Ready to Act: 3 Recommendations for Agile Processes

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Abstract

The next generation of business process optimization solutions features process agility: the ability to rapidly create, adjust, and optimize business processes. Beyond optimizing existing processes, companies that leverage technologies such as these will be ready to act when market opportunities or threats present themselves. This document details three critical recommendations for selecting and deploying agile process solutions: empower business users, bridge the silos of the enterprise content infrastructure, as well as tightly integrate content and process technologies for satisfying business needs, such as compliance and performance monitoring.

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Introduction

Business process re-engineering (BPR) is a relatively recent term, most often associated with the invigorated business models that appeared in the early 1990s as a result of the technology boom and as a response to foreign competitors' entrance to developed markets. Exemplars of the trend were organizations such as Dell, General Motors, and other Fortune 500 companies that began automating core business processes while eliminating those which added little business value.

One of the biggest paybacks, historically, from technology investments has been process improvements, and it is no coincidence that BPR initiatives gained traction during the technology bubble of the last century. Measured in shorter cycle times, better process consistency, or reduced overhead costs, the successes of process improvement initiatives are apparent, significant, and easily discovered through a simple Web search. Entire industries and consultancies have developed around process improvement methodologies, such as Six Sigma and Total Quality Management (TQM).

Unfortunately, the 21st century requires organizations to jump to the next curve yet again. To remain agile in today's globally competitive climate, businesses must emphasize process improvement efforts by re-engineering the improvement process itself. Unlike the costly and frustrating "back-and-forth" application development cycles of the 20th century, technologies should empower knowledge workers, analysts, and process owners to collaborate with IT more effectively for solution development, while addressing adjacent (but critical) business requirements, such as compliance and business monitoring.

> *Businesses must emphasize process improvement efforts by re-engineering the improvement process itself.*

This document examines the importance of process agility today and offers three recommendations for approaching enterprise-wide process improvement successfully:

- Empower business to collaborate with IT

- Federate enterprise information sources

- Tightly integrate content and process technologies to address business needs, such as compliance and performance monitoring

Why be Agile?

Before emphasizing the importance of process agility, one must understand what it actually implies. In short, it is *the ability of an organization to quickly respond to market strengths, weaknesses, opportunities, and threats*. There are numerous practical situations where process agility is highly desired, including:

- Introducing a new product or entering a new market

- Responding to competitors' entrance, success, or failure in a market

- Responding to changing customer demands

- Adjusting to market fluctuations, such as volatile Cost of Goods Sold (COGS), interest rates, or compliance regulations

Whether the need is to speed time-to-market, restructure the supply chain, or mitigate the threat of a new competitor, businesses understand that time is money and agility is gold. The question then becomes, why is there an imperative need to be agile today?

The Information Explosion

There is no doubt that the amount of unstructured information relevant to businesses continues to explode. Analyst and research firms estimate the amount of digital content in circulation will grow ten-fold by 2011[1]. Within organizations, this digital explosion has been driven by ever-cheapening storage solutions and business user-familiarity with common information creation tools.

Growth has driven an overall shift in business as well, as printed pages are migrated to electronic documents and as human-centric document management tasks are shifted to electronic workflow solutions. Organizations are increasingly changing their document-centric processes to focus on electronic-delivery first, with over 50% of business content created with this intention. As a result, the number of business documents delivered via the e-mail channel in 2006 already exceeded that of the print channel, a significant change from similar research conducted in 2004.[2]

Why is this shift occurring? Quite simply, businesses are trying to get a handle on the explosion of unstructured content – estimated by InfoTrends to represent over 75% of all business content.[3] Staying on top of high-volume processes and effectively scaling them today requires implementing these electronic document and workflow technologies (for those organizations that have not already). Beyond the needs of high-volume scenarios, electronic document and process management capabilities also lower the overall cost of doing business, an expense discussed in the following section.

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[1] IDC. *The Diverse and Exploding Digital Universe.* 2008.
[2] Duek et al. *Multi-Channel Communications: The Content Publishing Workflow Challenge*. InfoTrends, Inc. 2006.
[3] Ibid. Includes multimedia formats such as audio, video, images, and Flash animation. Textual and document-centric content, including PDFs and presentations, represent slightly over 50% of all business content.

The Cost of Documents and Document Management

Developed by ALL Associated Group and licensed by InfoTrends, the Electronic Document Assessment Methodology (EDAM) is a statistical model that quantifies the overall cost of documents within organizations. As part of this model, hundreds of document-related processes were evaluated across a range of industry verticals, including cost assessments of print, electronic and paper-based document management, as well as costs associated with tech support and administration of a document strategy. The results of the model are striking.

The average organization spends 6% of its annual revenue on document-related activities, such as printing, storage, indexing and filing, document retrieval, and hard costs associated with printing. In document intensive verticals, such as Government, this spend can amount to 15%-25% or more of an agency's annual operating budget. What is more striking, however, is the importance of process costs in this evaluation. At an average cost of 25-33 cents per page (printed and electronic), resources associated with document management functions – indexing, search, and retrieval– make up approximately 50% of the total!

Paper-based information digitization and search capabilities have certainly reduced these costs, but multiple information sources (and, therefore, searches) are still required. Customer data, order records, and supply management information may be necessary for the completion of a customer service task. Unfortunately, the productivity lost in retrieving, isolating, and syndicating relevant information from various IT systems remains a large burden for businesses.

By investing in Enterprise Content Management (ECM) and Business Process Management (BPM) technologies including content federation services, disparate information sources can be syndicated and filtered according to business needs in a user-

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Case in Point – Records Management

Records Management and e-Discovery are some of the greatest content challenges for organizations in the modern century, especially since the amendments to the Federal Rules of Civil Procedure (FRCP) were enacted in the United States in late 2006. Declaring all electronically stored information (ESI) as discoverable, the amendments created a perfect storm of business, technology, and compliance requirements.

Foremost, the digital "information explosion" required the same records management diligence as paper documents. The mass of business and business-related content required accurate and audited management, whether it was of Web, e-mail, or rich-media format. Moreover, much of this content was siloed and not easily indexed or syndicated by traditional search engines. As a result, organizations that were not prepared for the records management process – organizations that were not agile – suffered severe costs.

Although e-Discovery costs can be staggering and estimated at $2-$10 per document, many businesses ignore the opportunity costs inherent to ineffective records management. In fact, the opportunity cost of identifying, declaring, and classifying records (tasks that can be streamlined with content and process technologies) can quickly climb into the millions of dollars for large companies.

InfoTrends estimates that an employee identifying, declaring, and classifying one record per day will cost an organization $31.75 per year. The reality for most enterprises, however, is that several thousand employees may classify several records each day. In an organization with 1,000 employees declaring 50 records per day, which is a realistic proposition given the FRCP, the costs of this one aspect of the records process represents over $1.5M per annum.[4]

Combining a large quantity of content, a need to manage that content across siloed repositories, and a costly associated process or modern records management represents significant challenges for IT and business today, which can be eased through content and process solutions. Unfortunately, delivering these solutions has become increasingly difficult in light of the strain on IT.

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[4] Dazo et Duek. *Beyond Automation: Accelerating Processes with Classification*. InfoTrends, Inc. May 2008.

friendly, actionable interface. Such technologies can further reduce the overall cost of documents and document management as well as mitigate future costs associated with managing internal and external content and data silos. More importantly, these technologies can support the development of enterprise content solutions faster, thereby increasing agility – that is, speeding an organization's ability to respond to market requirements.

The Strain on IT

As a result of unprecedented information growth and the requirements for technology solutions, a tremendous strain is placed on IT departments. Unfortunately, this strain is not often matched by proportional resources, and IT becomes so overburdened with "keeping the lights on" that innovation becomes anemic. Business requirements for disaster recovery, compliance, process monitoring, and infrastructure monitoring have all been heaped on the department.

That said, the traditional development process has relied too heavily on IT skill sets and resources for menial tasks in light of the existing strain on the department. By involving process owners more deeply in application development, however, IT and business can focus on their core competencies. Process models can be developed at a high-level by business users under a common framework, which allows IT to develop the detailed solution without "reinventing the wheel." Content applications can be rapidly assembled and modified, sometimes by business users, using a "mash-up" framework. As a result, the strain on IT can be lessened and the buy-in from business strengthened. Moreover, it allows business to provide greater insight into critical needs outside the realm of IT's skill set, including governance, risk mitigation, and compliance (GRC) requirements as well as process monitoring.

**Process Application Development:
the Business and IT hand-off**

Historically, enterprise applications have been developed through a long-winded "back-and-forth" between IT and business consisting of five core phases.

Requirements phase
Business is often charged with developing content applications requirement, process diagrams, details, participants, and logic, which are submitted to IT. In turn, IT evaluates these requirements and provides recommendations based on IT resources and feasibility. A final document requires IT and business to "negotiate" on what the final product should look like and how it should function.

Design and development phase
IT takes charge in the design and development phase, transforming requirements into process diagrams and logic suitable for IT systems. Custom code and enterprise system connectors are developed during this phase. A basic application interface is constructed. Business will approve these deliverables, potentially requiring IT to develop or re-develop certain elements.

Testing & Deployment phase
Following IT testing protocols, business users evaluate the solution *in vitro*, communicating changes to IT. IT is faced with transforming these needs into application adjustments. This phase is notorious for "back and forth," where minor interface changes and process adjustment tickets pile up on IT's desk.

Post-deployment modification
After deployment, business or IT may require changes to the solutions, as requirements or IT resources may have changed. Once again, business places a strain on IT to quickly make these modifications.

Market Factors

There are a slew of market requirements that contribute to the need for business agility, such as:

- Faster product lifecycle and time-to-market requirements

- Decreased "reaction time" to market

- Increased competitive pressures due to globalization

- On-going business evolutions associated with consolidation, partnering, as well as mergers and acquisitions (M&A)

The fast on-boarding of legacy and acquired systems and content resulting from M&A requires special consideration for the success of a consolidated organization. Partnership agreements that require information integration are likewise more successful when content is syndicated and acted on quickly. Adapting processes to these scenarios with agility is the key.

In summary, although there are many competitive and market pressures at work today, there are three internal changes driving the need for business agility and nimble process management:

1. The explosion in business-relevant content within, between, and outside the walls of organizations

2. The high cost of information management in light of disparate data sources

3. The increasing strain on IT to "keep the lights on" while driving further process innovation and meeting core business requirements, such as compliance and process monitoring

> ### Case in point – Compliance
>
> Almost all organizations today are faced with compliance requirements. In a 2006 InfoTrends survey of financial services firms, only 1.2% of respondents indicated that their organizations were not liable for regulations such as the USA-Patriot Act, HIPAA, Sarbanes-Oxley, or other SEC regulations.[5] The reality is that a maelstrom of regulations affect every vertical, of course. Broader SEC regulations affect all public companies, and most vertical industries have specialized regulations, as well (e.g., USDA regulations for agriculture).
>
> Burdened with these new and evolving needs, however, IT is under heavy strain. As a result, a survey conducted by PriceWaterhouseCoopers indicated that 35% of senior executives admit to being out of compliance with Sarbanes-Oxley almost four years after its passage.[6]
>
> The issue of regulatory compliance illuminates a need to address business needs adjacent to most processes by tightly integrating content and process requirements. More importantly, it indicates a need to deliver on these needs quickly, a tough sell with the strain on IT.
>
> As this document argues, providing tools to empower business to collaborate with IT on these solutions can reduce the strain on IT and deliver greater process agility, thereby speeding the time-to-market (and updating) of these applications. This shift offers a dramatic competitive advantage in the ability to provide robust business process solutions faster and where resources were insufficient before.

In light of these needs, organizations must deploy ECM and BPM technologies that enable them to:

- Empower and involve business users in the development of process-centric solutions

- Quickly syndicate information from disparate enterprise and external data sources

- Tightly couple process and content capabilities to meet core business requirements for compliance or process monitoring

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[5] *US Financial Services Document Solutions Survey.* InfoTrends. 2006.
[6] "The State of Information Security 2006." CIO, CSO, and PriceWaterhouseCoopers. 2006.

Ready to Act – Three Recommendations for Agile Processes

Recommendation #1 – Empower Business

The strain on IT and a competitive need for business agility are directly opposed to one another. As a consequence, IT must choose between "keeping the lights on" and improving process efficiency, which generally results in slow application development and process innovation.

Challenges

Empowering business users with technology requires appreciating the differences between these users and IT, as vastly different skill sets, terminologies, and profit/loss-driven objectives separate these groups. While business users may not have polished coding skills or enterprise architecture experience, they are keenly aware of process requirements and workflow, dynamics and dependencies, metrics, as well as participants. In contrast, IT users will understand available resources and services, corporate development and deployment requirements, as well as the dynamics and dependencies of the IT infrastructure.

Required Capabilities

The good news is that the modern business user, although not necessarily a technophile, is considerably more familiar today with productivity applications, search, "drag and drop" Asynchronous JavaScript and XML (AJAX) interfaces, and consumer-oriented Web 2.0 elements (such as widgets and Really Simple Syndication [RSS] feeds). Taking advantage of these skills and a simplified process design framework, organizations can provide business with a tailor-made application for modeling, defining, as well as commenting on process and logic without confusing scripting requirements. On the back-end, IT can leverage a more-robust interface for custom coding requirements or integrations based on these business-driven concepts.

Application design should also be faster and more business-friendly, with the option to quickly "mash-up" an interface from enterprise data sources using Web 2.0 elements such as widgets and feeds. These mash-ups provide a solution to *ad hoc* processes where substantial application investment cannot be justified or automation is impossible. Moreover, they allow for personalized interfaces to be assembled for process participants based on role or task much faster and at lower cost.

Finally, centralized administration and monitoring tools should also be available in "business" and "IT" flavors. Where business will be interested in process performance, compliance metrics, and other relevant indicators, IT will require more technical data as well as a centralized view of all processes in context of the greater IT infrastructure.

Benefits

By empowering business, organizations can improve the steps needed to enhance the process itself:

- Less dependence on IT for solution development
- Greater buy-in from business process owners and participants
- Faster time-to-launch of new applications
- Mash-ups address the most ad hoc process needs

The Power of Enterprise Mash-Ups

Enterprise mash-ups are essentially whiteboards for the construction of enterprise applications. Content sources can be quickly and easily filtered, visually structured, and assembled on a mash-up platform. Alongside this content are actionable widgets for driving a process. Often, mash-up platforms provide "drag-and-drop"-like functionality for assembling these application collages of widgets, feeds, and other components.

- **Feeds** – these streams of XML-structured content are most commonly found in two flavors, RSS and Atom. Leveraging the consistent structure of feeds, their underlying content, and metadata can easily be syndicated, filtered, searched, or analyzed for use in a business process. Most blogs, for example, publish feeds to enable up-to-the-second publishing of content that can be easily syndicated with other news or content sources.

- **Widgets** – also referred to as portlets or badges, widgets are self-contained and portable applications that can be "dropped" on a mash-up application independently, dependent on application content, or even dependent on another widget. Often, widgets will syndicate underlying data sources, such as feeds with user input, although this is not a requirement. A widget may be as simple as a digital notepad or calendar application, or as complex as a sales forecasting tool that dynamically updates based on multiple sources of enterprise system and user input.

The potential for enterprise mash-ups to speed enterprise solution development is substantial, especially as data sources continue to adopt more consistent content structuring standards. By reducing the overall time and cost of solution development, mash-ups address the need for process agility.

Recommendation #2 – Bridge the Silos

Most enterprise business processes require content from multiple enterprise and external data sources for completion. The cost and time associated with managing these silos of information can be substantial. In addition, valuable or necessary data may be hidden or out-of-reach from these participants. To optimize these business processes, information must be easily and quickly filtered and syndicated for process participants.

Challenges

Due to legacy systems, technology and content inherited via M&A, as well as line-of-business investments, most organizations' content infrastructures are often siloed and disparate. Additionally, a slew of public and for-profit Web-based data sources create an additional source of potentially valuable process data. InfoTrends contends that due to on-going market and business evolutions, organizations will need to continue to adopt these silos of technology and information. Therefore, investments should be made in technologies that can swiftly integrate new and evolving data sources and systems.

Required Capabilities

There are effectively five categories of required capabilities for bridging enterprise content silos:

- A highly scalable ECM platform

- Support for a services-oriented architecture (SOA) through accepted standards, such as WS-*

- Normalization and federation services for creating an enterprise catalog of content

- Enterprise-wide search capabilities and records discovery tools

- Enterprise 2.0 syndication technologies, such as mash-up platforms, widgets, and content feeds

Organizations may not require all of these technologies to bridge their content silos when deploying BPM and ECM solutions. That said, technology customers should consider the availability of these capabilities in a provider's broader portfolio when making a strategic IT investment.

Benefits

Solving the problem of discrete information silos provides more complete access to process-relevant information. Content mash-ups improve access to this information in context of a process task and improving overall efficiency as well. Bridging these silos allows organization to develop new insight and make more informed decisions.

Content, content, everywhere!

Enterprise content silos represent a poignant problem when it comes to technology solutions and process improvement. After all, most processes inherently require content from multiple data sources and content repositories. A function such as customer service provides an excellent example. For assisting a customer, syndicating information from any number of data sources may be required:

- **Enterprise Content Management** provides access to unstructured business content, such as customer communications, corporate policies, and other documents. Federation services offer an enterprise catalog of this information, regardless of whether it is managed under the ECM repository or elsewhere (e.g., network shares, Microsoft SharePoint).

- **Customer Relationship Management (CRM)** may hold core customer data and information on prior customer service interactions.

- **Enterprise Resource Planning (ERP)** may hold important pricing information, inventory availability, or other supply-chain information.

- Other IT systems or information from third-party data sources (for example, credit rating agencies in the financial vertical) may also be required.

BPM capabilities provide the modeling, workflow engines, and logic to structure the customer service experience and drive progress. In addition to this automation, however, it is clear that process agility requires these content-centric applications to "mash-up" or syndicate information from a variety of content silos across the enterprise, another requirement preferably delivered through a combination of ECM and BPM.
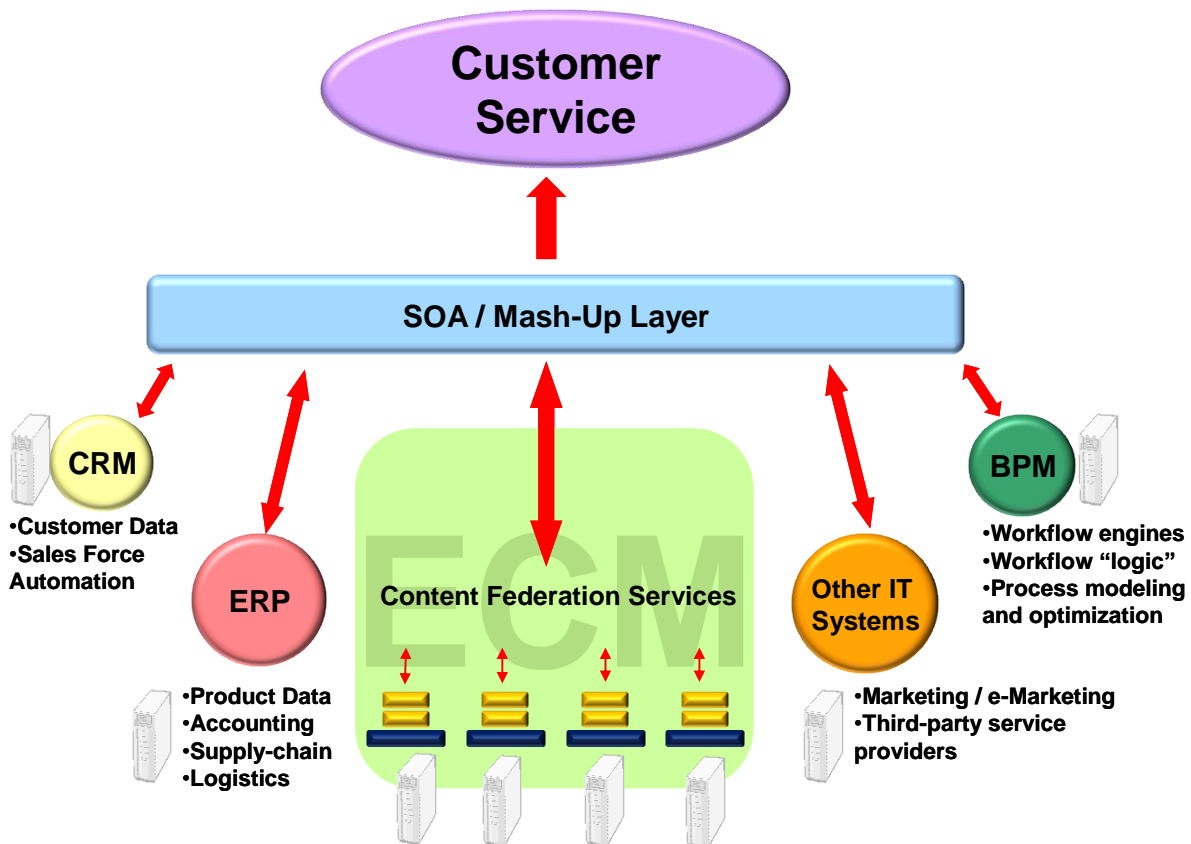
Recommendation #3 – Integrate Content and Process

This paper has stressed the importance of business-friendly process interfaces, mash-up platforms, and enterprise content federation technologies in evaluating content and process solutions. To truly address the breadth of enterprise requirements – such as compliance, records management, and process monitoring – organizations will also need to integrate these capabilities within applications. These requirements add to the strain on IT, creating cost and time impediments that must be considered when evaluating technologies. Achieving process agility requires an integrated approach from the start.

Challenges

Among compliance factors, regulatory, trade, and corporate governance requirements continue to evolve and become stricter. Content versioning and process auditing are today a must-have. Amendments to the Federal Rules of Civil Procedure (FRCP) in 2006 essentially declared all electronic information—including e-mail, Web content, and other formats—as discoverable. As a result, IT is burdened with a need to maintain and audit this mass of content as part of business solution requirements.

There are other business needs besides compliance adjacent to a given process, of course. Monitoring of key metrics and enterprise Business Intelligence (BI) are tightly correlated with successful process improvement practices. Process owners must be alerted to underperforming workflows that require remedy, and process analysts can use granular data to find ever more opportunities for optimization.

Regrettably, deploying solutions that provide these integrated content and process capabilities can be daunting. Custom scripts, ports, hooks, and proprietary code add a heavy cost and latency to enterprise solution development. Unfortunately, complying with enterprise requirements is rarely optional.

Required Capabilities

Technology customers should strategically select a BPM vendor and ideally a single platform that tightly integrates with ECM to provide the content and records services required in a given process. The underlying ECM platform should provide enterprise-class records management with support for a gamut of content types, including e-mail. Content federation and discovery technologies—such as those discussed under the previous heading—are also critical for bringing the mass of discoverable, process-centric content into a managed and compliant environment. On the BPM side, tools should include robust process administration and monitoring capabilities for monitoring performance, initiating workflows or alerts based on "trigger" metrics, and allowing IT to manage the use of infrastructure resources.

Benefits

Selecting a single BPM and ECM platform for the enterprise often implies a lower overall Total Cost of Ownership (TCO) and more consistent services and support expertise from the provider. There is also "one throat to choke," a desirable condition for customers intent on developing more complex solutions or scaling their platform. Other benefits are more closely related to the business needs themselves:

- Automation of audited notification, review, and approval workflows of business content as defined by compliance and records retention requirements

- Drastically lower risk-adjusted cost associated with e-Discovery

- Less reliance on employee understanding of adjacent needs (e.g., records retention schedules)

- Better visibility of process performance and compliance metrics

BPM in the Agile Enterprise

In the following Table, contract management needs are examined in light of an expiring contract, comparing a traditional approach to one powered by the ECM and BPM technologies described in this document.

	Traditional Approach	**"Agile" Approach**
Contract is approaching expiration date	• Knowledge workers keep track of contract expiration dates and renewal requirements • A high volume of contracts requires manual workload prioritization by knowledge workers	• Content "triggers" BPM to provide automated notification of upcoming expiration • Workflows are initiated when necessary, with high-value contracts prioritized for completion.
Contract analysis must be performed before renewal/retirement	• Knowledge workers search for and syndicate information from a variety of enterprise and third-party sources to establish contract performance	• Content mash-ups automatically syndicate information regarding the contract, including performance metric calculations
Contract must be re-negotiated for renewal	• Original contract and supplementary information may or may not be easily accessible • Knowledge workers take responsibility for appropriate routing and approvals of new contract, including retaining audit records • Changes to core contract may require substantial new analysis and time	• ECM provides a single source for contract information and supplementary information • BPM drives appropriate routing and approval workflow (based on contract content), maintaining audit records in the process • Changes to core contract can be quickly modeled using mash-ups and widgets
New contract is implemented	• Contract process owners take responsibility for monitoring contract performance metrics and adjusting business as required. • Contract and supplementary information must be manually archived and retained according to records retention policies	• Content mash-ups provide an actionable dashboard for all contract performance • Performance "triggers" driven by BPM can alert process owner or initiate new workflow • Integrated records management stores relevant content according to established policies

Although aspects of the contract management process could arguably be automated with traditional ECM and BPM technologies, the lower development costs, faster application launches and updates, and Enterprise 2.0 capabilities of "agile" ECM and BPM provide more consistent workflow automation, access to required information, and visibility into contract performance. As always, the intrinsic integration between ECM and BPM for content-centric processes cannot be undervalued.

InfoTrends' Perspective

The process optimization revolution of the 1990s was the foundation for traditional BPM solutions—aimed at well-defined processes and homogenous content silos. Today's differentiating BPM solutions are more agile and flexible, but they are able to address the full gamut of business needs, integrate with heterogeneous and evolving environments, as well as empower business users to collaborate with IT for process solutions development. Tight integration with ECM foundations is implicit in these recommendations as well.

The adoption of SOA and Enterprise 2.0 components implies a new generation of process optimization opportunities for businesses in all industries. Applications can leverage a multitude of enterprise and external content sources for their logic, but be developed in a flash. Processes can be monitored and adjusted, and their workflows can be altered faster than before. Beyond process improvement, the next generation of BPM and ECM improve process improvement, enabling true process agility, and refocusing knowledge workers on the value chain. Companies that leverage such technologies will be ready to act when market opportunities or threats present themselves in the future.