Buyer's Guide to
DOCUMENT
MANAGEMENT

Introduction

There are few initiatives that can deliver more productivity and security to a business than implementing an Electronic Document Management System (also known as an Electronic Content Management System). These systems put all of your paper and digital business information in one place allowing you to:

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- Automate business processes
- Provide secure access to information
- Create a disaster recovery plan that includes all of your critical business information
- Comply with government regulations

In this report you will learn why businesses are rapidly adopting document management technologies. You will discover the core technologies that are available to automate your business. You will find out commonly overlooked areas where you could multiply the benefits of your strategy. You leave with a framework for developing a strategy to improve your business processes.

What is Document Management?
A Document Management System (DMS) is a computer system used to track and store electronic documents. It is usually also capable of keeping track of the different versions modified by different users.[1]

The term has some overlap with the concepts of Content Management Systems. It is often viewed as a component of Enterprise Content Management (ECM) systems. A Content Management system is a computer program that allows publishing, editing and modifying content as well as maintenance from a central interface. Such systems of Content Management provide procedures to manage workflow in a collaborative environment.[2]

Document Management Systems have been called several different things over the years:

- Electronic Document Management Systems (EDMS)
- Document Imaging Systems
- Records Management Systems

The key functions of a Document Management System are:

- **Storage**: Creating a central repository for scanned documents and other digital information (Microsoft Office files, photographs, PDF's and most other digital file types)
- **Retrieval**: Searching and retrieving files by file name, multiple index fields and/or full-text search
- **Access Control**: Enhancing security with password-protected access by user to specific file types or folders
- **Audit Control**: Creating an audit trail of who has viewed what files/when
- **Remote Access**: Providing access to information across multiple offices and devices
- **Backup and Disaster Recovery**: Enabling files to be backed up off site.
- **Workflow Improvement**: Automating document-intensive business processes to increase productivity and predictability

Why Companies Adopt Electronic Document Management
There are many reasons companies have are rapidly adopting electronic document management technologies. Here are some of the top reasons.

Cost Reduction
Over 50% of the cost of documents is related to the processes that happen before and after printing. The average cost of managing a document (filing, storage, indexing, distribution,

The average cost of managing a document averages $0.24 to $0.34 per page.

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[1] http://en.wikipedia.org/wiki/Document_management_system

[2] http://en.wikipedia.org/wiki/Content_management_system

mailroom, pre-printed forms…) averages $0.24 to $0.34 per page.[3] Multiply that times the number of pages your company produces each month and you get a picture of the cost of documents.

Paper-based filing systems they are also expensive to maintain. Current estimates show that 50–70% of space in an office is still dedicated to filing and storage of documentation. The real clincher is studies showing that over 45% of the files in those cabinets are duplicated information.[4] and 80% is never accessed again.

Consider the basic costs of one filing cabinet:

Fixed Costs:	
Filing Cabinet	$400
File Folders	$100
Cost of 12,000 prints or copies	$240
Total Hard Cost	$840
Recurring Costs	
Floor Space (12 square feet * $1.75/sqft/mth)	$252
Five Year Cost of One Filing Cabinet	**$2,100**

This does not include the cost of maintaining files in a cabinet. However you estimate your specific costs related to paper filing you can see that paper filing systems are not free. When you multiply this cost by the number of filing cabinets in your office the potential savings from a document management system become evident.

Productivity Increases

Paper is slow. According to a Fast Company article, 48% of American executives admit to having a messy desk but claim to know where everything is. In contrast, 12% say that although their desk appears organized, they have no idea where to find anything.[5]

An IDC study discovered that the typical enterprise with 1,000 knowledge workers wastes $6 million to $12 million per year "searching for nonexistent information, failing to find existing information, or recreating information that can't be found.[6]

Think about your own office. How much of your day do you spend trying to find information? Some information sits in file folders stored in a desk drawer or filing cabinet. Other information sits on your computer or a network server. Imaging how much time could be saved if all of this information were in one place and easily searchable.

Compliance with Privacy Regulations

Most of the recent government regulations have some type of privacy requirements. Legislation like HIPPA, FACTA, Sarbanes Oxley and Dodd Frank all have privacy requirements—along with stiff fines for violations.

An electronic document management system gives you more control over your data by requiring user names and passwords to access information. You can show the regulators that you have implemented software and processes to keep information private. Most document

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[3] EDAM White Paper, All Associates http://www.allassociates.com/files/EDAM_2012_White_Paper.pdf

[4] The Cost of Managing Paper http://www.quepublishing.com/articles/article.aspx?p=1393497

[5] Fast Company Magazine, August 2004

[6] IDC, "The high cost of not finding information," Susan Feldman

management systems also keep a record of who has viewed what information and when. This give you an audit trail in case something comes into question.

Technologies

There are several aspects to Document Management technology that you want to be aware of. Some Document Management software packages contain most or all of these features. However, many implementations include multiple software packages that are integrated to build a custom system. Each of these technologies can be integrated to provide a fully-automated document workflow.

Scanning

Scanners convert paper information to digital format. There are many types of scanners ranging from personal desktop scanners to production scanners. The type of scanning devices you need varies based on your application.

Centralized Scanning

Centralized scanning is an environment where paper documents are sent to a central location for processing. In some cases, this could be a digital mailroom where all incoming documents are digitized when received. In other cases documents could be scanned after they have been fully processed. For example, a loan package could be scanned once the loan is funded.

Centralized scanning applications require high-volume production scanners. Look for a scanner that is rated to handle your daily volume. Find a scanner with a large document feeder and a high scan speed. You will want to consider a maintenance agreement on the scanner to keep the feed tires and any other key parts maintained so that your scanner will run at peak performance.

Decentralized Scanning

Decentralized scanning is an environment where you scan documents in locations throughout your organization. This allows documents to be captured throughout the business process in various locations in your organization.

One of the most convenient ways to do this is with networked multifunction systems that print, copy and scan. These devices can be programmed with buttons that route scanned documents directly to your Document Management System, making it simple for users to walk up to the device, push a button and scan their document.

Duplex (Two-Sided) Scanning

Many documents have information on both sides of the page. In this case you'll need to get a duplex scanner. There are two types of duplex scanners. Some production units can actually scan both sides of a document at the same time. Other scanners use a reversing automatic document feeder. This means that one side of the document is scanned and then the document is flipped over to scan the other side.

Mobile Scanning

You may want to capture documents in the field. Mobile scanning Apps can be used to take a photo of a document, convert it to PDF format and upload it to your Document Management System. While you wouldn't want to use this to capture large amounts of documents this can be very handy to quickly capture information and move it into to your business processes.

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Print to PDF

Electronic Forms technologies allow you to convert documents to PDF format as they are printing. This is particularly helpful for invoice printing applications. As the invoices are printed, a digital PDF of the invoice can also be routed to the Document Management System for storage.

Capture

Once the document arrives in the Document Management System it may need to be cleaned up, indexed and OCR'd.

- **Clean Up** is an quality improvement stage where scanned documents are de-speckled and de-skewed.
- **Indexing** is where documents are given a name and multiple index fields to make retrieval easier.
- **OCR** (Optical Character Recognition) is where scanned documents are converted to searchable text to make them easy to retrieve with a full text search.

This can be done manually. However, you may want to consider software to automate these key functions.

Image Enhancement

Image Enhancement software can automatically clean up the scanned images as they are imported. De-speckle features make sure the image quality is good. De-skew makes sure the images are straight. Both of these steps help make sure that OCR (see below) will work accurately. They also make sure you have good quality images to refer to later.

Optical Character Recognition (OCR)

OCR is the process of converting scanned text to searchable (and editable) text. This can make the full text of your documents searchable, making it virtually impossible to loose a document.

OCR technologies primarily work with typewritten text. While there are some applications that can convert handwritten text that is printed inside blocks, OCR is typically used for pages that have been created by a printer.

Zone OCR

Most Document Capture applications offer Zone OCR capability. This means you can instruct the software to "read" a specific part of the page. This works best in structured pages like invoices that all look the same. Consider your company's invoices. The invoice number is in the same place on every invoice. With Zone OCR you could have the software read the zone of the page where the invoice number is, covert is to text and then use it as an index field to store the document for later retrieval. Zone OCR opens many possibilities in automating your business processes.

Barcode Recognition

Similar to Zone OCR, Barcode Recognition can look for barcodes in specific areas of your scanned documents. These barcodes can be converted to index fields to store documents. These can be used in many different ways. One common way is to put a barcode on each of your document types. Sales orders could have one barcode while shipping tickets could have another. When these documents are scanned, the system can recognize a sales order from the barcode and route it to the correct folder for processing. Shipping tickets could automatically be routed to another folder.

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Intelligent Capture

Zone OCR works best with structured documents—pages that all look the same. However, there are other business applications where the pages are not the same. Consider an accounts payable department that has invoices from dozens of vendors. Intelligent capture can be configured to look at an invoice and find the ship to, bill to and invoice number information automatically. If there is a problem reading an invoice, some quick user intervention can fix the issue and train the software to recognize future invoices from the vendor. This means you could scan a stack of invoices and have them automatically indexed and filed.

Data Integration

Once you have gathered data from your scanned documents with Zone OCR, Barcode Recognition or Intelligent Capture the data may be able to be exported to your business software applications. This means that scanning an invoice and check could mark an invoice as paid in your accounting system while including a link to the scanned check. Many possibilities open up when you integrate Document Capture with your business applications. Of course, doing this requires a partner that can assess the feasibility of the interface and do the actual integration.

Storage

Scanning your paper files into a Document Management system requires storage. 20 years ago the cost of storage was the biggest expense related to deploying a Document Management system. As a result, the early adopters of this technology were government and Fortune 500 organizations. Fortunately the rapid decrease in storage costs makes the storage cost a much smaller expense, making Document Management available to every business.

Space Requirements

How much space will you need? There are many variables to consider. The biggest one is the resolution at which your files are scanned. Resolution is measured in dots per inch (dpi). To put this in perspective a fax is usually sent at 150 dpi while a laser print is typically 600 dpi. The file size of your scanned documents depends on the resolution. Below is a table showing the approximate file size for a page scanned at different resolutions.

Scan Resolution	Total Dots per Page	Approximate File Size per Page
150 dpi	2,103,750	50K
300 dpi	8,415,000	200K
600 dpi	33,660,000	1,000K

There may not seem to be a big difference between a 300dpi and a 600 dpi file. However, documents scanned at 600 dpi take up 4 times as much storage space. As a rule, 300 dpi should be fine for most business information scanning applications.

There are approximately 12,000 pages in a standard four-drawer filing cabinet. If the pages are mostly one-sided pages then you can plan on about 2 GB of storage per filing cabinet. If the pages have information on both sides you can plan on approximately 4 GB of storage per filing cabinet.

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On-site vs. Could Storage

When it comes to storage there are three options. You can store data onsite on servers connected to your network. Or, you can store your documents on a cloud server. The third option is a hybrid approach where you store documents on your local server and back them up to the cloud.

There are pros and cons to each strategy. You will want to discuss these with your Document Management technology partner.

Storage Type	Pros	Cons
Local Server		Cost of purchasing and managing servers Remote access to documents may require setting up a Virtual Private Network (VPN)
Cloud Server	Access documents from any internet-connected device Cloud server farms typically have excellent security and redundancy	Requires a high-bandwidth network connection to upload and download documents
Hybrid Approach	Scalable storage capacity as your needs grow. Redundancy with information stored locally and in the cloud.	Expense of managing on-site and cloud servers.

Retrieval

In a paper-based filing system only one retrieval option exists: walk up to the filing cabinet and search for the information. A Document Management system makes it easy to retrieve a document from just about anywhere work is being done:

- **Desktop**: Users can search and retrieve information from their desktop in seconds without having to walk to a filing cabinet.
- **Branch Offices**: Sharing files across multiple offices poses a real challenge. A Document Management system enables users across multiple offices to get the information they need without having to call and ask someone to fax or scan it to them.
- **In the Field**: If your Document Management system is web-enabled or cloud-based you can access information through the internet. This means users can access documents from laptops or tablets.

Considerations

There are many things you should consider when planning for a Document Management implementation. Following is a list of questions to help guide your planning.

Business Goals

- What are your business goals?

- How are your current business processes working against your business goals?

Information Access
- Who needs access to what types of documents?
- How do they access the information now?
- What type of access would help users get their job done more productively?

Process Automation
- What are the core business processes?
- Where are the bottlenecks?
- Where do people get frustrated?
- How could you automate your processes to help move toward achieving your goals?

Regulatory Compliance
- What federal, state and local government regulations related to information security and privacy are relevant your business?
- What are your current procedures to secure and protect information?
- What documentation do you have that proves who has accessed documents?
- How could Document Management help you enhance compliance with these regulations?

Backup and Disaster Recovery
- What would happen to your business in case of fire, flood or natural disaster?
- Is your paper-based information backed up off site?
- How could Document Management help you implement a backup and disaster recovery strategy for your business?

Legal Liability
- How hard would it be for your company to produce information during the discovery phase of the lawsuit?
- Could you put your hands on information you would need to defend your innocence?
- How could you use Document Management to help reduce your company's legal risk?

Strategy

Document Management technologies can be a strategic driver for your business. Implementing a document management system should be done in the context of your overall business objectives.

1. Set Goals
The first step is to set goals. What do you want to accomplish from your document management initiative?

- Are you looking to speed up slow business process?
- Are you trying to create a disaster recovery plan for your business?
- Are you trying to enhance the security of your information?
- Are you wanting to get more work done with the same staff level?
- Are you needing to comply with a new government regulation?

2. Map Your Processes
The next step is to map your business processes. To do this, start with one simple question: what happens from the time the process starts until it is finished? For example, in a law firm you might ask, "What happens from the time we start a law see it until it settles in or out of

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court." If it is a process related to accounts payable, you might ask, "What happens from the time we receive a bill until it is paid."

Take time to draw out the status on a week or pad or white board. You may need to get several of the stakeholders involved to learn the specific details of each step in the process. As you map out the process two things will happen. First, you'll notice parts of the process that could be done more efficiently. Second, you will get a good idea of problems with the current process.

When map out your business process don't aim for perfection. Instead, look at it as an exercise in discovering what you do, how you do it, and where the process could be improved.

3. Develop a Vision
The final step is to develop a vision of how you would like the process to look going forward. Ask yourself what ways the process could be improved. If you were starting with a clean sheet of paper, what with the process look like? Are there components of the process that could be automated? Are there ways the process could be made more secure?

Once you have developed a vision for how to process could look you will be in a great place to talk to a document management expert about how your vision could be implemented with document management software.

Conclusion

There are many benefits to you and your business processes with document management software. Hopefully this buyers guide has helped you see the possibilities and understand some of the technologies available to you. The most important thing now is to take action.

About Capital Business Systems

Capital Business Systems provides electronic document management solutions to businesses, government, education, and not-for-profit organizations. We provide a full portfolio of document management software.   We also provide scanning hardware including the production scanners and multifunction systems. All of this is backed by responsive local service from train professionals. To learn more about how you could benefit from our Solutions contact us today.

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