



Visibility: The New Process Imperative

An Examination of the Third Phase of BPM Software, and the New Requirements for Adaptability and Visibility

June 2005

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The Third Phase of BPM

Over the brief history of the Business Process Management (BPM) software market segment, the competitive landscape has shifted from automation and integration to a value proposition based on orchestration and coordination.

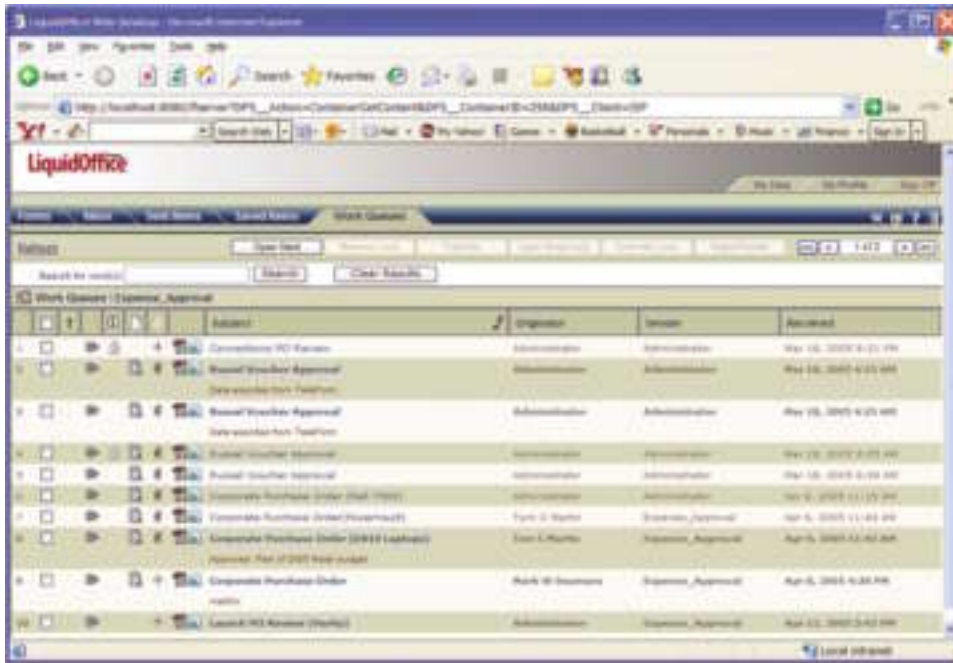
In its first phase, BPM offered one of the first real opportunities for enabling the separation of business management from systems management, through the abstraction of business and application logic. This most visibly differentiates BPM solutions from other categories of software, where policies and processes must be represented within application syntax, thus furthering the perennial 'IT/Business gap' that has become the greatest impediment to realizing business value from software investments.

As the BPM market has evolved over the past few years, one of the greatest benefits seen by BPM adopters has been significantly greater support for business performance: specifically the ability to align business goals and requirements with enterprise systems. This has been delivered in part through the functional ability of applying goals, policies and rules to business processes. As a result, process models are able to take on more precise and business-accurate definitions that much more closely mirror actual business requirements and business environments.

Building Adaptable Systems

Getting processes and process models in better alignment with business requirements, however, addresses only part of the equation. Business environments are dynamic, requiring the business systems that support them to be so as well. This means that systems must be able to easily adapt to changing business circumstances. This presents two other obvious requirements for BPM systems. The first is perhaps best defined as adaptability – allowing in-flight process models to adjust for evolving context and outcomes not easily identifiable in advance (and thus impossible to fully script within application logic).

Figure 1 - Verity LiquidOffice User Environment



Source: Verity

Most back-end and transactional processes, where exceptions are rare and nearly all parameters are known in advance, require stable systems capable of repeating the same process or transaction with as little variation as possible.

In contrast, most business processes are dynamic and driven by the unique context of a given moment in time.

Decisions on how to proceed and who should do what are most often determined by the outcome of previous steps in the process.

For this reason, it is often impossible to script in advance all the roles, routing and rules which define a process. Instead live processes must be able to adapt to changes in circumstances or decisions made while in-flight. In a similar manner, even with a fully-defined process where all roles, routing and rules are largely predetermined, there must still be the flexibility to support the appropriate access environment. The same activity may require different media depending on the context of a given process instance.

Managing business processes, particularly where human-to-human interaction is greater or equal to system-to-system interaction, requires support for a variety of form factors.

For example, despite decades of electronic capability, paper remains the media of choice for long-term storage of business critical record.

For instance, in one context an electronic signature may be sufficient, while under different circumstances paper-forms may be required (despite two decades of talk of the “paperless office,” paper remains the highest level of authenticity). Similarly, the same role may require access through email, electronic forms or a Web browser. This requires an abstraction between the process and its presentation layer, where access media is determined by process ‘state’ or context.

Adaptability must accommodate two basic capabilities:

- 1) to make decisions about roles and routing while in-process; and
- 2) to separate how a process is managed from the underlying information involved and the access medium (Web, e-form, etc).

BPM is distinct from previous and parallel technology, such as Workflow and EAI, by virtue of its ability to support business goals in this way. Specifically, this distinction comes from its ability to work within the growing *technology entanglement* (Web, email, et al) and to allow processes to be managed within the appropriate flow of work, rather than forcing businesses to limit processes and access models by the confines of individual applications.

Forward-looking visibility into real-time data and in-flight processes allows decisions and analysis to be made on current context, and avoids the traditional time-lag associated with process performance data.

From Audit Trails to Forward-Looking Visibility

Managing the dynamic nature of business process requires adaptable systems. Leveraging such systems, however, requires another ability not found in previous generations of BPM – forward-looking visibility. If you cannot see what is ahead of you, you cannot respond accordingly. The agility and greater reach gained through adaptable BPM systems necessitates more than simple audit trails and other backward-facing reporting abilities. It requires the ability to simultaneously see what has transpired, what will likely occur, and what impact it may now present for the near future.

If not yet convinced, consider the metaphor of travel by train versus by automobile. Train travel is generally predictable, and is certainly predefined or literally hard-wired in its route, as is scripted automation. As a result, one can reliably measure where a train is going by past results. In contrast, when traveling by car, past results offer no guarantee of future performance or specific circumstances. To assume otherwise could lead to dire consequences!

While the consequences may differ between managing processes and managing to the process of driving a vehicle, both endeavors nonetheless require accurate real-time feedback and situational awareness. Drivers need visibility of what is ahead of them and real-time feedback to make the decisions about routes, etc. In the same manner, leveraging adaptability requires visibility into process and business performance, as well as the ability to accurately assess the state of current events and circumstance, and the effect they may have on downstream process activities.

Situational Awareness and In-Flight Context

Forward-looking visibility involves access to real-time data about in-flight processes, allowing decisions and analysis to be made on current context, and avoiding the traditional time lag associated with archived process performance data. This also requires the ability to correlate in-flight process data and context with all business data — documents, orders, customer history and current status, etc. What has lacked in most BPM solutions, however, is an assessment of this context.

Transactional systems show status, not context. Traditional BPM and related performance monitors calculate transactions and specific data points, such as numbers of active orders or call volume or other easily quantifiable measures. However, these alone are very often insufficient for decision-making. This requires capabilities for capturing *situational awareness*, which had previously been the province of knowledge management and content analytic software. For example, within a purchase process a manager may need to confirm the history of a given supplier. This could be active requisitions, previous purchase orders, insight about the individuals and roles through which orders were placed, or identifying the date range during which the transactions of interest might have occurred. Specifically, it requires access to both structured and unstructured information from correspondences, e-forms, and transactional records — both “live” and archived, with the ability to distinguish associated context not explicitly apparent in data points.

The ability to perform English language searches against in-flight processes is a new area for BPM. Real-time transactional reporting and analytical capabilities miss this. They can be effective for flagging certain types of transactions or inferring context about aggregated numbers of transactions (such as trends, peak periods, etc). Yet they cannot find context within non-transactional/unstructured data such as email, correspondences, even operation process data (such as the collective fields which comprise an invoice or purchase order).

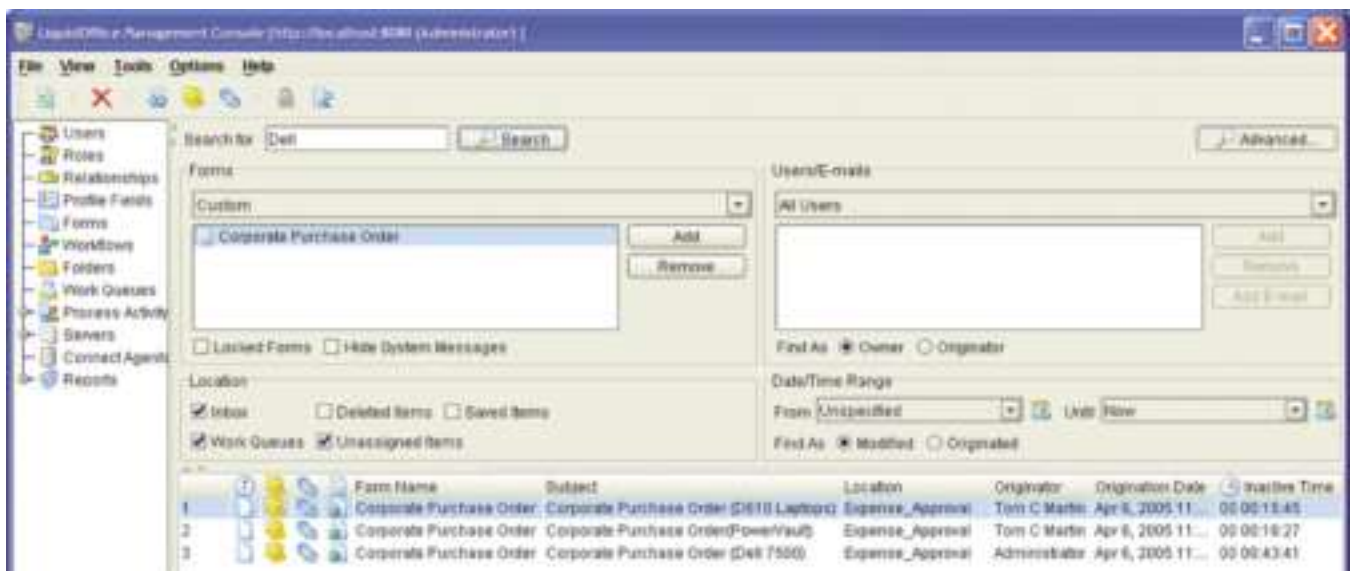
Although there have been tools available for some time to bridge the chasm of structured and unstructured information, this has been absent from the BPM arena. It is not sufficient to simply apply a search engine to BPM instance data. Gaining the situational awareness and real-time visibility within live, in-flight processes requires the ability to search and examine both process meta-data and operational data. Where available solutions have lack is in the ability to search or analyze the context and relationships simultaneously of both archived process data and the live information flowing through the process.

LiquidOffice from Verity

There are few successful attempts of integrating the capabilities of live knowledge capture and context extraction capabilities with process management, beyond those limited to transactional data. One of the only examples on the market today is LiquidOffice from Verity. As one of the longest-standing and most established players in the information retrieval and analytics space, Verity's LiquidOffice combines these capabilities within a process management environment. This is accomplished through the use of its Process Content Index that allows process meta-data (e.g., roles, workflows, activity status) to be indexed and retrieved in parallel with regular transactional data and unstructured information.

LiquidOffice provides the ability to search to both historic/archived and active in-flight information. Unique within this set of capabilities,

Figure 2 - In-Flight Search of Process Context and Content



Source: Verity

One of the key payback and ROI considerations for BPM is the ability to improve the performance of work that cannot otherwise be automated. Offering situational awareness and visibility into in-flight processes allows for workflows and activities to optimized in a real-time scenario, rather than having to wait for the completion of a process instance and having to analyze it in a historic context.

however, is the ability to execute queries not anticipated in advance. Executing ad hoc queries is common within information retrieval and knowledge management environments, but is far more difficult with BPM environments, where queries and reports must otherwise be pre-determined. This capability is enabled by the use of the Verity search engine (presented in Process Content Index) rather than having to rely on 'cubes' or data tables. The result offers much more visibility and access to information, allowing it to be leveraged in-flight for real-time decision making.

When leveraged in the context of adaptable, participant-driven process management (in contrast with scripted/automated) LiquidOffice's in-flight search ability allows processes to be driven by the context of the process while it is executing. For example, in the earlier purchasing scenario, a manager or purchasing agent may execute a query all of the in-process purchase orders anywhere in the company that are associated with equipment from a given vendor. The result set provided by LiquidOffice allows analysis and aggregation of likely purchases within a particular window of time. This can be used to commit to discounted bulk purchase at a discount, rather than treating each individually as one-off transactions. Similarly, another query may surface a problem with a given vendor or their products, changing the direction of the process.

Another example of how search and analytics can be applied to process management is found in the application of a Web-based self-service, such as using automated processing to follow-up from online customer inquiries. By completing an online form, existing or prospective customers can initiate an inquiry, which can then be routed to the appropriate individual based on its content (e.g., context- and content-driven dynamic routing) or otherwise allow for an automated response based on a pre-determined process. These are examples of how adaptable processes can be enabled by 'understanding' the context of how information flows using content extraction and analytics. In the same scenarios, however, visibility also comes into play by leveraging the Process Content Index to identify key trends or activities within live processes, allowing problems or opportunities to be addressed in-flight, before a process has run its full course.

Finding Payback Through Visibility

The degree of situational awareness that LiquidOffice is able to capture presents new areas for payback and ROI than found with earlier attempts at BPM. Continuing the purchasing example above, contract negotiation and enforcement processes can be significantly improved by allowing queries a key points to find other groups looking for similar resources or identifying opportunities where a consolidation of maintenance agreements can help to drive down hard cost savings.

Realizing these savings, such as the opportunity for dynamically organizing bulk purchases or finding an otherwise unidentified role to assist with live process, is only possible through the ability to analyze in-flight process context, correlated with both forward-looking expectations and previous events. Otherwise, opportunities to leverage current situational awareness are lost as context changes from one instance to another.

Verity LiquidOffice

Verity LiquidOffice is likely the first enterprise BPM solution to combine process management and automation with real-time information retrieval and analytics. This is based on the integration of Verity's well-established enterprise search capabilities.

LiquidOffice is targeted to both internal processes, such as expense reimbursement and regulatory compliance, as well as customer- and partner-facing applications through Web-based self service and collaboration.

LiquidOffice combines BPM with electronic form management and form-based data extraction, allowing paper documents to be included within processes as both images and data sources.

For more information contact:
www.Verity.com

Summary

Today every business environment faces a growing technology entanglement: the increasing capacity of networking technologies to integrate otherwise disparate and separate systems. It is no longer feasible to wrap processes and operations around the constraints of a single system. Rather, firms and processes today are found in an entanglement of email, Web, fax, and other tools for collaboration and connectivity. In addition, processes increasingly rely on information found within the systems of partners and customers, not under internal control.

This entanglement had been largely responsible for the growth of BPM as a software segment. Over the last 4-5 years, the BPM market has evolved around three areas of innovation which today comprise the core elements of the Third Phase of BPM software:

- 1) separating systems from the processes which they support;
- 2) aligning business processes and business environments through adaptable, context-driven process models, and
- 3) delivering the forward-looking visibility and feedback necessary to leverage the adaptability offered by process orchestration.

These qualities allow today's adaptable BPM environments to support processes which are dynamic and context-driven, rather than scripted or otherwise requiring all parameters to be predetermined.

To truly leverage the benefits of adaptability offered through orchestration, however, requires the situational awareness necessary to adapt business systems to a changing business environment – the ability to *sense and respond*. This is a key aspect value-driver for BPM and is central for realizing the business value it has to offer. This value maybe found in the success of objectives ranging from regulatory compliance to improving the quality and responsiveness of customer service and optimizing internal productivity. Specifically, it is realized through the ability to provide visibility into current work, correlating past and future events, and providing a framework for implementing decisions.

What sets Verity LiquidOffice apart from alternative solutions and approaches is the combination of process management for both structured and content-driven processes, with the ability to see beyond transactions and into the entire context of the process. ■

About the Author:



Nathaniel Palmer is Delphi Group's Chief Analyst and a thought leader in the area of business process software and management strategies. He was the first individual to be awarded the title of *Laureate in Workflow*, a distinction now held by business process professionals worldwide. Nathaniel can be reached directly via email at: ngp@delphigroup.com