

June 29, 2007

Analysis

## Speeding Your Business Processes: Making Transactional Content Readily Available

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### Published by

Dynamic Content Software  
Strategies Consulting Service

### Abstract

To grow and accommodate the escalating pace of business, companies must be able to support a growing number of transactions and, therefore, transactional content objects. This doesn't just mean processing more data—it implies leveraging existing data, providing access to it in an easily digested form across and outside the enterprise, and using it more efficiently in intersecting business processes. This document examines the business and technological requirements involved, posing IBM's Content Manager OnDemand as a candidate solution.

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## Introduction

Executives and line-of-business managers are quick to pull out the name drops and acronyms when asked about business process improvement—“our BPR strategy uses a combination of Six Sigma and Hoshin-style planning, leveraging TQM metrics whenever possible.” Despite this management-speak, the attention paid to speeding and improving the accuracy of business processes underlines its importance in today’s environment.

For many years now, business process improvement has certainly been a critical focus for companies looking to increase top-line growth and bottom-line results. The cost containment initiatives of the early 2000s drove organizations to re-assess the efficiencies of their business processes. Metrics were established, workflows were consolidated and optimized, and cost visibility was made paramount.

In the context of today’s growing economy, companies continue to access business processes, but the focus has shifted from cost containment towards speed and responsiveness. Business process automation and “agile” strategies help companies respond to dynamic markets and organic growth opportunities. All in all, the purpose of more recent business process improvement initiatives has been to enable organizations to conduct more business more effectively.

Nevertheless, there exists a third driver for revisiting business processes today: risk mitigation and compliance. Particularly in industries like financial services, pharmaceuticals, and healthcare, the need for compliance has never been greater. Sarbanes-Oxley, HIPAA, and Gramm-Leach-Bliley have set a standard for data integrity, privacy, and security requirements. Regulatory boards and trade organizations outside these verticals are increasingly adopting similar statutes.

Most recently, the Federal Rules of Civil Procedure (FRCP) declared the discoverability of all electronically-stored information. Reaching far beyond the boundaries of any specific vertical, all public and private organizations must now wrestle with requirements for e-Discovery. As InfoTrends has noted in the past, the FRCP and similar regulations will inevitably force organizations to re-assess their records retention and archiving processes as well as search capabilities.

## ***Transactional Content***

Transaction-related content and documents, such as invoices, packing slips, and inventory reports, are at the heart of a company's operations, directly touching e-commerce, customer support, and back-office analytics and reporting. The demand for this information by an ever-growing number of users underscores its significance. Given the recent focus on business process improvement, access to and usability of this content should be re-assessed and optimized. To improve business processes and user productivity, organizations require technology to expose and leverage this content cross-functionally and externally, at times through several channels, in a secure manner.

Specifically, technology is required that includes the following:

- Fast, indexed search of transactional content, preferably across a range of enterprise repositories
- Cross-functional access to transactional content in easily digested and shared forms that match end-user needs and skill sets
- Client interfaces requiring little or no desktop installation or training for users
- Granular permissions capabilities for providing secure access to the information and for ensuring that only authorized users have access to confidential information
- Foundation for enterprise-wide archiving, compliance, and risk mitigation requirements

Finally, this solution must scale for the enterprise. In the context of transactional content, it should manage up to billions of report and statement objects. It must integrate with the greater IT infrastructure, including content repositories, ERP, and BPM systems. Additionally, data mining and analytics engines should be able to share content.

With such a solution in place, organizations can expect to yield substantial speed and efficiency gains in processes touching transactional content. A technological foundation for risk mitigation and compliance lays a framework for responding to existing and emerging requirements.

## **Key Highlights**

The key take-away points from this paper are as follows:

- Transactional documents are used in functions spanning the front and back office, particularly in areas such as customer service, sales, and back-end analytics.
- Despite this cross-functional need for data, existing solutions primarily exist in silos, limiting accessibility and usability to those specifically targeted by the solution.
- To improve business process efficiency, organizations should expose transactional content to internal and external participants, as appropriate.
- Moreover, they should provide tools for collaborating on transactional content and for supporting workflows that include it.
- Besides functional capabilities, supporting technology should easily scale for the enterprise, integrate with existing systems and applications through open standards and protocols, and provide a framework for risk mitigation and compliance requirements.

## Speeding Your Process: Exposing Your Documents to the People Who Need Them

One challenge with improving many business processes is that most IT infrastructures consist of functionally isolated applications and repositories that are not identical systems or technologies—the modern IT environment is heterogeneous. The processes themselves, however, may span several functions. Moreover, there is an emerging need to include a growing number of participants—including customers, partners, and suppliers—in these processes.

Consider the many technologies that support front-office and customer-facing content:

- Customer service / support databases
- Sales / CRM solutions
- E-Commerce solutions
- Enterprise portals

Although these solutions overlap in some cases (consider a customer service database with an embedded portal-like knowledge base), the majority of implementations are function-specific and were purchased with function-specific needs in mind. Generally speaking, these solutions directly support (and are directly managed and paid for by) specific departments. Although integration points are certainly possible, a lack of platform independence and accepted standards use hinder these connections, especially with respect to homegrown and proprietary solutions.

The same holds true for the many solutions that are specific to back-office business processes, including:

- Enterprise Resource Planning (ERP)
- Enterprise report management
- Archiving solutions
- Search and discovery solutions

Like customer-oriented solutions, these technologies tend to exist in a siloed fashion. Archiving is implemented separately for each set of content; search and discovery solutions are generally targeted at specific repositories and file stores. ERP and enterprise report management solutions are tailored for departments' specific needs, rarely intersecting with customer-facing departments, technologies, and applications.

Nevertheless, many business processes may rely on content from several front- and back-office systems for completion. Consider the customer service representative, who must investigate and act on a customer incident:

- A customer service database or CRM system may hold vital contact and order information
- E-Commerce and enterprise report management solutions may include information on an individual transaction
- ERP solutions may include inventory information related to the matter

Of course, depending on the customer need and internal IT infrastructure, a customer service representative may require data from other sources as well. The salient point is that exposing content to the right person at the right time (and in the right context) is critical for process efficiency.

This holds true for transactional content; bill and statement information can be used by employees for customer service, sales, and analytics, among other needs. Unfortunately and as implied earlier, a lack of management, transformation, and delivery tools for exposing this content across the enterprise has left it siloed and not easily accessible.

Complicating the issue is the fact that transactional content has value within and outside organizations. Documents may be accessed directly by a customer or supplier (via the Web) for self-service. Ultimately, these documents and content must be available through a call center or self-service Web site, via e-mail, in print, etc.

What happens when transactional content is not exposed and leveraged across an organization? Returning to our customer service example, consider the following implications:

- **Reduced user productivity:** Inaccessible and un-indexed data forces employees to hunt down the relevant customer information, potentially requiring the assistance of other personnel and departments
- **Reduced customer satisfaction:** The lack of self-service options and less productive customer-facing employees inevitably lead to lower customer satisfaction
- **Higher content management costs:** The lack of centralized storage, access, and archiving requires more resources to manage transactional content across several siloed repositories and departments

In many cases, content distribution via print remains the incumbent (albeit expensive and inefficient) option for business users and customers. Given the potential process benefits described above, however, it is clear that more efficiently and securely exposing transactional content across the enterprise is a wise investment.

### ***Beyond Exposing Content: Business Process Improvement and Risk Mitigation***

Making content accessible is only one step towards improving transaction-oriented business processes. One must also consider the needs of collaborative processes and enterprise requirements involving transactional content.

The ability to effectively search and annotate electronic content is a simple but crucial tool for effectively reviewing, routing, and processing transactional documents. Employees can search for indexed transactions that would otherwise be hidden among thousands or millions of others; they can quickly add their own comments or notes to the relevant transaction, which is thereafter stored in the system; and they can share the updated documents with co-workers for further action.

Automated workflow tools can also aid in speeding business processes. Statements and bills can be automatically forwarded to the appropriate departments or individuals for processing, annotations and notes can trigger specific workflows for correcting or reviewing incidents, and integrations with BPM engines and other IT systems can automate more complex needs that can take advantage of transactional content.

Finally, consideration must be given to risk mitigation and compliance needs. Unlike traditional business process improvements, risk mitigation requires establishing a process-centric backbone for retaining information, maintaining data integrity and privacy, and quickly identifying documents relevant to litigation and compliance. At the same time, however, this backbone should not interfere with or add to a user's daily tasks. The challenge for organizations is addressing these critical business requirements without hindering business process efficiency. Ideally, content solutions manage these processes transparently, providing administrative tools for aligning retention and archiving strategies with actual implementation.

In short, business process improvement strategies with a focus on transactional documents should consider all of the following:

- Transactional documents are used across the enterprise, and therefore require exposure across the enterprise for maximum business speed and agility.
- Tools for collaborating on transactional documents—including annotation and workflow solution—are imperative for optimizing business processes.
- Risk mitigation and compliance needs must be addressed for transactional documents without limiting or hindering end-users.

## Supporting Technology Requirements

Given the diversity of the IT environment and the need to expose transactional content securely across enterprise functions, what kind of technology challenges and requirements will companies face? Foremost, there is a need for platform independence and consistent use of open standards. Integrating with third-party content systems, user interfaces, and BPM engines requires documented APIs, Web services-based interfaces, and proven connectors to the most common platforms and repositories. As professional services are often required to implement these integrations, it is important to work through an experienced vendor or partner network for successful implementation.

Next, to support the many touchpoints to transactional content, an effective solution should provide several user interface (UI) options or the possibility to easily develop them. These UI options should consistently meet user needs and skill sets—customer service representatives will require much less robust (and less complicated) features than super-users and administrators. Light, Web-based interfaces will be especially critical for off-site and third-party access to transactional information, and specialty interfaces for reporting and analytics purposes may also be important. Regardless of the touchpoint, the need for document-level security across these interfaces is paramount.

Tools for transforming and rendering content to and from different formats are equally crucial. With respect to transactional content, a platform should be capable of capturing and indexing the most popular print stream formats (e.g., ASCII, AFP, PCL, PostScript) and transforming them into document and Web-centric standards such as PDF and HTML. In this way, print streams from disparately connected repositories (as well as other sources) can be centrally stored, searched, accessed, and archived.

Additionally, the following capabilities will also be important to support the business process improvements detailed in this report:

- Automatic indexing of documents and extraction of key metadata
- Comprehensive, granular search capabilities

- Capture and linking of related documents and other content (images, etc.)
- Template-based and ad-hoc data mining and report generation
- Tools for collaborating on content, including document overlays for commenting and annotation
- Workflow capabilities for processing and handing off documents as appropriate

Although comprehensive strategies and solutions must be implemented to address compliance with regulatory and trade standards, at the base of any solution should be a platform capable of records management and retention (including archiving) for transactional content. Such a platform should also provide a foundation for data integrity through structured security and permissions. As mentioned previously, this functionality should be made available without hindering a user's productivity. Finally and with respect to more recent e-Discovery needs, an appropriate solution should include federated search functionality for quickly identifying and accessing case-relevant documents and objects among archived content.

Lastly, scalability should be a concern for organizations dealing with thousands, millions, or even billions of content objects. A solution may address all of the business needs listed above, but it must be able to scale to offer these capabilities—indexing, searching, and data mining—at an enterprise level. Solution modularity becomes increasingly important under such scenarios; the ability to add and load-balance servers should not be underestimated.

## Providing the Backbone for Transaction Documents: IBM's CM OnDemand

To benefit from the business process improvement advantages discussed in this report, organizations should consider investing in technology to make transactional content more readily available throughout the enterprise. We offer IBM's CM OnDemand solution as a paradigm of the evolution in transactional content management and archiving solutions.

Of course, IBM's offering provides the functionality most commonly associated with enterprise report management solutions:

- Centralized capture and archiving of spooled and file-based content as well as scanned images—CM OnDemand supports spooled input in ASCII, EBCDIC, AFP, and PDF formats. It also supports DJDE, Metacode, and HP-PCL using Transform Technology.
- Fast, automated indexing of captured transactional content
- Transformation functions for converting spooled data into document-centric formats such as PDF, HTML, and XML for electronic distribution or online viewing

### Customer Service Value

As a customer service solution, IBM Content Manager OnDemand (CM OnDemand) offers a central archive and access point for transactional content. Customer service representatives can access customer data on-the-fly, add notes and comments to specific transactions or pages, and distribute electronic copies of reports for further action. Federated search capabilities assist representatives in finding relevant content in repositories spanning the enterprise.

Although the IBM Web Interface for Content Management (IBM WEBi) interface may be used to provide access to CM OnDemand content, the ODWEK API provides the capability to create more custom touchpoints for this content, directly integrating with existing customer service applications. The API can also be used to create an electronic bill presentment layer for Web-based customer self-service.

Finally, integration with analytics systems provides a better understanding of the customer, and, together with personalization solutions, can deliver a more relevant experience on the Web, through a call center, or via e-mail.

The platform itself uses a modular architecture to scale for enterprise needs. CM OnDemand object servers can be added to support additional content, while a central indexing engine manages the content across object repositories. As with most enterprise report management solutions, CM OnDemand includes document-level security and permissions controls.

### ***OnDemand Web Enablement Toolkit (ODWEK)***

Beyond ERM, the IBM platform addresses the business and technology requirements discussed in this report. Its platform independence is highlighted by the CM OnDemand Web Enablement Toolkit (ODWEK), which provides a Java-based API for interacting with CM OnDemand content. With the toolkit, organizations can develop interfaces and connectors for the repositories, servers, and applications that make up today's diverse IT environment:

- E-Commerce systems can use the API for electronic bill presentment capabilities
- Customer databases, Sales, and CRM systems can poll transactional data for use in customer-facing activities or for presentment to representatives
- Back-end analytics and reporting applications can extract current and archived data from the CMOD repository

Custom user interfaces are certainly possible given the ODWEK API, but IBM offers its own Web Interface, IBM Web Interface for Content Management (WEBi) as well. IBM WEBi provides browser-based access and navigation to users and IT administrators within a thin client. The client itself incorporates the most commonly used functionality for the "casual" user (e.g., a customer service representative). Organizations can feel free to customize the look and feel of the UI with "skins" incorporating corporate branding.

### ***IBM WebSphere Information Integrator Content Edition (WEBSHERE II CONTENT EDITION)***

The ability to expose content to employees, customers, and suppliers is only one part of the equation, though. CM OnDemand also includes tools to speed business processes by providing tools for faster and better utilization of transactional content. Its WebSphere II Content Edition offers federated search of IBM repositories as well as those of the most common content management providers:

- IBM's Content Manager, WebSphere, Lotus Notes®, and the recently acquired IBM FileNet P8 content management solution
- EMC's Documentum
- Open Text's Livelink and Hummingbird repositories
- Stellent's Content Server
- Interwoven's Team Suite

Using the APIs of these third-party offerings, WebSphere II Content Edition is able to normalize and federate search results of multiple repositories in one results window, using a virtual folder system to help users work with search results. Security is provided through integration with LDAP or Active Directory, with permissions handled by the third-party repositories themselves. By giving users search capabilities



across the enterprise from within CM OnDemand, WebSphere II Content Edition speeds business processes where content from disparate locations must be utilized.

At the same time, however, the WebSphere II Content Edition component goes beyond search functionality. With the APIs of third-party content solutions, WebSphere II Content Edition can be used for records management needs across the enterprise. Coupled with IBM Records Management, organizations can implement comprehensive records retention strategies, using WebSphere II Content Edition as the glue between enterprise repositories.

Moreover, it offers the ability for these third-party solutions to take advantage of content within their own solutions—for example, IBM's FileNet P8 solution can include CM OnDemand content in its BPM workflow engine.

### ***Collaboration and Analytics***

For cross-functional collaboration involving transactional documents, CM OnDemand supports the option of commenting on content. Customer service representatives, sales team members, and other participants can keep track of explanations or comments for indexed transactions or pages. Removing the need to look up these comments in separate repositories—or to solicit input for other departments and personnel—greatly increases user productivity. It also speeds customer-facing processes and, therefore, customer satisfaction.

Report creation and analysis tools can be purchased separately and integrated with CM OnDemand. A point-and-click analytics feature enables users to create exclusive reports as well as reporting templates, which can easily be reused. Although output can be directed to a third-party repository or application, the solution also outputs to standard spreadsheet formats such as 1-2-3 and Excel.

### ***IBM CM OnDemand and Enterprise Content Management (ECM)***

Organizations are increasingly acting on the diversity of the modern IT infrastructure by implementing technologies that easily integrate through the use of open standards, documented APIs, and Service-Oriented Architectures (SOAs). Within the context of a greater ECM strategy, CM OnDemand can play an important role:

- Centrally managing, indexing, archiving, and providing access to transactional content coming from multiple sources, including scanned documents and images

#### **Report Management Value**

As a report management solution, CM OnDemand can function as a hub of transactional content inflows. Able to capture and index millions of content objects per hour, the solution gives users fast access to transactional content with its integrated search functionality.

Electronic distribution of reports saves paper and time, and CM OnDemand includes transformation functions for spooled content, breaking up streams into respective documents and pages. Output formats include HTML, PDF, and XML, which can be easily shared via e-mail or the Web.

CM OnDemand also acts as an archiving solution, one that can function as a replacement for microfiche or COLD systems. The platform includes support for magnetic, tape, and optical media as well as compression for making full use of the media.

Finally, integration with analytics and report mining tools extend the value of transactional content by offering insight into customer and supplier behavior and trends, feeding critical information to decision-makers.

- Exposing content within the repository using the Java-based ODWEK API, which allows third-party applications and IT systems to interact with this content in context cross-functional business processes
- Uniting content from other repositories for search and records management purposes. The latter responds directly to existing and emerging needs for risk mitigation and compliance.

CM OnDemand provides these capabilities in a scalable, platform-independent architecture.

## InfoTrends' Perspective

To remain profitable and accommodate the escalating pace of business, companies must be able to support a growing number of transactions and, therefore, facilitate access to a corresponding number of transactional content objects. This doesn't just mean processing more data—it implies leveraging existing data within a wide range of documents and reports, providing access to it in an easily digested form, and using it more efficiently in intersecting business processes.

After all, many business processes—from customer service to analytics and executive management—utilize transactional content. Although most of these processes have historically been conducted within organizations, customers are demanding more transparency to this information through self-service means. Unfortunately, this information is only selectively or minimally exposed across (and outside) organizations today.

A platform like IBM's CM OnDemand can capture, index, and transform this information, exposing it through a variety of UI and application integrations. As part of a comprehensive ECM strategy, CM OnDemand can help organizations leverage their data across functions and touchpoints, driving customer satisfaction and increasing business user productivity.

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