

A BPM Taxonomy: Creating Clarity in a Confusing Market

Business process management is a critical component of process automation that saves costs, while adding value. At a time when clarity is more important than ever, BPM-related terms have become increasingly confusing.

Core Topic

Application Integration and Middleware:
Application Integration

Key Issue

How will integration architectures, technologies and design patterns improve the way business processes work?

Strategic Planning Assumptions

Because of gaps in product design, no single tool is comprehensive enough to manage the complexities of end-to-end human and integration processes; hence, through YE05, most large enterprises will rely on multiple products to handle business process management (0.9 probability).

Although they will be well-articulated in 2003 in Business Process Execution Language, standards for business process management interoperability won't reach mass use until 2006 (0.8 probability).

Business process management (BPM) has proved to be valuable in defining effective business processes for everything from a single department to an entire enterprise and its associated value networks. This function can range from the basic automation of a single manual process (such as accounts payable) to a line of business (LOB) or an overall business (such as policy underwriting). However, the supporting technologies have long been confused by vendors and end users alike, because they lack a standard set of terms and concepts to support meaningful dialogue. In this research, Gartner provides a summary of BPM and flow automation definitions to help guide the planning, development, purchasing and implementation processes.

BPM is the general term for the services and tools that support explicit process management (such as process analysis, definition, execution, monitoring and administration), including support for human and application-level interaction. BPM is a hot composite market, with a high level of activity within several subsectors. Although this market is stratified, there is convergence ahead, as many vendors scramble to buy or build BPM functionality to respond to growing customer demand.

The Essential Elements of a Complete BPM System

Although some of the BPM tools have all five of these elements, many vendors claim to have BPM even if they have just a few of these components, despite the low levels of quality that result. We expect the eventual leaders to have all five elements, done well from the client's perspective:

- Graphical tools — Designed to analyze, model and define processes, these tools are targeted at business analysts who extract established process flows and design new flows.

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These flows are then specified in a friendly development environment for future execution.

- A runtime execution engine — This is the underlying state machine that executes the defined process flow. As the process flow is executed, the engine may invoke automated services or tasks that humans have to complete. The services may be provided by applications — legacy or new — or by other enterprises that might be trading partners or outsourcers. The runtime environment maintains the status (state) of each process instance or business event.
- Agility facilities — This function involves the enablement of inflight adjustments for flow, worklist management and work priorities.
- Tools to monitor and manage the flows — Monitoring may cover process performance, degree of completion or out-of-bounds conditions. Process management may cover process termination, compensating processes, load balancing and rerouting.
- Tools for post-completion analysis — These tools use the state data that is archived for business measurement and adjustments.

BPM Usage Categories and the Markets That Support Them

There is general confusion about workflow and BPM. In its strictest sense, workflow means the combination of tasks that define a process. Workflow was also the name of a legacy market, so this further confuses the issue. BPM implies the generic concept of workflow; however, complete BPM must minimally contain human-to-human flow. BPM may include, but is not limited to, system-to-system flow automation. This is more focused, because it implies the addition of automated participants to help manage part of a process by reducing the number of human actions involved. Therefore, one key part of a larger set of definitions related to BPM is "human-side," which relates directly to people and their assignments in fulfilling a goal.

The other part of the picture is focused on the "integration side" between systems and the information flow necessary to provide completion of a different kind of process: system interoperability and dynamic data exchange. Although tools occasionally overlap, the categories of BPM defined by Gartner divide the technologies into meaningful classes designed help enterprises plan their architectures and select the vendors best suited to their needs. Among the classes are numerous vendors representing part or all of the ideal BPM definition.

Administrative and Task Support (Visual BPM): These offerings focus on simple work task performance, task tracking and administrative tasks. Personal task managers at the individual task level may include a degree of process management. This class of technologies is generally easy to use, but it is not generally aimed at high-end performance and it lacks integration capabilities. Agility and post-completion analyses are just emerging in this category. These should be considered for lightweight process management and form-centric processes.

Markets Supporting This Kind of Function:

- Many products from the former administrative workflow market are targeting manual tasks, such as expense report preparation and human resource system changes (for example, address changes). Form-based routing is a common source of this class of process support. (This is not to be confused with the legacy workflow market, which was basically form-driven). Vendors include Documentum, FileNet, Microsoft and Open Text.
- Administrative and task-oriented process tools continue to emerge; however, this cluster is not expected to experience high growth. In time, team process vendors and niche applications will fulfill the administrative and task-oriented requirement. Vendors include Hummingbird, iManage, Interwoven and Vignette.
- Portal tools that offer personal BPM include BEA Systems, IBM, Microsoft, Oracle, Plumtree Software, SAP and Tibco.

Team Process Support Tools (Collaborative BPM): These tools are focused on enabling collaborative tasks between people. They often include a modicum of workflow — from basic approval routing (such as eRoom) to full function (such as OpenText's Livelink). The concentration is on review, routing and approval, but isn't necessarily tied to a common repository. IBM/Lotus has long held a leadership position with Notes-Domino. This class of technologies is easy to use and agile enough to negotiate tasks and deadlines. It is good for group iteration and has a strong textual flavor, but it can also support forms. This class scales higher than administrative and task technologies, but it is not generally aimed at high-end performance, and it lacks integration capabilities.

Agility and post-completion analyses are just emerging in this category. These should be considered when enterprises have a large number of "virtual teams" or communities of interest that share documents or forms and need e-mail notification to be the centerpiece for routing, review and approval.

Markets Supporting This Kind of Function:

- Interpersonal collaboration or knowledge-management-focused process support frameworks include Action Technologies and Optika.
- Team support products include Lotus QuickPlace and Open Text Livelink.
- Project and resource collaboration tools include Changepoint, Niku and Primavera Systems.

Application-Specific (Preconfigured) BPM: Found in many applications, including enterprise resource planning (ERP), customer relationship management (CRM), vertical industry packages, templates/components and document/content management, these tools are also targeted at increasing the efficiency of a specific application by enabling users of systems to work together better. They generally feature application-specific design tools and depend heavily on effectively defining a process. These applications often include templates — "out of the box" workflows — to help new users get a headstart in understanding the typical approaches to automating common processes.

More often than not, each system depends on an engine that is exclusive. Although many different systems include a workflow automation component, creating an overall strategy for enterprise workflow automation can be easier than architecting a combination of applications. However, many can "talk" to each other in workflow terms, thus multiplying their independent value. BPM has become a competitive advantage for many of the vendors to promote their capability to manage tasks and interface with other systems. The functionality varies quite a bit, but most vendors are not adept at integration and have few agility features.

Most leading critical business applications — such as content management, ERP, CRM and supply chain management (SCM) — include a workflow automation and integration component. However, these products do not generally feature enough strength in either integration or human processes to manage BPM across the enterprise.

Markets Supporting This Kind of Function:

- Package vendors include J.D. Edwards, Oracle, PeopleSoft, SAP and Siebel Systems
- Content management vendors include Documentum, FileNet, Interwoven and Vignette

Integration-Focused BPM: No longer isolated as components of larger isolated applications, process integration across multiple application servers becomes the driving force creating the enterprise nervous system (ENS). It is unlikely that the cost and degree of complexity required to migrate all users, content and processes to a large-scale integration-broker-led model will make the transition quick or easy. Nevertheless, the benefits can be tremendous.

This sector of the market tends to focus on system-to-system flows and is slowly emerging into the human-to-human flow. It generally lags in user sophistication and user-friendliness. Integration brokers traditionally handle process flow between applications in terms of scripting and modeling.

Markets Supporting This Kind of Function:

- Integration broker vendors include BEA, IBM WebSphere, Mercator, SeeBeyond Technology, Tibco, Vitria Technology and webMethods. These vendors are selling a high-priced stack focused mostly on their own technology suites. They generally lack agility offered through rule and simulation capabilities. We expect, however, that these vendors might have "just good enough" BPM for some companies.
- Composite application vendors include ClientSoft, Jacada, Seagull Software Systems and WRQ. These vendors generally try to create microflows that can be used in larger contexts and have lighter price points.

Application-Independent (Pure-Play) BPM: Dozens of vendors compete in this market (see "Magic Quadrant for Pure-Play BPM, 2Q03"), and the number will rise before it settles to perhaps a third as many within a couple of years. In the meantime, there are good reasons to consider one of the pure-play applications. The value of including this class of products in an enterprise's IT infrastructure can be significant in terms of re-architecting the enterprise and focusing on LOB-level process flows, associated rules, integration of other applications and the monitoring of results.

Typically, these packages provide both overarching design and connection between many of the application-specific workflows. Thus, they can trigger as subflows the workflow automation component within an ERP system, for example, and carry the result to a larger inflight process.

The leaders in this class can be coupled with business process analysis (BPA) and modeling tools, as well as robust business rule engines (BREs) to gain real insight into how process transformation can enable the real-time enterprise (RTE) in terms

of monitoring systems and being able to infer how changes to processes might yield more savings or efficiency. These tools are often purchased to sit on top of multiple applications and servers and coordinate processes overall. Although larger vendors in this category will survive the shakeout ahead, several smaller players will be subsumed by integration brokers and the rest will concentrate marketing efforts toward plug-and-play BPM for midsize enterprises.

Markets Supporting This Kind of Function:

- Vendors active in this area include Action, Adobe Systems, DST Systems, Magic Software Enterprises, Oak Grove Systems and Transflow.
- Agility-centric (simulation and rule-based) vendors active in this area include FileNet, Fugotech, Lombardi Software, Metastorm, Pegasystems, Savvion, Staffware and Ultimus.

Choosing the Right Focus for the Enterprise

Because of gaps in product design, no single tool is comprehensive enough to manage the complexities of end-to-end human and integration processes; hence, through YE05, most large enterprises will rely on multiple products to handle business process management (0.9 probability). Enterprises should continue to analyze their architectures and choose "best of breed" solutions that play well together through application programming interfaces (APIs).

Any product selection should include evaluation of workflow automation and integration as part of the knockout criteria. The selection process is not necessarily a "zero sum" decision because it's rare to find all of the BPM function embedded by an enterprise in one category, much less from one vendor. Although we expect that there will be a number of instances of BPM technology in every enterprise, care should be taken not to select two BPM capabilities for the same category without some strong business rationale. Bad decisions are likely to result from politics, organization inertia and a lack of planning.

Bottom Line: Business process management is becoming ubiquitous, so understanding the five BPM categories is crucial. By sorting products and vendors into classes, it will become easier for enterprises to understand the features and benefits that each level provides.

Acronym Key

API	application programming interface
BPA	business process analysis
BPM	business process management
BRE	business rule engine
CRM	customer relationship management
ENS	enterprise nervous system
ERP	enterprise resource planning
LOB	line of business
RTE	real-time enterprise
SCM	supply chain management