on new business because its orchestrated workflow with minimal human interaction makes its processes faster and more efficient.

ZUMIS project

ZUMIS created a single platform so customers of multiple agricultural institutions can access 30 e-services through a single portal. It now handles more than 650,000 requests per year.

See more stories of successful BPM process-based applications

Bonita BPM

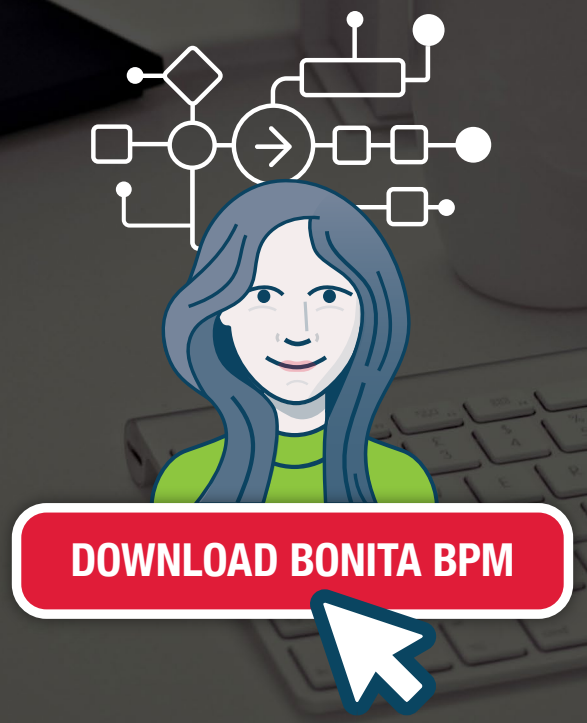
Bonita BPM is a BPM application platform that provides a single integrated environment for you to leverage in developing and deploying your own unique business processes. It comprises state-of-the-art BPMN modeling tools, a highly flexible user interface designer, a workflow engine with business rules definition capability, and multiple integration environments for test and deployment.

Bonita BPM delivers all the capabilities described in this paper, enabling you to rapidly develop applications that support your unique business processes. It helps you to manage the complete lifecycle of your applications, reduce implementation time, adapt immediately to changing conditions, and maintain excellent performance and reliability.

Find out more about Bonita BPM

More resources

+ Designing Efficient BPM Applications: A Process-Based Guide for Beginners
+ Application Development: Custom or BPM platform?
+ Build the Applications You Need at the Speed of Business



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