Magic Quadrant for Intelligent Business Process Management Suites

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VIEW SUMMARY

This iBPMS Magic Quadrant positions 14 vendors that are focused on the maturing iBPMS market, where process participants, including people and systems, are supported by greater intelligence to ensure improved process outcomes.

Market Definition/Description

An intelligent business process management suite (iBPMS) is an advanced category of BPM-enabling technologies. It is the natural evolution of the earlier BPMS market, adding more emphasis on support for greater system and human intelligence within business processes. Capabilities such as simulation, optimization and the ability to gain insight into process performance have been included in many (but not all) BPMS offerings for several years. Modern iBPMSs have added enhanced support for human collaboration, integration with social media, mobile access to processes, more analytics and real-time decision management.

The iBPMS is one of many technologies (see Note 1) that support business process management (BPM) — a management discipline that treats processes as assets that directly contribute to enterprise performance by driving operational excellence and agility. An iBPMS is a type of BPM platform — the category of BPM technologies that also includes simpler model-driven tools that enable the development of process applications, as well as BPMS and iBPMS product categories. Any of these technologies can be delivered as a platform as a service (that is, a "cloud" deployment) or as an on-premises product.

iBPMSs address the increasing need of business managers to react quickly to events that impact their business, and to gain better insight into business operations so that they can take the right corrective actions. Business change is inevitable, and leading organizations will require the ability to dynamically make changes to business processes to maintain competitive advantage. Such dynamic process change might be enabled automatically by allowing technology to change the process based on rules and parameters, or by using deeper analytics and information about events to provide real-time situation awareness (see "Case Study: Learn Some Lessons From TXU Energy's Operational Intelligence System"). These capabilities can enable the people who are involved in the process (and business process owners who are responsible for process performance) to enact process change, tailoring their responses appropriately to emerging business threats and opportunities.
The wider BPMS/iBPMS market includes some vendors that don't yet offer a full iBPMS, just as the wider BPM technology market includes vendors that offer simpler workflow engines that don't address the full life cycle of ongoing process improvement. After years of double-digit growth, the BPMS/iBPMS market's size declined slightly in 2012, with the worldwide market estimated at $2.3 billion.¹ We identified several drivers for this change in "Market Snapshot: Business Process Management Suites, Worldwide, 2013." Vendors that grew in the flat market tended to be those that offered iBPMS products, as well as those that were addressing the drivers for quicker project starts by delivering on cloud infrastructure. Some two-thirds of BPMS/iBPMS software spending in 2012 was directed at vendors that offer iBPMS products, indicating that the market is already well on the way to transitioning to iBPMS, with a minority of spending overall going to those offering narrower BPMS products.

All of today's iBPMSs support traditional process management needs — covering a range of scenarios discussed in "Market Update: Match BPMS Vendors to Your Usage Scenarios" — supplemented by the requirement to support intelligent business operations (IBO; see Note 2). When an organization is involved in a continuous process improvement initiative, an iBPMS can help support process optimization by providing insight from both inside and outside the process, supporting process owners and process participants.

An iBPMS can also:

- Provide added intelligence to many industry or company-specific processes (see Note 3).
- Provide support for a business transformation initiative — supporting process participants and adding intelligence by encouraging broader adoption through the organization and helping people collaborate within individual process instances (or cases).
- Support a process-based, service-oriented architecture (SOA) redesign (see Note 4).

Businesses in a variety of industries have an increasing need for process intelligence to gain insight into what needs to be done to meet the desired process outcome. Although not all organizations are ready to take advantage of the full capabilities that an iBPMS provides, all BPM technology buyers should consider the impact of the need for greater intelligence in and around their business processes. Large companies will need to invest in more than one iBPMS to meet the requirements of diverse projects.

The more advanced technologies should be considered in planning road maps, even if near-term requirements are for simpler capabilities. It is also important to consider the enterprise's process styles when making any technology selection, along with organizational maturity, as not all solutions on the market support all process styles equally well (see "Analyze Your Process Styles to Ensure Technology Choices Lead to Improved Business Outcomes").

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iBPMS Capabilities

To support faster time-to-solution and subsequent rapid changes to business processes, an iBPMS uses a metadata- and model-driven approach. A graphical business process and rule
modeling capability is used to model the behavior of the solution. Some iBPMSs execute this model at runtime (they are interpretive), while others generate code that is compiled at development time (see "Systems of Differentiation and Innovation Require Different Types of Model-Driven Application Platforms").

An iBPMS has all of the following elements:

- **Process Orchestration Engine** — This coordinates the interactions of all types of actors (people, devices and computer systems) for structured and unstructured flows, and also supports case management and dynamic processes — for example, by having a rule-driven workflow that can include predetermined process snippets, but also supporting ad hoc (unplanned or unstructured) process flows, and responses to both human- and system-initiated events. It manages short-term and long-running processes; logs changes to the state of the coordinated resources; adjusts priorities and the order of execution of process instances; terminates, updates or suspends in-flight processes; and schedules future work (processes and activities).

- **Graphical Model-Driven Composition Environment** — This provides authoring/development tools and runtime support for heterogeneous composite applications. Process flow (and, optionally, rules) must be explicit objects in the models. This supports user interface (UI) composition for building portlets, portal pages, and rich-client and mobile UIs. This covers process model validation, such as domain checks, completion checks and warnings on inconsistent patterns.

- **Content Handling** — This capability natively manages or integrates with other enterprise content management (ECM) tools to manage documents and (optionally) other types of content (such as graphical images, audio or video). It creates, reads, routes and updates content managed by third-party content repositories.

- **Human Interactions** — This supports personalized workbenches for participants (based on role, preferences, access rights and so on), and provides interactive access to tasks, content and other resources. User experience can be tailored to organization unit, role, skills and/or the individual. There is Web and multichannel support with forms, portlets and rich UIs, leveraging personalization. There is native or HTML5-based support for one or more mobile devices, collaboration capabilities to help people exchange data, and ideas about a process in a flexible, user-controlled manner.

- **Process Intelligence and Business Activity Monitoring (BAM)** — This provides active analytics via process intelligence and BAM to facilitate all of the following:
  - Continuous intelligence (including monitoring, alerting and maintaining context awareness).
  - Monitoring metrics related to processes (interactions and resources) coordinated by the tool's orchestration engine.
  - Interactive monitoring dashboards, detecting threats, opportunities and other anomalies, which raise alerts for at-risk process instances and activities.
  - Automatic trigger responses to threat and opportunity situations through messages, service calls or other interfaces.
  - Ability to log process and/or other events into a process performance warehouse/audit trail or event log.
Data intelligence BAM, including adapters to capture events from outside of the iBPMS process orchestration engine. In addition, continuous analytics are also required to display key performance indicators (KPIs) and other metrics on business dashboards, and also to send alerts and trigger responses.

On-demand analytic capabilities (that is, services that run on request to help a person, application or device make an informed decision), as well as offline tools to simulate processes, and improve process design and how the process is executed.

- **Business Rule Processing** — Software-based reasoning that infers logical consequences from a set of facts or axioms. It manages and executes rules that represent business policies. At a minimum, it must support forward chaining/deductive reasoning.

- **Connectivity** — There is support for HTTP, REST, SOAP, WSDL, and ODBC or JDBC, and usually the ability to connect to mainstream commercial off-the-shelf (COTS) applications.

- **Management and Administration** — This includes:
  - **Configuration and Management** — This includes configuring, deploying and administering the iBPMS platform and application artifacts, as well as version control in conjunction with the registry/repository, and security by application, user, role, group, department and function.
  - **Management and Monitoring** — This includes the capability to start, stop and manage the performance of processes and their associated components, as well as logging and managing audit trails.

- **Registry/Repository** — This stores and manages process-related runtime and design time metadata and artifacts. There are reporting and query (browse and search) capabilities, as well as version control (often working in conjunction with administrative tools). A holistic information model covers all essential aspects of the process but is also extensible. There are security controls on the registry/repository.

A leading-edge iBPMS frequently may have more features and functions — the feature list above is the minimal requirement. "Selection Criteria Details for intelligent Business Process Management Suites" has more insight into the essential and optional advanced capabilities of an iBPMS. It is important to focus on the capabilities your organization is likely to need. For example, is your organization ready to take advantage of greater collaboration around knowledge-centric processes? How vital is mobile access to processes today and in the near future? (See "BPM Reinvents Mobile Work."). How "real time" does your process awareness need to be? (In many instances, near-real-time BAM is good enough — sometimes even daily updates are fine.) The BAM, rule-processing and analytics capabilities of an iBPMS can be used to provide a substantial amount of operational intelligence to a business operation. However, an iBPMS is different from an operational intelligence platform product because the primary mission of an iBPMS is to support new processes or extensively changed processes (see "Commercial Operational Intelligence Platforms Are Coming to Market"). An iBPMS does not necessarily have to be a single product, but the various components should work together easily, and require minimal integration. The cloud is likely to become increasingly necessary to handle some of the more aggressive analytic workloads.
IBM's acquisition of Lombardi Software in 2009 was the key factor in its move into the top tier of the iBPMS market. Lombardi's model-based Teamworks product, now integrated with numerous other IBM (www.ibm.com) products, brought the ease of development and agility that was missing in previous IBM BPM offerings. IBM's Smarter Process initiative, a combination of product and marketing improvements first introduced in 2013, helped push IBM to the forefront.
of the Visionaries axis in Gartner's Magic Quadrant chart. This review applies to IBM Business Process Manager v8.5, Blueworks Live, Operational Decision Manager (ODM) v8.5, Business Monitor, FileNet Content Manager, Analytical Decision Management, Cognos Real-time Monitoring and Integration Bus.

Strengths

- Customers can implement a wide range of applications using the same product family. IBM is the only iBPMS vendor that supports a choice between a pure-play, model-based approach (Business Process Manager Standard Edition) and a middleware-centric, integration "stack" approach (Business Process Manager Advanced Edition).
- Blueworks Live and Business Process Manager's design, development, governance and administrative features are broad and deep. Process Designer supports integrated analysis, simulation and testing. Process Center provides extensive version control with collaboration and dependency management. Unique "Process Coach" UIs guide end users through unfamiliar or complex runtime tasks.
- ODM combines a first-rate business rule facility, obtained as part of IBM's Ilog acquisition, with CEP features from IBM's WebSphere Business Events. IBM Business Process Manager also leverages an array of IBM Business Activity Monitoring (BAM) and analytic products, some provided by the IBM Cognos Business Intelligence and the IBM SPSS teams.
- IBM products are fairly open, which enables developers to mix and match IBM products with software from other vendors. IBM supports most industry standards relevant to BPM, including BPMN 2.0, CMIS, PMML, WS-, JSR-286, JMS and JAX-WS.