

Relieving the Paper Burden - A Case Study

Relieving the Paper Burden - A Case Study

By William Neale

© 2007 TechTarget

BIO

Bill Neale, an IBM Compliance Product Marketing Project Manager, has over 30 years' experience in document management and imaging and is an internationally recognized expert in the standardization of information and image management. Neale has chaired numerous AIIM standards committees and is a member of the U.S. Technical Advisory Group for international standards in Enterprise Content Management (ECM). He is also the Convenor of Working Group 2, Subcommittee 2 of ISO TC171. He is a member of the AIIM International Board of Directors and Standards Board and has served on ARMA International's Standards, Publications, and Nominating committees. Neale received AIIM's Distinguished Service Citation, the Thomas C. Bagg Life-Time Standards Achievement award, and AIIM's Award of Merit—the association's highest honor. He is a member of AIIM's Company of Fellows and a former Certified Records Manager.

This *IT Briefing* is based on a IBM/TechTarget Webcast, "Relieving the Paper Burden - A Case Study."

This TechTarget *IT Briefing* covers the following topics:

• Executive Summary	1
• Introduction	1
• Project Questions	2
• Records Lifecycle	3
• Analysis of Transition.	3
• The Case Study	4
• Methodology.	5
• Key Findings	6
• One Copy Versus Many Copies	7
• Discovery Risks.	7
• Security Risks	8
• Costs	8
• Legal Discovery Costs	9
• Investment.	9
• Savings	11
• IBM ZeroClick Records Declaration Savings	12
• Records Administration Savings	12
• Legal Discovery Savings	12
• Paper Storage Savings	13
• Electronic Storage Savings	14
• Total ZeroClick Savings.	14
• Conclusion	15
• A Call to Action	16

Copyright © 2007 IBM. All Rights Reserved. Reproduction, adaptation, or translation without prior written permission is prohibited, except as allowed under the copyright laws.

About TechTarget *IT Briefings*

TechTarget *IT Briefings* provide the pertinent information that senior-level IT executives and managers need to make educated purchasing decisions. Originating from our industry-leading Vendor Connection and Expert Webcasts, TechTarget-produced *IT Briefings* turn Webcasts into easy-to-follow technical briefs, similar to white papers.

Design Copyright © 2004–2007 TechTarget. All Rights Reserved.

For inquiries and additional information, contact:

Dennis Shiao

Director of Product Management, Webcasts

dshiao@techtarg.com

Relieving the Paper Burden - A Case Study

Executive Summary

The “Paperless Office” has been one of the most elusive goals of many business innovators over the last twenty years as organizations look for ways to reduce costs and risks that are inherent in most paper-intensive processes. Many have reduced the amount of paper with a sound Return on Investment (ROI) from improved business processes, implementing document management solutions that scanned paper into digital images. Yet many of those same companies continue to use paper in their day-to-day business operations, storing the paper either internally or with expensive records storage companies. As a result they continue to face tremendous costs in processing and storing the paper, particularly in the area of legal discovery. Organizations also find that the risks associated with paper records have risen significantly over the last few years along with the costs and frequency of lawsuits. More audits are being required for regulatory requirements, imposing increased reporting and transparency into key business processes. All of which are inhibited by the burden imposed by paper records keeping.

IBM suspected that while many business functions have become automated and less paper intensive, organizations have not recently examined the savings and risk mitigation opportunities now available. Labor, storage and legal costs have risen, while the costs of Enterprise Content Management (ECM) and Electronic Records Management Software (ERMS) have declined, as have electronic storage costs. The automation capabilities of new technologies have also enabled innovative savings through improved process efficiencies when coupled with Business Process Management (BPM) software. IBM joined with a large commercial bank customer and conducted a Return on Investment and high-level risk analysis at the bank, focusing on nine departments that were still using and storing a great deal of paper with a commercial records center vendor. While the bank already used IBM ECM technologies, these departments continued to print out electronic records such as word processing documents, spreadsheets, web pages and screen prints, and then use the paper in

their core business processes, paying to store it with a third-party vendor once it became inactive.

The IBM study examined costs associated with maintaining the paper files, storing and then eventually destroying them. Other costs included legal discovery expenses incurred from paper-based business records. The investment the bank would make to get the cost and risk benefits included IBM hardware, software and professional services and were included in the detailed ROI model. The study showed a potential **year-one savings of \$11 million, or \$36 million over a three year period, for a potential 263 percent ROI.** In addition, ways to **mitigate most of the risks** associated with paper records were identified using technology to enforce compliance. This white paper provides an overview of the study and its conclusions. More information can be found at www.ibm.com/software/ecm/nopaperweight.

Introduction

Organizations face tremendous challenges in meeting the regulatory compliance issues driven by legislation, auditors and litigation—challenges that carry significant cost and risk burdens. A considerable compliance problem can be paper-based information still used in business processes, and then stored internally or with commercial record centers (CRCs). The continued use of paper to record critical business transactions can weigh an organization down with related expenditures and risks and can inhibit visibility into core operational processes.

Solutions for these challenges demand a sound records management approach to controlling the documents and other content that help organizations achieve, sustain and improve compliance. Many risks and costs can be mitigated by using advanced electronic records management systems as part of an enterprise content management platform for managing electronic and physical records.

The IBM ECM compliance platform leverages records management, business process management and related software capabilities to assist with enabling

the proper controls. This document discusses how the results of a significant study by IBM identify many of those burdens and how to reduce paper compliance costs.

Project Questions

IBM wondered why organizations continue to suffer with the weight of paper when advances in technology can enable them to capture electronic content in its native format and digitize the remaining paper. Well-established Enterprise Content Management technologies can provide tremendous productivity gains, a rich set of metadata for auditing, analysis and reporting, and significant savings opportunities—all while helping organizations better meet today's compliance requirements. IBM suspected that no one had recently examined the new compliance dynamics and other factors to determine the true cost of managing paper records, much less the potential return on investment that might be available. The basic questions asked in IBM's analysis were:

- ***How do the new economics of compliance, combined with technology advances, enable transformation of physical records storage?***
- ***Does this same dynamic also enable new methods of business intelligence?***

The late 1980s and 1990s saw a tremendous growth in the use of electronic images to replace paper records. The expansion of imaging use was justified based on the productivity gains and cost reductions realized by automating paper-intensive processes. Organizations took advantage of the technology and as a result many use electronic images for those business applications. Most, however, continue to use paper in other business processes, storing it in their own record centers or with a commercial company. They have not revisited those processes to determine if there are new cost savings, and have become complacent about the paper that is “out of sight, out of mind.”

Many new factors now impact the cost and risk of doing business with paper. New technology has enabled the automated capture of content and automation of the business processes that use it. In addition, IBM Records Management software provides new automated compliance capabilities to manage records retention, legal discovery and audit-

ing requirements for both paper and electronic records. At the same time, organizations can utilize business process management technology to monitor exceptions, track usage and provide greater insight into the way an organization does business, providing new reporting and metrics not available in paper-based processes.

The volume of content that must be managed is growing exponentially and part of this content still includes paper. Organizations have tried to achieve the paperless office, and despite the proliferation of the computer, more paper is produced than ever before and the costs of storing and using it have risen as well. In fact, studies show that over 80 percent of paper content used by organizations is “born digital,” such as reports, word processing documents, spreadsheets, e-mail messages and presentations. Using paper in business processes means slow retrieval times that affect customer service and cause a tremendous loss in business and user productivity. Other dynamics have changed since initial studies identified the efficiencies that many paperless processes now enjoy. The cost of labor, space and commercial record center (CRC) services have risen, while software and hardware costs have steadily decreased over time. And tremendous improvements in technology have enabled compliance enforcement across the enterprise while reducing costs and mitigating risks.

There has also been a rise in litigation, with most large organizations involved in hundreds of cases at any given time. Better discovery tools are therefore demanded by plaintiffs, defense attorneys and judges. Locating paper content relative to a lawsuit or audit is extremely difficult, expensive, and can often result in fines and sanctions if physical records cannot be found. On the other hand, the advanced research tools available from IBM can make searching for and retrieving electronic content extremely successful while meeting the requirements found in the new Federal Rules of Civil Procedure.¹ IBM Records Management solutions can ensure that records are destroyed on time, but not before their time, as well as suspend destruction in the event that content is required in a legal or regulatory discovery order, known as a “hold” or “preservation” order. This lowers cost because there is less to search through.

1. For a copy, click: [U. S. Federal Rules of Civil Procedures](#).

Business Processes	Transition	Records Lifecycle	
<ul style="list-style-type: none"> Natural or man made disasters Increased litigation and related discovery issues Volume of Records increasing Competitive environment demands higher levels of customer satisfaction Increase in data theft demands better security Fines and Penalties incurred for non-compliance 	<ul style="list-style-type: none"> Natural or man made disasters Volume of Records increasing Increase in data theft demands better security Records may not be captured, or not indexed correctly 	<ul style="list-style-type: none"> Natural or man made disasters Increased litigation and related discovery issues Volume of Records increasing Increase in data theft demands better security Fines and Penalties incurred for non-compliance Records not destroyed, too soon, too late, or not at all Difficult to locate records for users retrieval, discovery 	Risks
<ul style="list-style-type: none"> Labor costs for processing paper increasing Business Processes require Re-engineering Costs of storing paper rising Cost of legal and audit discovery rising Volume of Records increasing Shareholders require cost cutting Need to reduce costs and improve efficiencies 	<ul style="list-style-type: none"> Labor costs for processing paper increasing Costs of storing paper rising Volume of Records increasing Transportation and Retrieval fees rising 	<ul style="list-style-type: none"> Labor costs for processing paper increasing Costs of storing paper rising Cost of legal and audit discovery rising Volume of Records increasing Records past retention period 	Costs
<ul style="list-style-type: none"> New reporting and auditing requirements Increased litigation and related discovery issues Volume of Records increasing Difficult linking paper to transaction Difficult to analyze and improve user productivity Inability to truly understand business and processes 	<ul style="list-style-type: none"> Volume of Records increasing Weak audit trail and chain-of-custody 	<ul style="list-style-type: none"> New reporting and auditing requirements Increased litigation and related discovery issues Volume of Records increasing Poor visibility into box contents Weak Audit trail and reporting Weak chain-of-custody 	Visibility

Figure 1 - Key Business Challenges

IBM suspected that paper-based records placed a large burden on companies in terms of risks and costs, while simultaneously hindering visibility into business processes. Figure 1 shows some of the key challenges that occur in records lifecycle phases, each with inherent risk, cost and visibility issues. Some of these challenges share the same risk, such as difficulties in searching paper records and securing them, while others have unique issues such as the cost of lost productivity. IBM believes that many of these issues can be mitigated by a sound ECM platform such that only the two items in red—*“competitive environment demands higher levels of customer satisfaction”* and *“business processes require re-engineering”*—will remain after implementation.

Records Lifecycle

The records lifecycle consists of three phases:

- Business processes: Content that may or may not be formal business records is produced and used in various business processes.
- Transition: Paper records are routed to single points of consolidation where they are boxed,

labeled and indexed by either internal staff or the commercial records center.

- Records management: This phase involves the management of records from the time they become inactive to the time their retention period has expired and they are destroyed. In this phase, paper records are returned to the business unit if needed, and vital records are given extra protection.

This lifecycle is shown in Figure 2.

Analysis of Transition

The “No Paper Weight” analysis first focused on the transition phase of the records lifecycle for suspected significant savings potential; however, most of the savings and risk reduction was in the business process phase where workers print, copy, label, bind and box paper records throughout various business processes. Figure 2 illustrates the transition of paper records from their creation and use in the business units to consolidation at a single point to the storage and eventual destruction.

Line of Business Processes	Transition	Records Lifecycle Management
Where Records Are Made	Traditional Active/Inactive Model	How Records Are Managed
<ul style="list-style-type: none"> ■ Statements ■ Consumer lending ■ Claims processing ■ Underwriting ■ Collections ■ Customer service ■ New account onboarding ■ Project management ■ Case management 	<ul style="list-style-type: none"> ■ Single point of consolidation for transfer ■ Event or process causes worker controlled files to move to file room or warehouse CRC ■ Tracking/indexing with Excel or a database 	<ul style="list-style-type: none"> ■ Retention (time and event based) ■ Legal holds ■ Legal discovery ■ Security and privacy ■ Vital records review ■ Long term preservation ■ Disposition

Figure 2 - Records Lifecycle

CRCs have various fee structures for provided services. When records are first consolidated and shipped to the CRC, there are usually pickup fees and transportation charges, storage box and container costs, and other charges. When records are requested, as in the bank case study that was integral to the project, the CRC often charges to retrieve records from the shelf and transport them, and then charges to pick up those same records again and return them to the shelf. In some instances, a fee may be charged to keep the space open or reserved on the shelf, even though the box is currently at the customer's location. In addition, 95 percent of most organizations' records are eventually eligible for destruction, and most CRCs will provide destruction services for a fee.

The consolidation of paper records for transfer to and from CRCs can be a source of many risks, costs and other issues, including:

- Paper records are subjected to loss from fire, theft and other disasters. In many instances, the paper is the single source of the information contained

on it, representing a potential single point of failure.

- It can be difficult to locate paper records required by auditors and regulators for a legal battle.
- It is difficult to prove a chain of custody showing ownership and tracking throughout the record's lifecycle, and even more difficult to prove a link from the paper records to the transaction of business processes that created and used them—a key requirement for compliance.

The lack of a sound tracking mechanism and the inability to locate records can be a real challenge to organizations that need to understand and use this information for key business decisions and in response to legal proceedings.

The Case Study

Like many of IBM's customers, the study's bank was looking for ways to better address compliance issues while reducing the cost. The bank primarily focuses on commercial accounts and has over 300 branches

and 10,000 employees. They are a heavy user of IBM technology, including business process management and imaging solutions to scan much of the paper used in their work for substantial productivity gains and ROI. While some business units utilize these automation strategies, the bank continued to have many paper-intensive processes, storing paper records until retention periods have expired. They recognized that they had already automated many of their processes, and legal audit trails and other reporting requirements could not be met with paper-based processes. When IBM approached them about the study, they readily agreed to let IBM study their costs, risks and visibility issues to see if they could reduce their compliance expenditures.

Methodology

The initial focus was on the Transition Phase: the processes around collecting the paper records and boxing them for shipment to the CRC, targeting the various fees associated with storing and retrieving paper records. IBM also considered the cost of managing the records throughout their lifecycle, including eventual destruction. The study considered how

using IBM ZeroClick technology to manage the content throughout its lifecycle and automate records classification, retention and review processes could provide even greater benefits and risk reduction. The analysts recommended that the born-digital content be captured in its electronic format and no longer printed and stored as paper. The remaining paper would be digitized in both a centralized and distributed environment, utilizing the bank's existing scanning capability as well as additional equipment. IBM also looked for ways to improve various business processes that use paper and the potential savings that could result.

The focus areas of the study included subject areas for analysis, sources for data and targeted business areas, as shown in Figure 3.

IBM's first step in the analysis was to request a report from the CRC's database to use in targeting the departments that stored the most paper. The analysis then focused on the nine business units listed on the right in Figure 2, and on the Records Management department. IBM consultants met with representa-

Analysis Subjects	Sources for Data	Targeted Areas
<ul style="list-style-type: none"> ■ Processes and costs of transferring records to and from the CRC ■ Records Lifecycle Management ■ Legal discovery costs ■ Potential savings from electronic records management 	<ul style="list-style-type: none"> ■ Commercial Record Center database ■ Bank reports and studies 	<p>Nine business units across eleven locations:</p> <ol style="list-style-type: none"> 1. Trust operations 2. Legal process 3. Financial investigations 4. Cash vault 5. Legal division 6. Commercial loan and trade 7. Trade operations 8. Consumer asset management 9. Business credit center

Figure 3 - Analysis Focus

tives from each business unit and reviewed the paper flow in their organization, from how paper originated to how it was eventually sent to off-site storage. Bank personnel were able to supply a great deal of information, such as the labor breakdown and costs in each unit, the volumes of documents stored, retrieved and destroyed, and efficiency studies. The CRC report was used to look at volume, destruction practices and costs, as well as other key factors. The availability of this kind of detail made the analysis easier and more accurate. IBM consultants also met with representatives from the legal department to understand their compliance issues and concerns, as well as the cost of legal discovery.

Legal discovery costs for paper records included the costs of the bank's legal and other staff, the cost of outside law firms and discovery companies, and the various fees charged by the CRCs. Once the ROI model was drafted, it was returned to the respective business unit for review and comment to ensure accuracy. The next step was to identify the many cost and risk factors the bank had in doing business in a paper world. The bank provided the salary ranges for the various positions that were involved in the processing of paper records throughout their lifecycles. Labor rates included a 30 percent burden rate to account for benefits and other overhead. This enabled IBM to determine the cost for performing various paper-related tasks. These tasks included file maintenance or "paper shuffle" tasks, defined as opening mail, printing documents, making copies, preparing file folders, filing documents, and locating and boxing records for shipment to the CRC. The cost of supplies and equipment such as large mobile filing storage shelves was included, as well as the office space used for storing records during their active stage prior to being moved to the CRC. IBM also identified the incremental costs that would be incurred by the bank if they added to their existing IBM infrastructure to realize the ROI and risk reduction benefits. This included IBM ECM software, IBM hardware such as storage and servers, and professional services.

IBM determined that some data points would be very time consuming to analyze, and that they did not have sufficient data for analysis in other cases. For example, there was insufficient data regarding the availability and use of multifunction devices (MFD) that print, scan and copy all in one device. So, while IBM knew that high-speed scanners would be needed in these centralized scanning environments, they did not analyze the use of MFDs for ad hoc or small departmental scanners. They also did not include:

- Any potential savings from using a third-party conversion services company for either a backfile conversion or day forward approach
- A process analysis study to identify the additional savings available from process re-engineering or workflow technology, typically a 20 percent to 50 percent productivity gain
- A complete risk analysis in which value was assigned to specific records and monetary costs that the bank would experience with the records lost or compromised

Key Findings

The analysis of the CRC's report showed that 80 percent of the records stored there came from 20 percent of the business units. These high-volume business units were the target of the ROI analysis, and were where IBM found the biggest ROI and risks.

The targeted business units routinely generate hard-copies of spreadsheets, e-mail messages and attachments, reports, web pages and even screenshots from legacy computer applications. The printed documents are used in core processes of the business units, resulting in tremendous paper shuffle costs. Once these paper records become inactive, they are boxed and shipped to the CRC where the date of the content is written on the box—*the only form of indexing used*. The bank therefore has thousands of boxes from one business unit stored with virtually no index to the content other than the date and the department that stores it.

IBM asked why the bank prints the paper and keeps it when the content is available in electronic formats that could be searched and retrieved. The legal and compliance staff said they knew of no laws, regulations or bank policies that required them to keep the paper records. The business unit owners said that in most instances they kept the paper for the auditors. When consulted, the auditors indicated they needed to be able to see highlighting, handwritten notes, sticky notes and similar additions. As a result, IBM identified the need to educate the auditors on how those capabilities are available with electronic images. During the final review with the bank's senior project team, the Legal Officer asked the Head Auditor if he was willing to pay for the tremendous cost of using and maintaining all those paper records. The auditor indicated that he would be revising their requirements for keeping paper copies.

IBM and the bank also recognized that certain “wet signature” documents such as a deed of trust might be imaged and still kept in a paper format as well, but that most paper would be destroyed following image conversion.

In interviews with the bank, they estimated that about 80 percent of the paper records they used and stored were born digital, but IBM was conservative in their analysis, estimating that figure at 60 percent. Therefore, 60 percent of these paper records could be captured in their original digital format using ECM technologies that leverage events, rules, business processes and metadata. This means that only 40 percent of the paper content would need to be digitized via scanning. It has been estimated that 80 to 90 percent of the content stored on paper in most organizations is actually created by word processing systems, spreadsheets and various reporting tools.

One Copy Versus Many Copies

The analysis also yielded a records-keeping issue often found in paper-based environments: In many instances, there was only one copy of a critical paper record, and in other cases, there were multiple copies. In fact, in one case, IBM found that three business units each had their own set of the same documents, paying the CRC to store the same content. On one hand, there were clear advantages to having more than one extant copy. The disadvantage is that paper is not controlled by sound records management practices that are more readily available in an electronic records environment.

Many organizations maintain only one copy of their records, which is an obvious issue in terms of disaster recovery. Whether it is stored at the bank or with the CRC, if there is only one copy, it will be associated with a single point of failure. Should there be a disaster, these records could be lost, resulting in lost business, potentially lower stock prices and loss of consumer confidence. If the one copy is lost, there are also the associated costs and risks that come with failure to respond to customer inquiries, legal discovery orders, or auditors, or to prove a business transaction such as a payment. If these records were captured in their born-digital state or scanned and made available through an ECM system, they would be easily accessible and could be backed up to provide high availability and disaster recovery.

In spite of the advantages of having a backup, multiple copies can have added risks and costs as well. With the proliferation of photocopiers, it is easy for someone to make their own copy for their personal file or, worse yet, to steal confidential or private information. Costs are easy to see, as in the case of the bank paying the CRC to store the same records three times. These costs are also found in record centers the bank uses for active storage in their own facilities, and in departmental and office filing cabinets. Version control is questionable with these “convenience” copies, as not everyone is diligent about dating their documents or knowing about a superseded policy or procedure. Multiple copies also make it difficult to locate and destroy all of the copies of the document when its retention period has expired. Extraneous, irrelevant and even damaging content may therefore be available for discovery since multiple document copies are typically poorly tracked or controlled.

Discovery Risks

One of the key risks when dealing with paper is in the area of discovery, whether the request for documents relates to a lawsuit, an audit, or a regulatory request. Many paper records are kept beyond their requisite retention periods. In fact, studies show that over 50 percent of most organizations' records are beyond their required retention period, leaving them open to discovery of potentially damaging content that could have been destroyed earlier. This not only adds to the cost of storage but also adds to discovery cost, as records may be more difficult to locate, and once the document is found it must be read by a person to determine whether it is relevant. In addition, many paper records are kept that do not need to be kept in the first place, because organizations often rely on users to determine what is kept and for how long. Another issue from a discovery standpoint is proving identity, actions and timing regarding the chain of custody. This is exacerbated since paper is difficult to link to the business transaction where it was used to make business decisions.

The inability to locate records can have a major impact on responding to legal, regulatory and audit discovery requests. If responsive records cannot be located or placed on hold, the bank can be liable for records they cannot find. All of this can lead to substantial fines and penalties as exhibited by the many recent high-profile cases in the press. In many cases, stock prices have fallen amid headlines of poor record-keeping, and some companies have gone out of business. A sound Electronic Records Management

System (ERMS) can provide records management functionality to correctly classify records, place them on legal holds and properly destroy electronic and physical records when their legal retention period has expired.

Security Risks

Controlling access to paper records has always been a challenge since these records are human-readable, easy to copy and often readily available. In any organization, it is common to see boxes of paper stacked in hallways, conference rooms and empty cubicles. And while companies might screen their own employees, CRC staff is not subject to the same rigorous scrutiny that banks or other organizations might use. The records being transported to a CRC are most vulnerable, being subject to theft, vehicular accidents and spillage. Paper records can be incorrectly delivered by couriers or CRCs, placing valuable, confidential information in the wrong hands. This can cause additional compliance issues with today's many privacy regulations, such as HIPAA in the U.S.

Electronic records, on the other hand, can be password protected or encrypted to provide stronger security, and access can be monitored. There were savings available to the bank through the automation of processes and additional records management

and imaging functionality across the nine business units and within the records management department. IBM identified the cost associated with the paper shuffle, as well as identifying lost productivity in waiting for paper records to be returned from storage or waiting until someone else has finished with them. Significant savings were also identified in providing immediate, on demand access to records and in empowering users to quickly locate information and yield knowledge from large stores of documents.

Costs

The IBM analysis documented the tasks associated with records management activities and the costs related to the various CRCs the bank uses. Also documented were file maintenance activities such as setting up files and the daily time to maintain paper records in a file, including photocopying and printing e-mail messages with attachments. This documentation included costs associated with simple filing and file retrieval, but also costs for searching for missing files. These costs were based on approximately 600 employees in nine operating divisions, the average salary, and the average time spent on the various paper shuffle tasks. **The bank spends over \$9 million per year in fully burdened wages for records management tasks**, as shown in Figure 4.

Current Labor Costs

Current Annual Salary Cost	Hours Available Per Day	Hours Remaining Per Day	Labor Savings Year 1	Labor Savings Year 2	Labor Savings Year 3	Labor Savings All 3 Years
\$22,538,051	4522.50	2654.31	\$9,140,483	\$9,361,154	\$9,548,377	\$28,050,014

Other Direct Costs

	Year 1	Year 2	Year 3	3 Year Costs
Storage & Retrieval	\$575,534	\$575,534	\$575,534	\$1,726,603
Space (Sq. Ft.)	\$15,911	\$15,911	\$15,911	\$47,732
Copy	\$1,480	\$1,480	\$1,480	\$4,441
Supplies	\$95,073	\$95,073	\$95,073	\$285,220
Equipment/Fixtures	\$2,866	\$2,866	\$2,866	\$8,597
Total Direct Costs	\$806,194	\$806,194	\$806,194	\$2,418,582

Figure 4 - Personnel and Other Direct Costs

Note: All financial amounts in this white paper represent U.S. dollar amounts.

Storage and retrieval costs included those charged by the CRC. Space costs include the large file rooms in the various business units, including downtown office space in major cities. Supplies include boxes, folders, papers and labels, while the equipment cost covers mostly maintenance costs for mobile shelving units. The additional cost to the bank for maintaining their paper records is over \$800,000 a year.

Common for an institution of its size, the bank is continually involved in litigation and related discovery practices. As a commercial bank, the number of suits and the resulting discovery costs are low compared to a retail bank such as Bank of America or Wells Fargo. While the number of cases handled is not as significant as an insurance company, it represents a substantial cost to the bank. And as the bank's legal counsel noted, all it takes is one class action suit to result in substantial losses.

Legal Discovery Costs

Legal department labor costs include the salaries for corporate counsel, paralegals and administrative staff. Other expenditures include the annual costs for legal discovery of paper-based records. The most significant of these is the high fees paid to outside counsel and service companies hired to manage discovery and litigation for the bank. The CRC also charged for providing access to paper records in support of legal discovery activities. (Note: The analysis did not capture clerical labor or labor in other departments needed to locate and transfer documents, nor did it track the costs associated with some of the debt recovery activities not handled by the Legal Department, seen in Figure 5.)

Investment

Once the study determined the cost associated with paper records, the next step was to determine what technology investment the bank would need to obtain

Legal Personnel Costs

Job Title	Current # FTEs Per Position	Burden Rate	Annual Salary Per FTE	Fully Burdened Annual Salary Per FTE	Total Current Annual Salary Cost
LEGAL DIVISION					
Secretary	1	30%	\$38,001	\$49,401	\$49,401
Paralegals	2	30%	\$77,000	\$100,100	\$200,200

Other Direct Savings				
	# Units/ Month	# Units/ Year	Cost/Unit	Annual Cost
Discovery process		1	\$650,000	\$650,000
Legal Process Storage Costs		12	\$559	\$6,707
Legal Process Service Fees		12	\$158	\$1,896
Legal Process Transportation		12	\$118	\$1,414
Litigation Storage Costs		12	\$546	\$6,556
Litigation Service Fees		12	\$65	\$783
Litigation Supply Costs		12	\$81	\$972
Litigation Transportation		12	\$102	\$1,229
Legal Storage Costs		12	\$462	\$5,540
Legal Service Fees		12	\$232	\$2,785
Legal Transportation		12	\$100	\$1,198
Subtotal		121		\$679,081

Figure 5 - Legal Services Process Costs

the cost, risk and business intelligence benefits identified in the study. The conclusion was to expand their existing IBM ECM investment and use it to remove the paper burden from their organization. The components are provided in Figure 6, leveraging their initial investment in IBM technology.

IBM's Records Management solution would provide the lifecycle controls, while e-mail management technology would capture messages and attachments using rules, events, business processes and metadata. File systems such as NTFS file shares, as well

as desktop and laptop hard drives, would be monitored and managed through IBM's file system management solution, IBM FileNet Records Crawler. IBM's capture solution would provide automated document imaging, and fax capture would place incoming and outgoing fax transmissions into the IBM ECM repository with records management controls as appropriate. Also included is the cost of the professional services that would be needed to design and implement the solution. This estimate included installation, metadata, rule development, configuration services and acceptance testing.

Hardware	Software	Professional Services	Other
<ul style="list-style-type: none"> ■ Scanners ■ Servers ■ Storage 	<ul style="list-style-type: none"> ■ Records Management ■ E-mail Management ■ File System Management ■ Image Capture ■ Fax Capture 	<ul style="list-style-type: none"> ■ Implementation ■ ROI Analysis ■ Metadata and Rule Development ■ Configuration ■ Acceptance Testing 	<ul style="list-style-type: none"> ■ Maintenance Costs ■ Customer Labor ■

Figure 6 - Technology Investment Summary

Figure 7 shows the costs associated with the move to electronic records management. In terms of hardware, the bank would utilize one existing high-speed scanner and buy an additional six for a decentralized scanning configuration. Various workstation storage device and servers would be included, with related accessories such as cabling. Software and maintenance charges were included for the components in the table in Figure 7.

Some of the existing scanner capacity of the bank was underutilized and could be used for some of the

increased scanning volume that would be required. All scanners would be in production for two 8-hour shifts, totaling 16 hours a day. Some of the personnel currently involved in the paper shuffle would be moved into roles to support scanning operations. This support would typically include document preparation, scanning, indexing, quality control, and verification of images. The cost for the personnel would be \$1.2 million per year. In addition to the \$1.2 million incremental labor cost as seen in Figure 8, an additional investment of \$2.4 million would be required for year one.

Incremental Investment Costs				
Description	Year 1	Year 2	Year 3	Total
Software Costs	\$1,165,815			\$1,165,815
Maintenance Costs	\$184,262	\$184,262	\$184,262	\$552,785
Hardware Costs	\$743,811	\$165,000	\$165,000	\$1,073,811
Professional Services	\$354,000			\$354,000
Total	\$2,447,887	\$349,262	\$349,262	\$3,146,410

Figure 7 - Technology and Services Investment Costs

Incremental Personnel Investment Costs							
Task	Discrete Task List	Performed By	# Times Performed Per Day	(hours) Daily Task Time	Burdened Annual Salary	Current Daily Task Cost	Current Annual Task Cost
1	Document Preparation	Document Prep Personnel	5	37.50	\$44,591	\$858	\$222,957
1	Scanning	Scanners	12	90.00	\$44,591	\$2,058	\$535,096
1	Indexing and Verifying	Indexers	10	75.00	\$49,401	\$1,900	\$494,013
Total				202.50		\$4,816	\$1,252,065

Figure 8 - Personnel Investment Costs

IBM based the ROI model on the cost to automate manual processes and move to a digital document process, eliminating the paper shuffle and its associated costs. Paper records coming into the organization would be captured on the front end, such as in the mailroom. The documents would be scanned and indexed with a rigid quality control process in place. Following quality inspection and sign off, the paper records would be destroyed unless there is a specific reason to justify keeping them. The capture of the paper would utilize advanced scanner and capture software to ensure accuracy and efficiency. The ECM environment would enable rapid and on-demand delivery of images and documents, spreadsheets, reports, forms and web pages to the desktop, assisted by a sophisticated search engine.

Access would be controlled through the bank's normal network security IDs and passwords, as well as check-in and check-out functions with enabled version control. This would provide a robust audit trail not available with paper for managing risk and improving security. By using IBM's Records Management solution, many tasks can be automated to ensure that records are destroyed at the appropriate time, and that records and compliance policies and procedures are enforced across the enterprise. Paper and electronic records will be managed from a single repository and administration tool.

Savings

IBM ECM technologies are proven to aid customers in doing their jobs better, faster and cheaper, through advanced technology that automates business and content processes. By stopping the flow of paper to the CRCs, capturing the born-digital records and imaging what is left, storage and logistical access fees can be eliminated. IBM technologies can also provide easy backup and greater user productivity with faster access to the information, while saving millions of dollars by eliminating the paper shuffle.

There are also savings in legal discovery through better classification, indexing, searching capabilities and retention management. This will not only provide overall paper and electronic storage savings to the bank but will also greatly reduce the cost of discovery.

In addition to the cost reductions available with IBM ECM solutions, there are other key benefits such as the records manager's ability to search for and place records on legal hold. Any content declared as a formal electronic record is locked down such that changes cannot be made. Another major advantage is the metadata collected by the IBM process engine and related audit logs, providing the bank with access to much more data about their content and the related business processes that create and use content, in order to meet key compliance requirements. Automation also delivers new auditing and monitoring tools to track various events, such as who used what content to support which business process. Reporting templates are provided out of the box, with ad hoc auditing and monitoring also supplied.

The records automation capabilities of IBM ZeroClick technology can enable substantial additional savings. Savings come from productivity and cost reductions with the added benefit of enforced compliance to reduce risk. IBM ZeroClick technology automates record capture to take the burden off the user, but also automates the record's lifecycle function. Records can be captured in two ways using ZeroClick. Moving a record to a ZeroClick-enabled folder by using drag-and-drop or by using the File / Save As command automatically captures and classifies content and applies the appropriate records policies and procedures. Additionally, records can be captured and classified automatically using the business process and IBM classification and taxonomy tools, resulting in accurate capture as well as significant efficiencies and cost savings.

IBM ZeroClick Records Declaration Savings

According to the bank's volume and salary data, on average 1.2 million new born-digital records are created every day, requiring capture and declaration. The bank's workers are paid around \$60,000 a year in fully burdened wages and work 7.5 hours per workday, 235 workdays per year. In an average of 10 seconds per record declaration, that makes the cost to declare records approximately \$6.6 million per year. As with any new process, there would be a start-up period over a few years, with change beginning slowly and building as rules are developed, new processes integrated, and users trained. As seen in Figure 9, there was an assumption that the initial reduction in cost would be 5 percent in year one, 10 percent in year two, and 15 percent in year three. Therefore, auto-

matting records capture at the bank can yield an additional \$660,000 in the first year, and over three years the savings is about \$3.3 million.

Records Administration Savings

The bank has a dedicated Records Manager and staff, with resources and cost distributed across the business units. Like most large organizations, they are faced with an ever-increasing amount of paper and electronic records to manage, with little likelihood of hiring additional staff to accommodate the growth. They need to find more cost-efficient methods of managing the records management lifecycle tasks. Many of these tasks are automated out of the box with IBM's Records Management solutions and can enable the records manager to focus on more critical

Potential Savings from ZeroClick Records Declaration								
	Year 1		Year 2		Year 3		Total 3 Year Savings	
	% Reduction	Cost per Yr	% Reduction	Cost per Yr	% Reduction	Cost per Yr		
Cost to manually declare eRecords		\$ 6,629,468		\$ 5,966,521		\$ 4,773,217		
% Captured with LifeCycle Event	5%	\$ 331,473	10%	\$ 596,652	15%	\$ 715,983	\$ 1,644,108	
% Captured with Workflow step	5%	\$ 331,473	10%	\$ 596,652	15%	\$ 715,983	\$ 1,644,108	
ZeroClick Savings		\$ 662,947		\$ 1,193,304		\$ 1,431,965	\$ 3,288,216	

Figure 9 - Potential Savings from IBM ZeroClick

activities, such as vital records protection, activating legal preservation holds, facilitating changes in retention schedules, and other high-value tasks. With improved efficiency, more records can be managed without having to hire additional staff.

Figure 10 shows how a 20 percent to 50 percent growth in records might be achieved if an equivalent efficiency gain is realized with IBM's Records Management solutions. Conservatively, the bank has anticipated 30 percent growth in managed records and can achieve a 30 percent productivity gain through process automation tools utilized by the records manager. Since they have approximately 10 employees dedicated to records management activities, they can avoid hiring an additional three full-time employees, saving about \$180,000 a year in wages assuming a \$60,000 average burden salary per employee. The 30 percent efficiency gain in this example equates to managing 30 percent more records with the same number of people, or a 30 percent reduction in staff, which is typically not prac-

tical as growth in managed records will continue to rise year over year.

Legal Discovery Savings

Another area for saving is legal discovery by reducing the amount of paper to search through using automation and improved search of electronic content through IBM search, classification and analytics technology. In a study by Cohasset Associates,² a leading Records Management consulting company, large organizations can spend from \$2.5 million to \$4.0 million per year on discovery activity for every billion dollars in sales.

Starting with the bank's revenue as the baseline, an assumption can be made that their revenue would experience a conservative growth rate of 5 percent per year over a three-year period. Using the lower range of the survey estimates of the amount spent per

2. Cohasset Associates: "The Eternal Charter: Improving Corporate Governance Through Compliance and Assured Records Management," June 2005

	20%		30%		40%		50%	
Number of Staff	\$ Savings	FTEs Saved	\$ Savings	FTEs Saved	\$ Savings	FTEs Saved	\$ Savings	FTEs Saved
5	\$1,821	1	\$90,000	1.5	\$120,000	2	\$150,000	2.5
10	\$120,000	2	\$180,000	3	\$240,000	4	\$300,000	5
15	\$180,000	3	\$270,000	4.5	\$360,000	6	\$450,000	7.5

Figure 10 - Records Administration Savings

billion in revenue—\$2.5 million—another assumption can be made that the cost for legal discovery would also rise in tandem, and so the amount the bank would spend would rise accordingly. The IBM ECM records automation tools can achieve the very conservative savings of 5 percent, 10 percent, and 15 percent over three years as the technology is configured and implemented. This means that the bank could enjoy savings totaling \$813,000 in legal discovery costs over three years, as seen in Figure 11.

Paper Storage Savings

The bank currently spends about \$605 million to store paper and if, over three years, they can use business process automation to ensure that paper records are destroyed on time, they should see a corresponding decrease in CRC costs. In the example in Figure 12, there would be a larger year one reduction of 30 percent, followed by 25 percent and 20 percent in subsequent years, yielding additional savings of approximately \$351,000 in paper storage cost reduction.

DuPont, one of the world's leading chemical manufacturers, presented the discovery costs for nine cases in the 1990s at the 2002 Managing Electronic Records (MER) Conference. In those cases, DuPont was required to review 74 million pages of paper to determine relevancy to the case. Of those, they found that 11 million pages were responsive to the discovery order and had to be produced. They later learned that on average, 50% of those paper records produced were beyond their required retention period but had not been destroyed in accordance with DuPont policies.

Over 37 million pages would not have had to have been reviewed if they had been destroyed on time. DuPont used clerical level workers for the initial review; at an average of \$0.20 per page, they wasted about \$7.5 million. Of the 11 million pages found to actually be responsive, only 5.5 million pages of paper would have had to have been reviewed by legal professionals. At the higher legal professional cost for those reviews of \$0.80 per page, they spent \$4.4 million.

The total cost to research the unnecessary records came to almost \$12 million, not including other costs, such as making copies for the requestors, transportation, or the damage done to their reputation.

	Base Line	Year 1		Year 2		Year 3		
Bank Yearly Revenue (Billion)	\$ 2,600,000,000		\$ 2,730,000,000		\$ 2,866,500,000		\$ 3,009,825,000	
Avg. Co. spends/yr	\$ 2,500,000		\$ 2,587,500		\$ 2,678,063		\$ 2,771,795	
eDiscovery Savings from Big Bite		5%	\$ 129,375	10%	\$ 267,806	15%	\$ 415,769	\$ 812,950
		% of Savings from Technology	Dollars Saved Per Year	% of Savings from Technology	Dollars Saved Per Year	% of Savings from Technology	Dollars Saved Per Year	Total 3 Year Savings

Figure 11 - Potential Legal Discovery Savings

	Year 1	Year 2	Year 3	Total 3 Yr
Yearly Cost of Storing at CRC	\$ 604,615	\$ 423,230	\$ 317,423	
Percent destroyed beyond retention period	30%	25%	20%	
Total Savings	\$ 181,384	\$ 105,808	\$ 63,485	\$ 350,677

Figure 12 - Potential Paper Storage Savings

Electronic Storage Savings

Other IBM ZeroClick savings would come from reducing the electronic storage capacity required through the accurate classification of content and appropriate retention management. The IBM analysis estimated that the bank would need to spend about a \$165,000 per year in magnetic storage for the born-digital and scanned content used by the nine departments. Automated, accurate records capture and classification would reduce the overall amount of electronic content to be stored, but this would take place over time.

With an assumption that storage requirements and related costs would be reduced by 5 percent, 10 percent, and then 15 percent over the same three-year period, there would be a savings of about \$29,000. As with paper records savings, the bank will reap an additional savings reward by destroying the electronic

records at the appropriate time. Using the same destruction percentages of 30 percent, 25 percent, and 20 percent over three years, the bank should see an additional savings in electronic storage of about \$90,000. Ensured, compliant records destruction and holds will be facilitated by business process management integrated with IBM's Records Management solutions. The total potential savings for electronic stores can be another \$120,000, as detailed in Figure 13.

Total IBM ZeroClick Savings

Figure 14 shows the total potential IBM ZeroClick automation savings for the bank based upon the assumptions and calculations shown above.

Looking at the ROI model and results as a whole, seen in Figure 15 on the next page, the incremental cost added to the bank's existing IBM ECM infra-

Potential Savings from Improved Records Management of Electronic Records							
	Year 1		Year 2		Year 3		Total 3 Year Savings
	% Reduction	Cost per Yr	% Reduction	Cost per Yr	% Reduction	Cost per Yr	
Total Cost of Storage for Electronic Documents		\$ 165,000		\$ 107,250		\$ 69,713	
Percent reduced by accurate records identification	5%	\$ 8,250	10%	\$ 10,725	15%	\$ 10,457	\$ 29,432
Percent beyond retention period	30%	\$ 49,500	25%	\$ 26,813	20%	\$ 13,943	\$ 90,255
Total Savings		\$ 57,750		\$ 37,538		\$ 24,399	\$ 119,687

Figure 13 - Potential Savings from Electronic Records Management

Total Potential savings				
	Year 1	Year 2	Year 3	Total 3 Year Savings
Paper Storage Reduction	\$ 181,384	\$ 105,808	\$ 63,485	\$ 350,677
Electronic Storage Reduction	\$ 57,750	\$ 37,538	\$ 24,399	\$ 119,687
Declaration costs with ZeroClick	\$ 662,947	\$ 1,193,304	\$ 1,431,965	\$ 3,288,216
Records admin savings	\$ 180,000	\$ 180,000	\$ 180,000	\$ 540,000
Reduced discovery costs	\$ 129,375	\$ 267,806	\$ 415,769	\$ 812,950
Totals	\$ 1,211,456	\$ 1,784,456	\$ 2,115,618	\$ 5,111,530

Figure 14 - Total ZeroClick Savings

structure would be \$3.7 million in year one with a total investment of \$7 million in three years. This will save the bank the costs identified for the current paper-based records totaling \$11 million in the first year and \$36 million in three years. This will result in a four-month payback, an amazing 263 percent three-year return on investment. This assumes that the

bank could go live with all departments simultaneously, but full implementation would likely be over several years. It is estimated that the bank is losing about \$40,000 for every day they delay implementing the solution and they will continue to spend about \$423,000 per year in fees to the CRC.

Financial Summary

<i>Amounts in USD</i>	Year 1	Year 2	Year 3	Total
Software Costs	(\$1,165,815)			(\$1,165,815)
Software Support	(\$184,262)	(\$184,262)	(\$184,262)	(\$552,785)
Hardware Costs	(\$743,811)	(\$165,000)	(\$165,000)	(\$1,073,811)
Incremental Transactional Costs	(\$1,277,106)	(\$1,302,649)	(\$1,328,702)	(\$3,908,456)
Professional Services / Training Costs	(\$354,000)			(\$354,000)
Annual Costs	(\$3,724,994)	(\$1,651,910)	(\$1,677,963)	(\$7,054,867)
Transactional Savings	\$9,140,483	\$9,361,154	\$9,548,377	\$28,050,014
Potential ZeroClick Savings	\$1,211,456	\$1,784,456	\$2,115,618	\$5,111,530
Legal Costs	\$182,856	\$256,581	\$354,081	\$793,518
Other Direct Savings	\$483,605	\$947,445	\$1,044,945	\$2,475,994
Annual Savings	\$11,018,400	\$12,349,636	\$13,063,021	\$36,431,057
Annual Net Value Derived	\$7,293,406	\$10,697,726	\$11,385,058	\$29,376,190
Cumulative Net Value Derived	\$7,293,406	\$17,991,132	\$29,376,190	\$29,376,190
Economic Value Added (EVA)	\$8,342,990	\$9,962,069	\$10,647,839	\$28,952,898
Internal Rate of Return (IRR)	195.8%	272.8%	289.6%	
3-Year ROI	262.9%			
Payback Period in Months	4			
Net Present Value (NPV)	\$25,749,775			

Figure 15 - The ROI Financial Summary

Conclusion

As introduced earlier, IBM began this study with two questions in mind:

- How do the new economics of compliance, combined with technology advances, enable transformation of physical records storage?
- Does this same dynamic also enable new methods of business intelligence?

Tremendous opportunities for significant hard dollar savings were illustrated in this study as well as mitigation of many of the risks associated with paper records. The solution would also aid in process visibility, business analysis and auditing. The IBM ECM platform helps enterprises reduce cost and risk associated with paper-based processes, meet regulatory requirements and increase worker effectiveness. It does so by capturing electronic content and digitizing the remaining paper at the front end and then storing the digital records in a secure content repository. Reg-

ulatory compliance and enterprise-wide policy enforcement is possible with IBM ZeroClick records capture and administration. IBM ZeroClick links records to business processes and provides auditing, preservation and retention management to ensure that records are kept only for the required time. Record authenticity is maintained and policies ensure that metadata, content, and business processes provide a sound foundation for legal discovery and preservation holds. Integrated with IBM hardware and storage, the solution provides end-to-end compliance support.

IBM can greatly reduce the bank's risk burden with automated technologies that enforce compliance across the enterprise. And what about adding new visibility to the bank's business? IBM found that by managing the records in an electronic format using events, rules and metadata, the technology can provide advanced reporting, auditing and monitoring capabilities that will be never be possible with paper records.

A Call to Action

The analysis has shown tremendous costs and risk reduction opportunities that could also benefit your organization.

- Have you thought about all of the mountains of paper you have stored in expensive space with all the associated fees?
- When was the last time you evaluated the many risks that your organization faces with paper records?

- How much more could you save and get done, if your employees didn't have to handle all of that paper and could spend more time on doing their real job?
- What if you could get your hands on those production metrics the boss is always asking for, either in a management dash board or as detailed reports the auditors always demand?

To find out more about how IBM can help you take a Big Bite out of your costs of compliance, please visit our website at www.ibm.com/software/ecm/nopa-perweight. And let us together lift the weight of all that paper from your back.



About TechTarget

We deliver the information IT pros need to be successful.

TechTarget publishes targeted media that address your need for information and resources. Our network of technology-specific Web sites gives enterprise IT professionals access to experts and peers, original content, and links to relevant information from across the Internet. Our conferences give you access to vendor-neutral, expert commentary and advice on the issues and challenges you face daily. Our magazines—*CIO Decisions*, *Information Security*, and *Storage*—give you in-depth analysis and guidance on the critical IT decisions you face. Practical technical advice and expert insights are distributed via more than 80 specialized e-Newsletters, and our Webcasts allow IT pros to ask questions of technical experts.

What makes TechTarget unique?

TechTarget is squarely focused on the enterprise IT space. Our team of editors and network of industry experts provide the richest, most relevant content to IT professionals. We leverage the immediacy of the Web, the networking and face-to-face opportunities of conferences, the expert interaction of Webcasts, the laser-targeting of e-Newsletters, and the richness and depth of our print media to create compelling and actionable information for enterprise IT professionals. For more information, visit www.techtarget.com.

IBM_09_2007_0001