How Information Technology Enhances Government Innovation

Learn More Inside

▶ How do you select the best electronic document management solution (EDMS) for your municipality?

▶ How do you design an implementation plan that meets each department's needs?

▶ How do you promote fast staff acceptance?

▶ How do you integrate the EDMS with other critical software applications?

▶ How do you leverage the EDMS to enhance service delivery?

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Planning and Implementing an EDMS

How Information Technology Enhances
Government Innovation

A Laserfiche® Government Focus White Paper

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Table of Contents

Table of Contents.....continued

Overview

Introduction

Over the past two decades, local governments have increasingly leveraged information technology to transform relationships with citizens. Through the use of technology, governments have improved the delivery of services to constituents and increased the efficiency of their own work processes. These improvements have led to greater citizen satisfaction, increased government transparency and significant reductions in operating costs.

To build on these advances, innovative governments continue to seek new ways of maximizing citizen value. This goal involves two closely-related objectives: (1) To further enhance citizen satisfaction by continuing to streamline service delivery; and (2) To encourage more active citizen participation in government. As local governments have increasingly discovered, finding new ways of sharing information with citizens plays a key role in achieving these objectives.

For example, many municipalities continue to rely on manual processes for fulfilling record requests. To view resolutions, meeting minutes, land-use records or other documents, citizens must contact the city clerk's office, either by telephone or in person. Once the clerk's office has received the request, a staff member must retrieve the document from the records room, make a photocopy and then mail the document to the citizen.

Information technology enables governments to share documents with citizens far more effectively. A government can, for example, provide citizens with 24/7 access to information by posting documents on a public-facing Website. Because citizens no longer need to wait for the information they need, they're more likely to be satisfied with the government's service delivery and to actively participate in government decisions and processes.

As technology makes it easier to share and distribute information, it becomes ever-more critical that governments have the proper tools to manage information effectively. This paper presents an overview of the role a document and records management system plays in a local government's initiative to increase citizen value while simultaneously complying with the rules and regulations governing data security. It provides practical advice to help you establish goals and describes the analysis and planning that must be done to ensure a successful implementation. Because there is no such thing as a "One Size Fits All" approach, the paper examines the implementation process from a variety of perspectives. Ultimately, the paper's goal is to take the mystery out of an enterprise-wide deployment and provide a practical roadmap for your own municipality to follow.

The Role of Documents

Before we consider the details of successfully implementing an enterprise-wide electronic document/records management solution (EDMS), it's important to consider the role documents and records play within a municipality. In fact, documents play two distinct roles that we'll call *primary* and *supporting*. Certain departments, such as the clerk's office, utilize documents in a primary role, given that their staff members constantly create, collect, update, distribute and file documents. Other departments utilize documents in a supporting role, given that their staff members are not primarily responsible for managing documents. Typically, staff members in these departments use a primary application to perform their daily tasks and rely on documents for supplemental information. These departments may use processes that are document driven, but the documents themselves only serve as the catalyst to get the process started or as a checklist to ensure the process is completed.

Staff in departments that utilize documents in a primary role will have very different needs and expectations from an EDMS. The solution will most likely become the department's primary application, so it must be user-friendly and provide a great deal of functionality that helps them perform their daily tasks. These staff members also have fairly straightforward capture needs and are more likely to pay close attention to the way documents are indexed, named and organized. Additionally, they may be responsible for applying records retention rules and ensuring that information is distributed properly. These staff members thus see an EDMS as a way to dramatically improve the way they work.

Staff in departments that utilize documents in a supporting role would prefer not to have to worry or think about them. They need to consult documents when making decisions, but they will not utilize an EDMS as their primary application. Because they use documents in a supporting role, their primary application usually contains information that can be used to index documents. For these staff members, a successful implementation involves a solution that doesn't require them to change the way they work. In fact, the less their operating procedures change, the better.

The Value of Integration

When organizations are considering an EDMS, they often break the implementation process into multiple phases. Because integration is typically viewed as a luxury, it's usually saved for one of the latter phases. However, when you consider the cost of implementing a solution and understand the way departments work with documents, integrations can ultimately deliver a significant return on investment (ROI) and greatly contribute to a project's success.

Back-End Integration ROI

Because capturing and indexing documents is the most expensive component of implementing a document management solution, anything that can be done to eliminate or minimize these costs will provide a nearly immediate return on investment. Information that already exists in primary applications can be utilized to automatically index and file documents as they are captured. In most cases, this type of integration requires a very small investment and will eliminate most of the costs associated with indexing documents.

A simple calculation of the cost of manually indexing documents shows how quickly these costs can add up. The following assumptions were used to calculate the costs:

Manual Indexing:

- 10 seconds per template (or index) field
- $15 per hour FTE cost

An average of 10 seconds to manually enter data in template fields and $15 per hour FTE (Full Time Equivalent) costs are fairly conservative assumptions, yet they translate into a significant expense. The chart below shows the monthly cost of manually indexing documents. The numbers on the vertical axis correspond to the number of documents captured per month, while the numbers on the horizontal axis correspond to the number of template fields that must be manually populated. The values in the table represent the monthly cost of manually indexing a particular number of documents with a particular number of template fields.

Number of documents		Number of template fields per document									
		1	2	3	4	5	6	7	8	9	10
	1,000	40	80	120	160	200	240	280	320	360	400
	5,000	200	400	600	800	1,000	1,200	1,400	1,600	1,800	2,000
	10,000	400	800	1,200	1,600	2,000	2,400	2,800	3,200	3,600	4,000
	15,000	600	1,200	1,800	2,400	3,000	3,600	4,200	4,800	5,400	6,000
	20,000	800	1,600	2,400	3,200	4,000	4,800	5,600	6,400	7,200	8,000
	25,000	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000
	30,000	1,200	2,400	3,600	4,800	6,000	7,200	8,400	9,600	10,800	12,000
	40,000	1,600	3,200	4,800	6,400	8,000	9,600	11,200	12,800	14,400	16,000
	50,000	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000
	60,000	2,400	4,800	7,200	9,600	12,000	14,400	16,800	19,200	21,600	24,000
	70,000	2,800	5,600	8,400	11,200	14,000	16,800	19,600	22,400	25,200	28,000
	80,000	3,200	6,400	9,600	12,100	16,000	19,200	22,400	25,600	28,800	32,000
	90,000	3,600	7,200	10,800	14,400	18,000	21,600	25,200	28,800	32,400	36,000
	100,000	4,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000

For example, if we take a monthly volume of 30,000 documents and five template fields as the average for an enterprise deployment of an EDMS, manually indexing documents will cost at least $6,000 per month, or more than $70,000 per year. Given that most EDMS projects have an initial contract length of five years, manually indexing documents will cost more than $350,000 over the life of the contract—and this figure does not include the cost of back-file conversion.

Using data from existing applications to index documents, however, should be simple and relatively inexpensive. Using the average cost from above, a municipal organization should expect to save at least $300,000 through back-end integration over a five-year period. These substantial cost savings make it extremely important to view back-end integration as a key requirement of the initial phase of the project.

Front-End Integration ROI

Front-end integration is especially important for departments that utilize documents in a supporting role. As mentioned above, these departments want an EDMS that is as transparent as possible, given that staff members don't want to learn a new system just to gain access to supporting documentation. Because staff members already have a primary application they use to complete their daily tasks, the best way for them to access documents is through this familiar application. Image-enabling primary applications allows staff to quickly access the documents they need by simply clicking a button or pressing a function key.

The value of front-end integration is primarily realized in a reduction in training costs. Because staff members already know how to locate records in their primary application, they will not need to learn how to locate documents in the EDMS. They will have to learn how to request the type of document they want and, if necessary, how to work with documents in an electronic format. However, this requires less time than teaching them how to utilize the complete EDMS.

Transparent Records Management

Records management is a specialized branch of document management that deals with information related to an organization's activities and operating processes. Records often consist of documents, but they can also contain other forms of content, such as photographs, maps, audio files or even Web pages.

The fundamental concept behind records management is the idea that records have a definite *life cycle* that involves various stages. For example, when a record is created, it must be filed according to a well-defined file plan so that it will be easily accessible to authorized users. Similarly, once a record has been retained for a specified time period, it may need to be destroyed in order to comply with state and federal regulations.

Records management capability is an important consideration for municipalities investigating an EDMS or looking to expand an existing system. Records management staff in departments utilizing documents in a primary role generally understand the municipality's records management needs and will make sure the EDMS will work for all departments, including those that use documents in a supporting role. In fact, one of the greatest strengths of an EDMS lies in the way it enables records managers to create a file plan and manage retention schedules without interfering with any department's line of business.

The Role of Records Managers

It's important that records managers work closely with staff in other departments to ensure that the process of managing records accounts for each department's unique workflow. If records managers are involved in the EDMS implementation process, the file plan can be set up so that retention schedules and review cycles are an integral part of the system. A well-designed EDMS will handle records management transparently, meaning that once it is set up, users will not have to actively participate in the process. Furthermore, the EDMS will enable records managers to more easily apply consistent policies to records in a variety of media, from Web content to archived e-mail messages to audio and video files.

Risk Assessment and Mitigation

Legally, records must be trustworthy, complete, accessible, admissible in court and durable for as long as the retention schedule requires. An EDMS is uniquely positioned to help records managers meet these requirements. Whereas paper files are vulnerable to fire, flood and theft, digitized files enjoy multiple layers of protection. An EDMS contains security features to protect records from tampering or unauthorized release, while auditing functionality allows you to monitor the actions users take on a record. To assist in disaster recovery planning, an EDMS enables you to copy records to disc or other unalterable media for offsite storage. If an incident occurs, you can typically restore the EDMS in a matter of minutes, which allows you to access the critical information you need to respond effectively and to ensure continuity of government.

Because Web content plays an increasingly large role in a municipality's delivery of services to constituents, effective management of Web records is also critical to mitigating risk. Using an EDMS, you can take snapshots of your municipal Website at regular intervals and retain these files according to a specified retention schedule. These records will prove highly useful in the event of a legal challenge, or if the original Web content is compromised or lost.

City of Anaheim, CA

How an EDMS Safeguards Information Vital to the Delivery of City Services

The City of Anaheim's utility departments presented a unique challenge during the implementation of the city's EDMS. The departments' records room held more than 16,000 folders, each containing a jumble of blueprints, wiring schematics, job-site Polaroids and hand-written notes. Over the years, staff would inadvertently assign an old project number to a new folder, resulting in multiple files with the same identifier. Finding records was a laborious, time-consuming process that required hours of staff time.

The first step in digitizing these files involved sorting all of the items—from memos and work orders to maps and photos—into distinct groups. Each item was then scanned into the Laserfiche® repository and electronically labeled by street name, job number and type of utility. This labeling method enables the city's utility workers and civil engineers to quickly locate records using whatever information they have. Once they've located a record, they can then access any of its contents—from schematics to memos to photos—right from their desktops.

Instant access to information helps work crews complete jobs more quickly—and saves them from the frustration of searching through the records room. Furthermore, crews are now more confident that, should an emergency event occur, they'll have access to the information they need in order to respond effectively.

Preparation

The success of an EDMS implementation is directly related to the amount of effort and collaboration that goes into planning the project. To ensure that all municipal departments actively participate in the planning process, you should assemble a project management team that includes each department head, as well as IT and records management personnel. You should also appoint a project manager, who will establish deadlines, assign roles and tasks, and monitor the project's overall progress.

Analysis

Performing some type of *needs analysis* is the next step in preparing for an EDMS implementation. A comprehensive needs analysis requires a great deal of work and is not something that can be entrusted to an outside consultant. Consultants can play a useful role during the needs analysis, but they cannot do everything on their own. During this process, the best thing a consultant can do is play the role of facilitator and help guide your analysis. An experienced consultant will teach you what you need to know and keep team members on task so that the analysis is completed in a timely manner.

Performing the bulk of the analysis internally is important because it gets team members personally invested in the success of the project. When you know exactly what needs you want to address and how you want to address them, you will be in a much better position to select the best possible solution. Getting people from multiple departments involved early in the process will set the tone for a successful implementation. Furthermore, learning how to work together in the early stages will pay dividends later on when it comes to design, configuration and training.

Process Analysis

The most efficient way to complete a needs analysis is to perform what's commonly referred to as a *process analysis* in each department. The basic theory of process analysis is that you can break down your daily activities into a series of business processes. Business processes have a distinct starting point and lead to a definite outcome, based on the decisions made during the process. Process analysis is especially useful when preparing for an EDMS implementation because documents are an important component of many business processes.

A comprehensive process analysis involves the following steps:

1. **Map daily activities to business processes.** Examine the activities you regularly perform in your department. Determine how each one begins and what decisions must be made before you reach an outcome.

2. **Diagram and document the processes.** Most people find it easiest to understand a process diagram when it takes the form of a flowchart. Flowcharts are the most natural way to diagram processes because they clearly show the starting point, decision making and possible outcomes. Once you've developed a process diagram, you need to document what happens at each step in the process.

3. **Identify breakdowns in the processes.** The "analysis" component of process analysis comes into play when you try to identify breakdowns in the processes you've documented. Where do things often go wrong? What steps in the process take longer than they should? Is the process unnecessarily complicated? Do the processes have dead ends that hinder resolution? You must be able to pinpoint breakdowns in your processes before you can improve them. If you can't find any breakdowns, you'll have a hard time justifying your need for an EDMS.

4. **Determine the role of documents in the processes.** If you're preparing for an EDMS implementation, you need to identify the role documents—and information about them—play in each process. This is necessary because you need to establish the connection between documents and the business processes within your department.

5. **Identify how documents are related to process breakdowns**. In order to justify your need for an EDMS and show how it will help improve services, you must demonstrate how documents—and the system currently used to manage them—are related to process breakdowns. Does it take longer to make decisions because people don't have information at hand? Does it take longer to respond to requests for information because you have to manually search for documents in a storage room? Does the inability to quickly locate information have a negative effect on your ability to serve constituents?

6. **Use breakdowns to identify solution requirements.** Once you know how working with documents affects your ability to complete business processes, you can quickly determine your solution requirements. Simply put, you want an EDMS to address every process breakdown that's caused by the way you currently work with documents. Whether such a solution exists is another question, but assembling a list of requirements that are directly related to your business needs is the best way to find out.

7. **Quantify the benefits that will come from meeting your requirements.** If you implement a solution that meets all of the requirements you've documented, how will that affect your ability to provide services? What kind of effect will the solution have on your business processes, and how can you show that the solution is successful? Whenever possible, identify the quantifiable benefits that you expect from the solution. If you document the benefits before the solution is selected and implemented, everyone involved will know what's expected in order for the solution to be considered successful.

City of Wichita, KS

How Effective Planning Maximizes the System's Value to Constituents

Wichita citizens involved in motor vehicle accidents are required to submit a copy of the official accident report to the state's Registry of Motor Vehicles. Before the City implemented Laserfiche, citizens had to contact the City's Police Records Division to request a copy of their accident report. On average, it took a clerk 20 minutes to locate, photocopy and mail each report. Because the City received six to eight requests per day, staff spent 50 to 60 hours per month fulfilling records requests.

As part of the City's Laserfiche implementation, more than 6.5 million document pages were digitized, including 5.5 million pages of police records. When the City's IT and Police Records staff met to discuss ways to use Laserfiche to streamline internal processes and improve public service, they agreed that making accident reports available online would save a significant amount of time for both staff members and citizens.

Laserfiche WebLink™ formed the cornerstone of this initiative. By integrating WebLink with a third-party payment processing solution, the City created an online accident reporting system that enables citizens to quickly locate, purchase and download copies of accident reports. The system's convenience and ease-of-use led to immediate acceptance by the public, and the system continues to demonstrate how an EDMS enhances government efficiency and improves the delivery of government services to constituents.

Project Audits

Project audits are performed to document the implementation and record failures and successes. Project audits are especially useful when you're performing an implementation with multiple phases, because you can use the audits to determine when each phase is complete.

The basic framework for a project audit should be set by the process analysis that was completed before the implementation began. Because the purpose of a project audit is to determine the implementation's level of success, you need the criteria defined in the process analysis to efficiently perform an audit. In your process analysis, you documented process breakdowns and identified ways that an EDMS would address those breakdowns. You also documented quantifiable benefits that you expected from the solution, so your audit simply has to show whether the system meets those expectations.

In its simplest form, a project audit uses the outcome of your process analysis to set the stage. You should document your existing environment (your *process documentation*) and lay out your expectations for the implementation (your *quantifiable benefits*). Document each step of the implementation, and include any unexpected problems that arose. You'll also want to look for subtle successes that weren't included in your list of quantifiable benefits. Whenever possible, quantify the impact your solution has had and will have in the future. And, finally, identify the logical next steps for the solution.

Reporting

In order to get funding and/or backing for an EDMS project, someone will eventually need to develop and present a proposal. Using the results of your process analysis to develop a formal report is the best way to clearly establish your needs and document the benefits the solution will provide. By breaking your tasks into business processes, identifying breakdowns and determining how an EDMS can address the breakdowns, you will establish your needs and back them up with solid data.

The act of performing a process analysis typically has a significant impact on the people who are involved. They learn to look at regular tasks differently and develop a keen understanding of what an EDMS can do for them. You'll probably want to have these people involved in the presentation, given that their understanding and enthusiasm cannot be duplicated. Additionally, preparing the presentation and defending their findings and recommendations will solidify their commitment to the project. That commitment is an "intangible" that usually proves to be highly valuable over the course of the project. Indeed, the personal investment in the project made by the members of the presentation team will often carry the project through to completion. Without this personal investment, the project has a significantly lower chance of succeeding.

Funding

The best thing you can do to ensure the EDMS project gets appropriate funding is to perform the analysis described above in order to clearly demonstrate the value the system will provide. However, there are cases where internal funding is simply not available or is insufficient to complete the project. A lack of internal funding should not deter you from moving forward with the project. There are a number of ways to find outside funding, and your analysis provides you with everything you need to develop a grant proposal.

For more information about grant proposals, please refer to **Appendix I: Preparing a Grant Proposal.**

City of Leoti, KS

How System Interoperability Helps Municipalities Secure Grant Funds

Armed with a grant from the U.S. Department of Agriculture's Rural Development Program, the City of Leoti (population: 1,700) implemented Laserfiche as part of a waterworks improvement initiative. Laserfiche's interoperability with a Geographical Information System (GIS) from ESRI® played a key role in the initiative's design.

During the implementation process, the creation of digital maps in the GIS occurred simultaneously with the creation of a digital repository containing the city's documents. Now, when staff members use the GIS to pinpoint the location of mains, hydrants, valves and other water system infrastructure, they can instantly access relevant documents, such as maintenance reports on a particular hydrant. Project leaders anticipate that this system integration will ultimately enable the city to improve the delivery of all municipal services.

City Clerk Renee Geyer notes that cost is the biggest obstacle facing small municipalities thinking of following Leoti's lead. "We could not have made the budgetary commitment without the grant, even though I believe the two systems will more than pay for themselves," Geyer says. "In addition to seeking their own grants, small cities and towns could look into joining forces with other agencies, such as the schools and county government, or putting together a group of small municipalities to share the costs."

Implementation

Implementing an EDMS is always a unique undertaking – no municipality is quite the same as any other. There are, however, guidelines and considerations that anyone approaching this task should consider.

The Role of IT

Implementing any technology solution in a municipality will require the participation of the IT department. It is therefore critical to involve IT in the decision-making process in order to ensure the appropriate level of cooperation necessary for a smooth deployment.

The most important consideration in relation to IT is the appointment of a dedicated resource. A single person (or a well-defined group of people) in IT should be designated as the project specialist(s). This has a number of advantages. The appointed person becomes an expert in the software, which reduces the time necessary to resolve issues that may arise. Also, this person will serve as the primary point of contact for the system's vendor, which makes resolving issues and performing upgrades more efficient. Ideally, this person will also train a backup so that institutional knowledge is not lost should the person take on a different role or depart from the municipality.

How to Get Started

There are three general ways that a municipal EDMS installation can be done:

The Hub Approach

In the *hub approach*, all the departments use a single document repository. This is the best method when a single department, such as the clerk's office, will be responsible for all the records that the municipality will store in the system. In particular, this strategy should be used when a Records Management component will be implemented, because having all the records in a single repository makes management straight-forward.

In a single repository installation, it makes sense to begin the implementation with the clerk's office. This has another advantage, given that the other departments will want to access the clerk's documents, such as land records. Starting with the clerk's office will thus provide an immediate benefit to other departments as well. However, be careful not to make the additional deployments too complicated. Generally, the first phase of this approach should focus on enabling day-forward scanning and starting the back-file conversion process.

When taking the hub approach, it is very important that the EDMS contains security features that you can use to hide documents and folders from certain users or groups of users who should not be able to access them. This makes the presentation of the repository to each department much more intuitive, given that staff members only see areas of the repository that they can access. This allows the repository to appear as if it's been individually tailored for each department.

The Chain Approach

In the *chain approach*, several repositories are deployed in quick succession. Each repository is then used by a department or small group of departments. Municipalities may choose this approach when their preference is for more distributed administration, which can make deploying to departments with sensitive documents, such as the police department, simpler. Administrators of one repository have no access to other repositories, unless specifically granted it.

For this method, it is strongly recommended that the department with the simplest needs goes first when rolling out the system. This allows the vendor to get familiar with the culture of the municipality, and in particular with the IT department and the specialist assigned to the project.

In this scenario, success is contagious. Once the first phase is complete, and other departments see the benefits, they will be even more eager to implement the solution themselves. Also, lessons learned in one phase of the implementation can be used to make later phases even smoother.

The Pain-Point Approach

It's not uncommon for the department that drove the acquisition of the solution to be the first department to implement it. However, in comparison to other departments that are following along, it's also not uncommon that the implementation for the department driving the project is the most complicated. This can be a set-up for failure, or at the very least lead to an unnecessarily long implementation. Especially in cases where you're implementing multiple repositories, it's strongly recommended that you tackle a simple aspect of the project first. While this may mean delaying the implementation for the driving department by a few weeks or months, it will most likely save time in the long run.

City of Surrey, BC

How Implementing a Pilot Program Produces Immediate Results

The City of Surrey's adoption of an EDMS began with a request for a large-format scanner from the Planning and Development Department. Recognizing the regulatory ramifications of scanning documents and placing them on the network without having a comprehensive records management plan, the city launched an initiative to implement an enterprise information management solution.

Prior to undertaking a city-wide installation, the city established a pilot program in the Planning and Development department. On average, this department issues 100 building permits per week, generating from 60 to 100 records related to each property. In addition to processing and filing these records, department staff members constantly receive requests for copies of archived building plans from inspectors, other city departments and members of the public.

Once the department's records were scanned into Laserfiche, users could quickly locate digital building plans by entering the property's address. Laserfiche's full-text search tools also enable users to pinpoint information within related documents. Because staff members no longer have to search through paper, microforms and microfiche to fulfill information requests, the department has reduced search and retrieval costs by at least $30,000 per year. Furthermore, in-house scanning saves applicants the cost of having to submit duplicate copies of building plans. And a 50 percent reduction in the amount of time necessary to review plans means that applicants enjoy faster turn-around times for permit applications.

Capture and Organization

In every department, staff members need to consider (1) How they are going to capture their documents; and (2) How they are going to organize the documents so that they can be found later.

What Needs to be Captured?

To answer this question, you must determine which documents are worth capturing. It could be that most, or even all, of your records will be scanned. However, when implementing an EDMS, departments often start by scanning everything. At a later point, they realize that they do not need to place all these documents in the repository. Decisions then have to be made regarding what to do with the documents already in the system, and what to do moving forward.

The most important consideration when thinking about capturing documents is what template (or indexing) information you will be capturing along with them. The rule of thumb is to capture information that will best enable you to find the document later. You can capture other sorts of information as well; however, keep in mind that, if you are indexing manually, each additional template field increases the cost of adding documents to the repository.

Most users of an EDMS organize their documents in an electronic folder structure within the system. Some users of an EDMS find the folder structure very useful, while others think it adds extra complexity without sufficient benefit. Keep the following factors in mind when deciding whether to implement a folder structure in your EDMS:

- If the folder structure is logically organized, browsing through it is almost always the quickest way to locate a specific document.

- Although creating and maintaining a good folder-structure requires additional effort, the amount of effort diminishes as the repository is used over time.

What's the Fastest Way to Capture It All?

The fastest way to capture information is through automated capture. Whether this is feasible, however, depends on the structure of your documents. If the data you need to capture appears in the same place in each document, this data is a good candidate for automated capture. The other consideration is whether the data is machine-written or handwritten. Machine-written text can be consistently captured, but handwritten data can be difficult to capture well.

Slip-sheets are another possibility for automated capture. Usually, the slip-sheet will contain a barcode or barcodes that encapsulate the data to be captured, but machine-written text can be used as well. The difficulty with this method is that the data being printed out on the slip-sheets has to come from somewhere. Thus, this is most appropriate when most or all of the data can be pulled from another source, such as another application's database.

A third possibility is real-time lookup of data in a third-party database. This method is applicable to departments that use a primary application, such as a permitting system, that stores data. This data can be associated with documents as they are captured. For example, permits could be scanned, and, based on the permit number, data could be pulled from the permitting system and used to index the scanned document.

Centralized v. Distributed Capture

Your process analysis provides you with the information you need in order to decide whether centralized capture or distributed capture will work best for your municipality. Centralized capture, also known as "the mailroom approach," is a static process in which staff members submit documents to a scanner operator. This approach appeals to many records managers because it provides them with a great degree of control over which documents get scanned into the repository. Furthermore, because the same person scans and indexes all documents, there's a high degree of organizational consistency and a low error rate.

In distributed capture, document creators and contributors scan and index their own work. This process typically results in reduced labor costs, given that multiple people scan and index documents as part of their normal workflow. It also eliminates the lag time associated with shipping documents to a centralized location for scanning. However, because numerous people in the municipality are scanning documents into the repository, records managers may feel that they have less control over which documents get scanned and where they're stored in the repository.

Speeding Up the Process of Manual Entry

If you have to perform manual indexing, there are a few things you can do to make the process as efficient as possible. Familiarity with the location on the documents of the data to be captured reduces the time to process each document. Therefore, it is best to appoint members of the department to handle scanning certain types of documents, or select one person who will handle all the documents. Especially if the department is handling its own back-file conversion, this person should have a defined time period during the work day when s/he will scan documents.

A good EDMS should provide tools for manually processing documents as quickly as possible. One very helpful tool is a concept embodied by the Zoom Fields feature in the Laserfiche Quick Fields™ module. This feature automatically zooms in on the area of the document that contains the data the user needs to key in.

Another helpful tool is robust batch-processing. The EDMS should offer functionality for scanning large numbers of documents, and then separating, sorting and indexing them. This allows the user to spend less time scanning images, which makes the overall capture process that much shorter.

Back-File Conversion

Every municipality has been generating documents prior to the implementation of the EDMS. This means conversion of historical documents – known as back-file conversion – will probably be necessary. If your organization intends to perform back-file conversion, this process must be included in your project plan, given that it can influence both the character of any Request For Proposal (RFP) you issue, as well as the overall arc of the implementation.

There are many businesses that specialize in back-file conversion. As specialists, they will likely be able to do the conversion more quickly and cheaply than you could do it yourself. Nonetheless, the conversion process will need active oversight from a member of the department that owns the documents. This person will coordinate document pick-up and delivery, as well as monitor the quality of the scanned images. Also, keep in mind that no matter how well the conversion process goes, some clean-up of the data after the process is complete will probably be necessary.

Organization – Folder Structure

If you are going to implement and maintain a usable folder structure in your repository, there are a few things you should keep in mind:

- The folder structure should mimic the way the department is organized. This will give users an instant familiarity with the system.

- Don't forget that folders are intended to organize documents. Having a folder that will never contain more than one or two documents does not aid organization.

- Folders are a way of categorizing documents and grouping them together. Combined with indexing, you can group and classify your documents in multiple ways.

- If you are implementing Records Management in Laserfiche, Records Series behave just like folders as far as end-users are concerned.

Organization – Indexing Structure

Here are a few things you should keep in mind when determining the indexing structure for your documents:

- Each collection of template fields should be applicable to a number of document types. This maximizes flexibility.

- You can apply a single template to multiple document types, even if you store each type of document in its own folder. For example, you might decide to store resolutions in the Resolutions folder and agendas in the Agendas folder, but you could apply a City Clerk template to documents of both types, in order to capture uniform information.

- You don't have to enter information in every template field for every document.

- If you are manually indexing documents, compare the labor required to input the data to the labor saved by having the data available.

- Highly-usable systems have well-tuned indexing.

The Dublin Core Metadata Initiative, which is an international organization that promotes the adoption of interoperable metadata standards, publishes a list of the data elements that are useful for indexing documents. To view this list, visit **http://dublincore.org/.**

Security

Setting up security will vary from system to system, but there are some general principals that you should adhere to:

- You generally want to assign access rights by group, not individual user. This allows you to quickly move users from one group to another when their role in the organization changes, and to more easily provide new users with access to the system.

- The EDMS should have built-in security features that control access to documents. It should not require users to have direct access to files through the operating system.

- To further guard against external access, use Windows® file encryption for extra security.

Integration

The most typical question about integration is, Can System X be integrated with System Y? The answer to this question depends upon each system's architecture. In order to understand this point, you might think of integration as a conversation. In order for two people to hold a conversation with each other, two things must be true:

- Each person must be capable of speaking and hearing.

- Each person must understand the other.

So, when someone asks whether System X can be integrated with System Y, the person is really asking two questions:

- Can System X and System Y transmit and receive data from an external source?

- Can the data from one system be packaged in a way that the other system understands, and vice versa?

To see this process in action, consider an integration of Laserfiche with the ArcServer™ geographical information system from ESRI:

1. In ArcServer, the user selects a parcel of land and clicks a button. The identifying number for the selected parcel is transmitted from ArcServer to Laserfiche.

2. Laserfiche receives the information and "recognizes" that it identifies certain documents, which it then searches for.

3. When the documents are found, Laserfiche transmits them to ArcServer.

4. ArcServer receives the documents as a collection of images and recognizes them as such, so it displays them.

Notice that in describing how this integration works, both of the questions mentioned above are answered affirmatively:

- Can Laserfiche and ArcServer transmit and receive data from an external source? **Yes.**

- Can the data from Laserfiche be packaged in a way that ArcServer understands, and vice versa? **Yes.**

Information-Sharing Assessment

The first step in planning an implementation is to complete an information-sharing assessment. This assessment, which gauges your municipality's readiness to integrate an EDMS with other systems, should answer the following questions:

- **Architecture readiness.** To what extent do your municipality's current work processes, decision-making methods and conflict-resolution procedures support information sharing? Will the implementation of an EDMS cause tension between staff members and departments regarding ownership of and access to information?

- **Collaboration readiness.** To what degree do your current work processes require collaboration among staff members and departments? How will increased collaboration improve these processes?

- **Governance readiness.** How will the project management team establish effective policies and procedures related to the collection, storage and use of information in the EDMS? How will the team motivate staff members, mobilize resources, set goals and measure performance?

- **Staff readiness.** What are staff members' attitudes regarding new tools and techniques? How will the project management team foster active staff participation in the implementation process?

Implementing an Integration

There is a lot more to integrating software applications than can be covered in this document. There are, however, two important principles to keep in mind when planning an integration:

- Keep the focus narrow in order not to get bogged down in implementing unnecessary functionality. Scope-creep, or the addition of features not originally planned for, can severely delay or even destroy an integration.

- Implement the integration in steps. Get core functionality implemented as quickly as possible to bring the integration into production. Once the system is live, you can consider the addition of other features.

Standard Types of Integration with an EDMS

There are three common types of integration that are done between an EDMS and other software applications.

Image Enablement

Image enablement of a third-party application is the most typical integration involving an EDMS. This is because of the supplementary nature of documents. For example, PeopleSoft stores extensive data on an employee, but it doesn't store related images, such as scanned copies of the employee's application or social security card. These documents supplement the data that is stored in PeopleSoft. Image-enabling PeopleSoft would allow users to click a button within PeopleSoft that launches the display of documents supplemental to the employee's record.

Data Exchange

Data exchange involves the transfer of data from one system to another. Usually, the data is moved from another system into the EDMS. However, the integration can involve moving the data from the EDMS to another system, particularly if you're using automated data capture. In either case, the reason for this sort of integration is to avoid entering the same data multiple times, and to keep data as up-to-date as possible.

Data Enablement

Data enablement is the opposite of image enablement. In this case, the user opens another application from within the EDMS. For example, a user could access a deed in the EDMS, click a button and have the associated parcel map displayed in ArcServer. These integrations are less common, however, due to the supplementary nature of documents.

Integration with Microsoft® SharePoint™

Many municipalities have expressed an interest in Microsoft SharePoint. SharePoint encourages cross-department and cross-platform collaboration by enabling users to easily access and edit documents, as well as to easily communicate with each other to discuss edits, outstanding tasks, etc. Because SharePoint integrates with the Microsoft Office product suite, users have access to familiar editing tools, and SharePoint's Web-based architecture is designed to simplify the deployment process.

An EDMS complements SharePoint by providing a secure repository in which you can store completed documents. By archiving your documents in the EDMS, you can take advantage of its superior document and records management capabilities, as well as its advanced search functionality. Also, if the EDMS includes a Web interface, you can typically add its user controls to SharePoint pages in order to tighten the integration between the two systems.

Managing the Implementation

For information about what to include in your implementation plan, please refer to **Appendix II: Sample Project Management Methodology.**

City of Bryan, TX
How Interoperability Increases Staff Efficiency

The City of Bryan's initiative to implement an EDMS began with the formation of a committee to evaluate different vendors' systems. As part of the evaluation process, the committee considered how well each system would help the city meet its goals of reducing the cost of document storage and retrieval, providing citizens with online access to documents and applying retention schedules to electronic records.

After the committee selected Laserfiche, the city decided on a multi-phase implementation plan. The first phase occurred in 2001 with a rollout to seven departments, including the city secretary's office. As part of this phase, the city also installed Laserfiche WebLink to provide the public with online access to city ordinances, meeting minutes, resolutions and other documents.

By 2005, fifteen departments were using Laserfiche, and the city was able to do away with a 1,500 square foot storage area that had previously housed paper records. Using Laserfiche's search and retrieval tools, staff members were able to locate documents in a matter of minutes, greatly improving response times to information requests.

In 2006, the city pioneered an integration between Laserfiche and Sungard® HTE, the software application the city uses for accounting, risk management, permits and other purposes. This integration enables staff to access either application from within the other, which has resulted in streamlined work processes and increased staff efficiency.

How Information Technology Enhances Government Innovation

Ideally, all government innovation should have the goal of maximizing citizen value. To accomplish this goal, governments must implement solutions that enable them both to improve the delivery of services to citizens and to encourage more active citizen participation in government. As we've explained throughout this paper, the implementation of an EDMS maximizes citizen value in a number of ways:

- By eliminating laborious, paper-based processes, an EDMS enables staff to complete daily tasks more quickly and to locate critical information almost instantaneously. Because departments can easily share documents with each other, staff members have ready access to the information they need to make timely, accurate decisions and ensure continuity of operations when it matters most.

- By employing robust security measures, an EDMS protects citizens' private information from theft, tampering or unauthorized release. In addition, scanned documents are much less likely to go missing than paper files, and comprehensive search capabilities make it virtually impossible to misplace documents within the electronic repository. Records management functionality helps to ensure compliance with data security standards throughout a document's lifecycle.

- By storing documents in a digital format, an EDMS presents new opportunities for sharing information with constituents. For example, you can provide citizens with 24/7 access to the information they need—from resolutions and meeting minutes to maps and land-use records—on your municipal Website. The convenience of this system not only enhances citizen satisfaction but also empowers citizens to participate in government processes and decisions.

- By integrating with a number of third-party applications, an EDMS delivers smarter work processes across all departments—without requiring staff members to change the way they work. Flexible indexing and file structures enable you to organize information in the way that's most intuitive to staff, meaning they spend less time searching for information and more time actively using it in order to better serve the public.

Appendix I – Preparing a Grant Proposal

Successful grant proposals are well prepared, thoughtfully planned and concisely packaged. They also conform to all the requirements specified by the issuing agency, particularly requirements related to proposal structure and due dates.

Contents of a Grant Proposal

Although different agencies have different requirements regarding the contents of a grant proposal, you'll typically need to submit four key items:

Executive Summary

The *executive summary* presents a general overview of the project. Because this is the first item the evaluation committee will read, it's important that you concisely describe the problem you're facing and explain how your solution will address this problem. The executive summary should also state the project's budgetary requirements.

Although the executive summary appears first in the final proposal, it's typically written last, given that it draws on information contained in the other proposal sections.

Statement of Need

In the *statement of need*, provide more in-depth information about the project's background. Educate your readers on the issues and demonstrate your in-depth understanding of these issues. Furthermore, explain in detail how the problem you're facing interferes with your delivery of services to constituents. This information prepares the reader for the next section of the proposal, in which you describe your project and its benefits in detail.

To support your claims in this section, use solid, carefully-chosen statistics or other unbiased data. You might also include quotes, either from constituents or outside experts.

Project Description

The *project description* provides readers with a detailed understanding of how you'll implement the solution. List the specific, measurable objectives you intend to accomplish. Then identify the methods you'll use to accomplish them. Finally, explain the criteria you'll use to evaluate the project's success.

This section should also explain how you'll sustain the project financially once you've exhausted the grant funds.

Budget

The *budget* details how you intend to spend the grant money. Because the budget is so closely tied to the project's structure, it will probably be the first part of the proposal you complete. It's critical that you tie everything in the proposal to the budget, so that the reader clearly understands how you intend to spend the grant funds. Also, make the budget as detailed as possible–for example, instead of a "miscellaneous" category, specifically allocate small sums for supplies, transportation, etc.

Unless the agency specifies otherwise, feel free to use footnotes to provide readers with more information about particular line items.

Guidelines for Writing an Effective Proposal

There are a number of steps you can take to increase the clarity and persuasiveness of your grant proposal:

- Provide solid detail. Avoid talking about a grand vision or listing lofty objectives. Instead, provide a detailed explanation of your project and list concrete objectives that you can reasonably accomplish, given the time period and budget you're working with.

- Choose verbs carefully. Avoid inactive verbs, such as forms of the verb *to be*, as well as verbs that imply contingency, such as *could* and *might.* Instead, use active verbs that clearly covey what you intend to accomplish, such as *achieve, create, develop, educate, implement, improve, manage, organize, promote, refine* and *support.*

- Explicitly follow application guidelines. Prior to submitting your proposal, make sure that you've included all of the items requested by the agency, in the order requested. Take careful note of due dates and formatting requirements, and seek clarification on any requirements you don't understand.

- Strategically select your targets. Rather than creating a generic proposal and submitting it to numerous agencies, take the time to research available grants and only apply for those to which your project is most suited.

- Use the agency's own language. Carefully study the language the agency uses to describe its objectives in awarding the grant, and use the same language in your proposal.

- Keep it simple. Because the evaluation committee must read numerous applications, you want to streamline your proposal as much as possible. Although it's important to explain the problem and your solution in detail, make sure the information you include supports your overall argument.

Online Resources

Because descriptions of grants are typically posted online, the Internet serves as your best source for locating available grant money. The Federal Government's online grant clearinghouse (**www.grants.gov**) provides not only a description of available grants but also enables you to submit applications electronically. You can typically find information about state government grants by using the search functionality on each state's official Website.

You can also find online information about grant writing, including recommendations for writing more effective grant proposals. Sites you might consult include **www.grantproposal.com** and **www.proposalwriter.com.**

Appendix II – Sample Project Management Methodology

In planning your implementation, you may find it useful to refer to the following project planning methodology. Although not all projects will require the formal planning, documentation and reporting described below, understanding the process will be helpful in designing your own project plan.

Requirements Analysis

Performing a thorough requirements analysis is a critical first step to successfully completing a project on time and within budget. The requirements analysis involves the inspection of the documents that will be captured, the processes that will be automated and the ways people will use and interact with the documents once they've been digitized. During the requirements analysis, you should examine and document important design factors such as security and retention requirements. Once the analysis is complete, you should prepare a summary report.

Confirm the Architecture

In most cases, the architecture of the proposed solution is developed using whatever information is available. Once the requirements analysis is completed, you should confirm the appropriateness of the proposed architecture. If modifications are required, you should document them, along with the reasons for making each change, in the summary report.

Confirm the Software

Using the information from the requirements analysis, you should confirm that the proposed software solution is appropriately configured and licensed. You should document any required addition (or removal) of applications or licenses in the summary report.

Confirm the Hardware

Information about document types, expected performance, user behavior patterns, retention schedules and expected capture volumes can greatly affect the design of the hardware solution. Once the requirements analysis has been completed, you should confirm that the appropriate hardware configuration has been proposed. If modifications are necessary, you should document them in the summary report.

Confirm Deployment Environments

The deployment environment can have a significant impact on the way you deploy your solution. You should examine network bandwidth, desktop hardware and legacy systems to confirm the solution can be deployed as planned. In the summary report, you should document any changes to the proposed solution based on environmental factors, as well as any required environmental changes.

Planning

The formal work plan will serve as the master schedule by which progress will be measured. You should use the work plan to track all project-related activities and generate scheduled and ad hoc progress reports. No work on the project should begin until you've developed the work plan.

Assemble the Project Teams

The work plan should identify the personnel required to complete the project. In most cases, you should include members from each department and from IT, as well as an overall project manager. You should assign roles for each team member and establish a general reporting structure.

Develop a Detailed Project Work Plan

You should logically separate the overall project into distinct milestones, and you should break the milestones into a series of tasks that must be performed in order to achieve each milestone. You should also assign tasks to the appropriate team members in order to clearly define responsibility.

Schedule Status and Milestones Meetings

Regular status meetings help the team to meet milestones and complete the project on time. Because achieving milestones requires team members to complete their assigned tasks, it's important to develop a realistic timeline for completing these tasks.

Develop a Support Plan

A written support plan helps you ensure that end-users and system administrators have access to the proper support personnel when necessary. You should document response times to helpdesk inquiries, and define escalation procedures for more difficult issues. The support plan should also detail helpdesk ticketing procedures and personnel to be notified regarding the status of current issues.

Develop a Communications Plan

In addition to scheduled status and milestone meetings, regular communication between project members is necessary. Additionally, it's important to provide reports or documentation to management as the project progresses. It's also important to document the content of each meeting, as well as the decisions that are made, and distribute this information to team members who cannot attend.

Design

Design is usually the first milestone of the project plan and should always be documented in detail. You should develop system specifications that meet the needs outlined in the requirements analysis. These specifications should be submitted for approval before the build process begins.

Build

The system should be built according to the approved specifications. Any changes that need to be made should be added to the specifications document and agreed upon before they are implemented.

Test

Before the solution is rolled out, you should perform comprehensive testing. It's important to identify issues through testing so that productivity is not hindered once the system goes live.

Unit Testing

The proposed solution is made up of individual components that must be installed and tested within their environments. Implementation of a software or hardware component is not complete until it has been thoroughly tested.

System Testing

The overall system should be tested to verify that the individual components work together as planned.

Overall System Architecture Test

The system should be tested according to the way it will be utilized. You should test functions such as scanning, data extraction, exporting and document routing to verify that they're working as expected. You should also test hardware components to verify that image quality is acceptable and all devices can communicate with each other.

Load Testing

Once you've determined that the system works as designed, you should conduct load testing to ensure that it will provide expected performance once it's in production. You should also test network bandwidth and server I/O under loads to verify that things like scanning at peak capacity won't affect search and retrieval.

Revise

Based on test results, there may be functional or performance issues that require modifications to hardware or software components. System modifications should require the approval of an appended specification before they're made.

Revise the Program

You should make revisions according to the appended system specifications. You should test new hardware or software components individually to verify that they function as anticipated.

Regression Testing

You should conduct regression testing to ensure that modifications don't adversely affect system components that originally worked as anticipated.

Rollout

The system should be rolled out according to a well-defined plan. You should coordinate all rollout activities, such as pilot testing, change management activities and training, to ensure a smooth transition to the new system.

Pilot Group

Before the system is rolled out to the entire user community, you should conduct pilot testing using an appropriately diverse sample. During the pilot program, you should monitor usage patterns to verify that the system will be used as predicted and that system components will support the planned usage. You should also solicit usability feedback and determine training requirements.

Communication Plan

You should develop a plan that describes the way project-related activities will be communicated to users. It's also important to develop a way for users to communicate with the appropriate project team members.

Pre-Launch Notifications

If the system launch affects the way people will do their jobs (such as day-forward scanning or work-flow requirements), it's critical to give proper notification of when the system will be launched and how users will be affected. Pre-launch notifications can also act as effective change-management activities, providing a forum for users to discuss any potential questions or worries.

Launch Notifications

Launch notifications serve as the formal notice of system rollout and should explain what is expected of system users.

Post-Launch Notifications

Post-launch notifications keep the user community abreast of accomplishments, changes and any system-related issues that may affect them.

Training

Providing proper training is critical to the success of the implementation. In most cases, training should be provided onsite, in groups according to role/function and using a copy of the production system.

User Training

User training should be hands-on and conducted in groups, using a replica of the production system. Whenever possible, users should be grouped according to their role or function so that you can target the training as much as possible. You should also schedule follow-up training sessions to address questions that come up after initial system use.

System Admin Training and Procedures

You should encourage system administrators to participate in as much of the implementation process as possible, so they understand how the hardware and software components are configured and work together. System administrator training should cover the overall design of the solution, as well as the way individual components work. It should also cover security configuration, troubleshooting and maintenance. You should pay particular attention to regular maintenance procedures to verify that the system continues to perform as expected.

Define Internal Escalation Path

You should document the way problems are reported, addressed and escalated. Internal support personnel may be trained to address common issues, such as ensuring proper hardware connectivity, resetting passwords, etc. You should give internal support staff system documentation and access to an online knowledge base to assist them with these tasks.

Define Escalation Path to the Vendor

You should establish lines of communication for escalating issues to the vendor for support. You should also document response times and resolution procedures.

Project Wrap-Up

Once all of the milestones on the work plan are achieved, the implementation is considered complete. Project wrap-up activities may include formal sign-off and a final status meeting.

Publish Project Audit

If included in the work plan, a project audit should be published outlining the project goals, issues faced and final outcome of the implementation.

About Laserfiche Solutions

Laserfiche creates simple and elegant document management solutions that help organizations run smarter. Since 1987, more than 23,000 organizations worldwide have used Laserfiche software to streamline processes for managing documents, records and workflow. Laserfiche is also the acknowledged leader in the local government market, with over 3,000 city and county governments in the United States and Canada relying on Laserfiche solutions.

By digitizing paper archives, Laserfiche enables users to instantly pinpoint the information they need, to collaborate more effectively and to complete daily tasks more efficiently. Secure Web access allows governments to share information with constituents, while user- and role-based security options ensure compliance with government-mandated standards, including Department of Defense (DoD) standard 5015.2