



Bluespring BPM₅ White Paper A Technical Overview of BPM₅

Business Process Management (BPM) software changes the way organizations do business. Now, organizations can manage and automate their processes to increase efficiency, productivity, and operational visibility. Organizations adopting BPM technology demonstrate that they have a plan to compete in the global marketplace.

This white paper addresses the technical advantages of BPM₅.

May, 2011

Introduction, Purpose, and Summary

This white paper is intended for a technical audience. It assumes the reader has some business process or workflow knowledge and has an interest in Business Process Management Software (BPMS) applications.

Document Purpose

The purpose of this white paper is to help readers understand BPMS, particularly from a technical perspective, and how Bluespring's BPM technology meets the challenges of today's global business environment.

Executive Summary

Let's start at the beginning. What is a process? Simply put, a process is a series of steps intended to bring about a positive result. Your business is full of processes. Some automated. Some manual. Some that use internal business systems. And some that integrate with external systems. Because day-to-day business is made up of processes, organizations that manage their processes—and decisions in those processes—using BPM₅ technology are profiting, increasing internal and external customer satisfaction, verifying data accuracy, and realizing substantial return on their investment.

“...tie together disparate applications and data with little or no actual “code” deployment.”

Organizations are under constant pressure to “do more with less.” As they pursue this goal, most organizations quickly recognize that the performance of one or more critical business processes range somewhere between sub-optimal and “broken.” The result? Unnecessary costs, expenses, time, and risk. Such processes need to be streamlined, standardized and

automated wherever possible to become operational assets rather than liabilities. Business Process Management addresses this need by providing organizations with:

- A management discipline that brings an end-to-end view of key business processes that often cross over the established boundaries of organizational entities and established business systems.
- A technical platform that drives business processes in real-time based on a process model, ensuring compliance and alerting the right resources when issues arise.
- An implementation style that enables rapid design and deployment of new business applications that tie together disparate applications and data with little or no actual “code” deployment.

With a BPMS, organizations are not trying to catch the competition, they are leading.

“BPM₅ meets the challenges of today's global business environment.”

Bluespring BPM provides the framework to rapidly design, deploy, manage, and continuously improve business processes. It includes a Visio-like process modeling environment that simplifies process design and enables process owners, business analysts, and IT professionals to work collaboratively. Teams can leverage existing systems, data, documents, and other IT assets while managing human-to-human, system-to-system, and human-to-system interactions based on natural-language defined business rules.

Bluespring Software- The Company

Bluespring Software has been helping companies streamline and automate key business processes since 1998. Manufacturing,

healthcare, financial services, retail, government, and many other organizations have used our products, services, and solutions to:

- Reduce expense
- Increase customer responsiveness
- Ensure quality
- Maintain compliance
- Manage growth with proven success

BPM₅ Product Overview

The following section discusses BPM₅ and its ability to automate and manage your organizations business processes.

Introduction to BPM₅

Bluespring BPM₅ is the next installment of the highly recognized BPM 4.5. In Forrester’s 2006 Market Overview report, *Demand for Business Process Management Suites Will Accelerate through 2009*, Forrester acknowledges Bluespring Software as having an “innovative” product that “targets people-intensive processes.”

Bluespring has focused its development on providing a set of powerful tools for automating and managing people-intrusive activities, while still offering the best of process automation and human worker interaction. BPM is on its 18th release and was developed from the beginning to be a 3rd generation Business Process Management Software (BPMS) application. BPM is not a workflow or EAI application repositioned as “BPM” or an application with internal, limited routing capabilities.

BPM extends beyond single applications by orchestrating processes across existing resources. To orchestrate your processes, BPM

allows you to integrate with systems using the following standards:

- | | |
|--------|----------|
| ▪ HTTP | ▪ ODBC |
| ▪ LDAP | ▪ SOAP |
| ▪ XML | ▪ WebDAV |

Also, because BPM is one of the few BPMS applications built on the Microsoft Technology Platform; it integrates seamlessly the following Microsoft applications:

- | | |
|------------------------------------|----------------------------|
| ▪ Access 2003/2007/2010 | ▪ Excel 2003/2007/2010 |
| ▪ Dynamics CRM 3.0/4.0 | ▪ SharePoint Services 2010 |
| ▪ Microsoft SharePoint Server 2007 | ▪ Outlook 2003/2007/2010 |
| ▪ Windows SharePoint Services 3.0 | ▪ SQL Server 2005/2008 |
| ▪ Word 2003/2007/2010 | ▪ Active Directory |
| ▪ InfoPath 2003/2007 | ▪ Exchange Server |

BPM’s process engine uses an interpretive XML approach that enables your organization to make in-flight changes to processes.

Additionally, BPM is designed to be deployed incrementally. Hardware and software requirements can be purchased incrementally to support processes running in BPM.

“Forrester acknowledges Bluespring Software as having an “innovative” product...”

System requirements to start designing and deploying processes include the following:

- | | |
|------------------------------|----------------------------------|
| ▪ Windows Server 2003/2008 | ▪ Xeon CPU or equivalent > 2 GHz |
| ▪ 10 GB of usable disk space | ▪ .NET Framework 3.5 SP1 |
| ▪ MSMQ Feature/Component | ▪ SQL Server 2005/2008 |
| ▪ 4 GB of RAM | |

Finally, BPM supports load balancing and clustering.

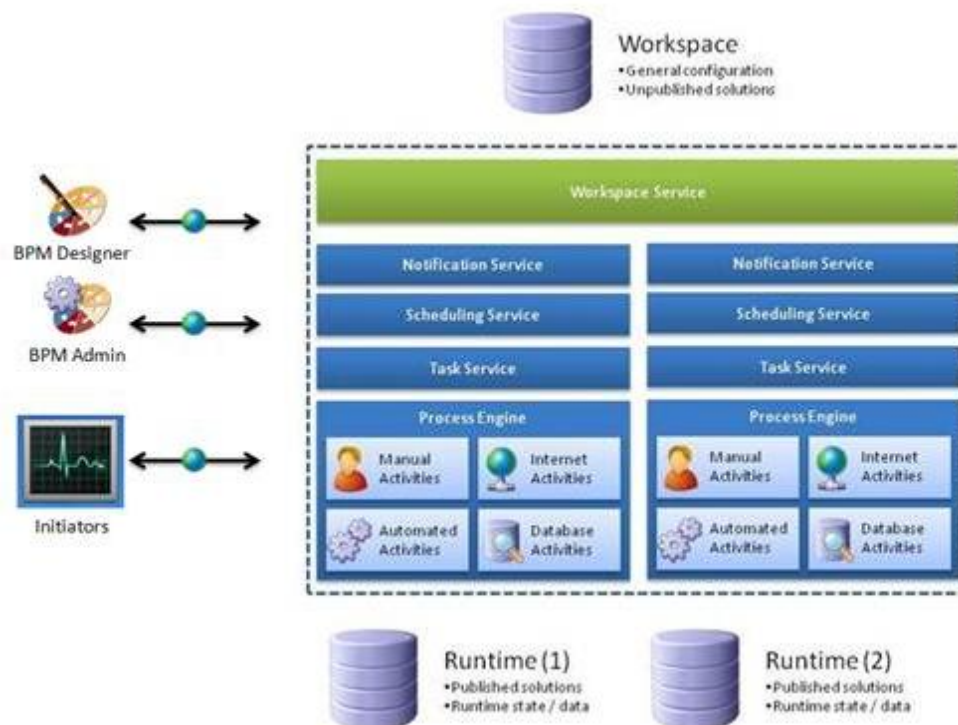
Product Architecture & Features by Application

BPM is comprised of two applications—BPM Designer and BPM Admin—and managed Windows services. These applications and services are discussed on the following pages.

Service Oriented Architecture Built on the Microsoft Technology Platform

BPM₅'s Service Oriented Architecture (SOA) can support any business type or size and reduces cost of ownership. In addition to 32-bit server support, BPM₅ supports 64-bit servers and Windows Server 2008.

The Web services capabilities of the Process Engine support integration with web-services enabled applications. For example, create incident tickets in BMC Remedy's Java-based application using BPM₅'s web-service activity. Additionally, Data Access Standards such as ODBC, LDAP, and SOAP enable access to just about any structured data source. Document access standards such as WebDAV and Open XML enable access to just almost any type of business document or unstructured data within them.



Flexible, Scalable Deployment Architecture

The Bluespring BPM run-time environment operates as a non-intrusive service within your existing infrastructure to drive automated processes that are highly consistent, reliable, scalable, and dynamic. The Process Management Engine ensures process execution based on the process model, enabling dynamic changes as needed. Processes can be initiated in just about any way including: file or e-mail monitors, web services invocation, scheduled events, or SharePoint events. Business rule changes take effect immediately. Process model resource changes can be implemented “in-flight”.

The Microsoft Technology Platform that BPM₅ was built on provides a cost-effective, scalable, easily supported systems environment. Multi-Server capabilities with Load Balancing enable cost-effective

incremental increases in processing power as volume grows. The Notification, Scheduling, Task, and Process Engine service can be hosted on one server or distributed across four servers. If necessary, you can install multiple instances of a service per runtime database. Finally, Fail-Over capabilities and other SQL Server features ensure high availability.

BPM₅ Core Services

BPM₅ offers five core services which are responsible for managing complex solutions as component web services. These five services include the following:

- **Process Engine Service**
manages the execution of the Process logic—tasks, activities, queries, 3rd party applications, and process security.
- **Workspace Service**
manages communication between the BPM Databases, Services, Designer, and Process Administration Tool.
- **Notification Service**
manages the sending of email task notifications.
- **Task Service**
manages the assignment, updates, and completion of tasks.
- **Scheduling Service**
manages the initiation of recurring processes, process delays, and escalations.

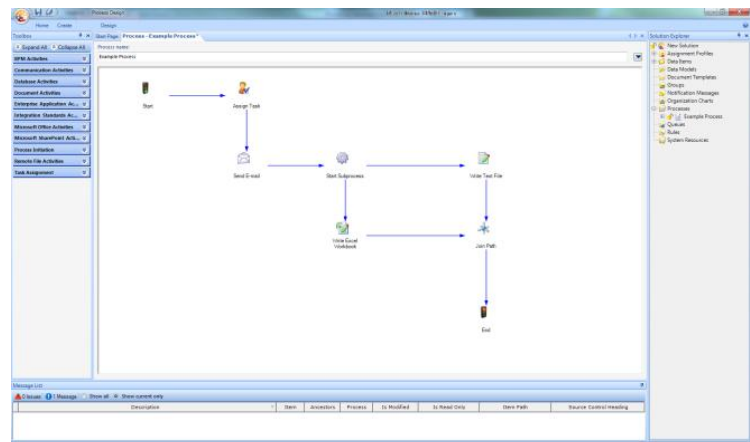


Embedded Business Rules Engine

BPM₅'s embedded, industry leading 3rd party, .NET business rules engine provides extensive calculation and evaluation functionality to support your organization's complex business rules. The rule engine's calculation expressions will allow you to promptly set data items. The embedded engine supports business analysts and line of business managers with appropriate control of the operating process and the rules that drive process activity. IT specialists can also define rules that govern various technical functions within a process.

BPM Designer

BPM Designer's intuitive user interface and agile process capability allows process owners to design and manage business processes. Each of the more than 50 activities has a unique user interface that



makes it a matter of point-and-click for process owners to map information between activities and systems. An activity is a step in the process used to retrieve, send, or manipulate information.

In Designer, processes are configured and not coded. Process information is stored in a database and not a compiled file. This means you can edit information during process execution, and the new XML content will be included with the existing execution's results. This approach results in an agile BPMS technology that cannot be replicated by code generating technologies.

Features	Benefits
Drag & Drop Process Modeling	Enables non-IT business analysts to easily develop visual process flow diagrams.
Assemble & Publish	Allows rapid deployment of process changes to support even the most dynamic operational environments.
Business Activity Monitor (BAM)	Provides real-time graphical visualization of the operating process.
Service-Oriented Architecture (SOA) enabled-web services	Allow organizations to easily integrate any web-services enabled enterprise system into a process.
SharePoint, Exchange, and Office Workflow integration	Allows rapid adaptation throughout the organization.
Process management engine with multi-server, load-balancing and failover	Produces reliable operations with cost-effective incremental scalability.
Business Activity Monitor (BAM) with process controls & alerts	Permits real-time control of key business processes.
Process Execution Data	Captures data continuously as the process executes provide the information for all forms of performance analysis and KPI generation, as well as a complete audit trail for regulatory compliance and process improvement analysis.
Reporting Services and a Management Dashboard	Provides instant access to process KPIs as well as standard custom reports.
Document Access Standards	WebDAV and Open XML enable access to almost any type of business document or unstructured data within them.
Business Rules Authoring	Gives business managers appropriate control of the operating process by enabling them to define the rules that drive process activity.
Pre-Execution Design and Rule Validation	Allows users to validate and resolve issues within a solution and the rule calculation expressions before testing the process.
Solution Explorer	Allows users to keep their solution items organized in a list of entities for a specific solution.
Process Management Engine with multi-server, load balancing and failover capabilities	Reliable operations with cost-effective incremental scalability

Extensible Activity Toolbox

You can develop custom activity Web services for your business users to configure in their processes. In addition to the over 50 out-of-the-box activities, custom activities can be created by consuming existing third-party Web services. Configuring these organization-specific activities becomes a drag and drop operation for your users.

Solution Items

Solution Items are the key elements that you will need to adequately construct your business process. There are eleven different types of solution items that can be created to develop a fully functional

activity and process. Solution items include the following essentials:

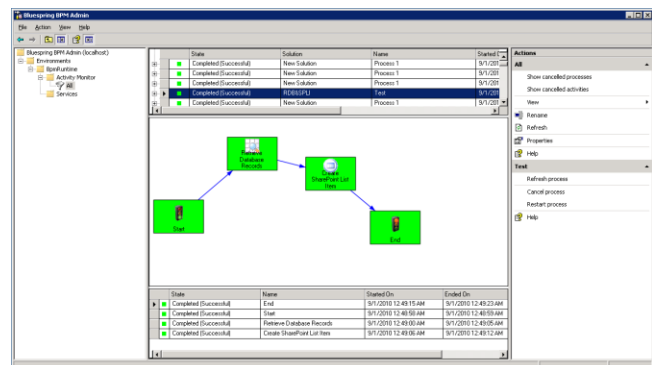
- **Processes**
Processes bring together the solution items and activities in your solution to manage a business process. You model your processes based on your organization’s unique business process requirements.
- **Assignment Profiles**
Assignment profiles are used by the Assign Task activity, Assign CRM activity, and the Assign SharePoint Task activity to task a user, a user group, or a queue in a solution.
- **Data Items**
Data Items hold and carry information through the solution. You can create them at the solution and process levels.
- **Data Models**
Data models model represent entities and structured data. You can also use them to model an entity based on unstructured data from multiple systems and data sources.
- **Document Templates**
With Designer, you can create a variety of templates. They can either be used as a traditional template or as an information source.
- **Groups**
Groups are collections of users and groups from your company and other groups from

your solution. Users are retrieved from an LDAP-compliant directory.

- **Notification Messages**
Notification messages are email templates used by assignment profiles. The templates are populated and sent when a task is assigned, escalated, reassigned, completed, timed out, or when a task fails.
- **Rules**
Rules connect activities in a process. Rules evaluate *true* or *false*.
- **Organization Charts**
Organization charts model a hierarchy of users in an organization or the hierarchy of an escalation path, which may or may not reflect the organization’s actual structure.
- **Queues**
Queues are collections of users and groups from the employee directory. A queue can also contain groups created in your solution. Users and groups are retrieved from an LDAP-compliant directory.
- **System Resources**
System resources define connections to external systems. After a system resource is created, it can be used by one or more activities specifically designed to handle a type of resource.

BPM Administration Tool

BPM Admin is utilized to monitor process instances in a runtime environment database. Process design and execution data is stored in separate databases for performance, management, and compliance reasons. To manage the environment, process administrators can restart or cancel processes and activities and visually monitor process status. And an environment’s services can be managed remotely.



BPM₅ Services

BPM₅ contains four core services that manage processes, tasks, notifications, and schedules. Additional services are available for monitoring internal and 3rd party systems.

Workspace Service

The Workspace Service is a core service that manages communication between the BPM₅ applications and services. Specifically, it manages the communication and permissions for accessing content in the BPM Workspace Database and the BPM Runtime Databases.

Process Engine Service

The main processing component of the BPM₅ is the BPM Process Engine Service. This service manages the execution of process activities, evaluation of data and rules, and also hosts the activities within its service for enhanced reliability and maintenance.

Task Service

The Task Service is a core component of BPM₅ and required for managing the tasking of process participant, managing access to process data, and handling reassignments.

Notification Service

The Notification Service is required to send notifications to process participants. For example, the Notification Service is used by the Send Email activity and by the activities that can send task notifications. Task notifications can be sent when a task is assigned, escalated, reassigned, completed, timed out, or failed.

Scheduling Service

The final core service, the BPM Scheduling Service, manages the starting of processes configured to use the Scheduled Start and any

process delays configured in the Delay Process activity. Additionally, this service tracks and manages any task escalation or time out requirements associated with a process participant's task.

SharePoint Monitor Service

The SharePoint Service enables communication among BPM services. This Service runs on Microsoft SharePoint 2007 servers.

Bluespring BPM₅ monitors changes to SharePoint events, lists, document repositories, and data to initiate automated processes and can use SharePoint task lists as a convenient and familiar task queue management environment that can also be synced with Microsoft Outlook.

“...manages the execution of process activities, evaluation of data and rules...”

File Monitor Service

The File Monitor Service is used to monitor file shares for file events. When a file event occurs, the BPM File Monitor Service will start an instance of a process in BPM₅. The process started will include the Receive File Monitor Event activity and be configured to use the File Monitor Service System Resource.

CRM Monitor Service

The CRM Monitor Service is used to monitor events and actions within Microsoft Dynamics CRM 4.0. The monitor will start a process when following a CRM event and pass data about the entity to the process.

BPM₅ and Microsoft

BPM₅ retrieves and updates information using Microsoft Office.

Microsoft Word 2007/2010

BPM₅ includes activities for Word 2007/2010 that leverage Microsoft's XML document format (*.docx). The Word activities allow you to read information from Word content controls into process data items and write constant values, data item values, and expression results to placeholders in documents and content controls. BPM makes use of the document format in two ways. First, it eliminates the need to have Microsoft Office installed on the BPM Engine Server. Second, it reads from controls and writes to controls and can replace "tokens" in the document template.

The Word documents can be stored on a server, on SharePoint, or selected as a template file. Finally, you can specify and define the document's properties—title, subject, author, category, etc.

Microsoft Excel 2007

Building on Microsoft's Excel workbook format (*.xlsx) are BPM₅'s Excel 2007/2010 activities. The Excel Activities allow flexible, point-and-click integration with Microsoft Excel documents. Organizations that use Excel will realize how quickly they can accomplish information management and compliance by automating the process of passing workbooks and the information they contain to the necessary audiences.

Microsoft InfoPath 2007

Through BPM₅, you can retrieve information from and save information to InfoPath forms with the Populate InfoPath Form and Read InfoPath Form activities. Additionally, an

InfoPath form can use a process as its data source, so the form's information is submitted directly to the process.

InfoPath forms can be pre-populated and then used to task an Information Worker to validate, update, and complete. When complete, BPM₅ can retrieve the information from the form and pass it to the next step in the process.

Microsoft Outlook

In addition to being used to receive task notifications, Microsoft Outlook 2007 can be synced with Microsoft SharePoint Task List Integration which provides a convenient and familiar task queue management environment.

Microsoft SharePoint 2007/2010

You can interact with SharePoint sites by using the Bluespring SharePoint Monitor Service and SharePoint-specific activities. The Invoke Web Service activity also allows you to take advantage of SharePoint's out of the box web services.

Microsoft SharePoint Task list and (as discussed in the following section) Microsoft Dynamics CRM Work Queue integrations provide alternative task queue management environments. When work is assigned, a task can be generated in SharePoint and the process waits for the user to mark it as complete. Time out, escalation, and notification options are available when assigning tasks.

The SharePoint-specific activities allow you to create, retrieve, update, and delete SharePoint groups, lists, and lists items. There is also an activity to create a SharePoint site and work with group permissions.

Microsoft Dynamics CRM

Enhance your implementation of Microsoft Dynamics CRM by using BPM₅ to add back-end process management functionality that can expand beyond CRM to your other systems. The Bluespring BPM₅ architecture allows you to define processes that use CRM and other web services-enabled Dynamics CRM functionality. To start, you can have a CRM event being a BPM₅ and manage the creating and tracking of entities and activities associated with the initial event.

Specifically, configure—not code—the event monitor that starts a process in BPM₅. For example, the creation of an account can start a process. Information stored in CRM can then be passed through a process that connects users who may not have access to CRM. Within BPM₅, you can see standard and custom entities and the attributes and metadata associated with those entities.

With BPM₅ you can easily manage processes due to the solitary location of your process and its entities. BPM₅ alerts you when management is deficient. It also allows you easily view all of the leads that were not followed up in a week in addition to a report on stale deals and customer satisfaction.

Processes managed by BPM₅ can also contain steps that create, retrieve, update, and delete CRM records. For example, you could use data in an Excel document to create a new CRM record. Because of its seamless integration with Microsoft Office, Bluespring solutions can be delivered more quickly than typical development efforts would take, so you can realize a return on investment more quickly to create and update process / value stream maps.

Microsoft BizTalk Server

Bluespring BPM₅ interoperates with Microsoft BizTalk server to enable tight system-to-system integration with enterprise applications and processes.

The combination of BPM₅ and BizTalk can rapidly produce compelling solutions that allow IT to focus on complex system-to-system integrations while process owners focus on human workflow and business rule modeling. Conclusively, BPM₅ and BizTalk combined deliver more business results.

