A STRATEGIC PLAN
FOR
ELECTRONIC RECORDS MANAGEMENT
IN MONTANA STATE GOVERNMENT

A PROJECT OF:
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INTRODUCTION

The introduction of new technologies has transformed the way that Montana state agencies do business. No longer dependent on handwritten correspondence or documentation in large bound books, the state strongly relies on information that is created, disseminated, maintained and often times stored in electronic format. This format allows the state an efficient means to collect, communicate and document information needed to accomplish the business of the state. This same electronic means of communication allows the state to collect information from and disseminate information to its citizens. As the state increases its reliance on electronic formats to accomplish its business and to communicate with its citizens concerns, arise about the problems associated with managing this electronic information and ensuring its integrity.

As the state moves forward in its implementation and use of electronic records, a paradigm shift must take place in how these records are managed and preserved. After all, these records are the evidence that actions have taken place, decisions were made, and policies and procedures were adhered to. These records also serve as the basis of information current state employees use to conduct state business and future state employees can use for analysis of such business. Current events show us that the absence of records of government actions not only lead to business inefficiency, but also open the government to both political embarrassment and claims of fraud and abuse. Should litigation be brought against the government, the absence of these records leaves the state little or no legal defense. As governments move beyond the paper-only format, these records become more and more difficult to properly maintain. In order for the state to maintain these records in an accessible format, some of the state's recordkeeping practices must also change.

As the electronic age moves quickly from punch cards to mainframes to desktop PCs to PDAs and beyond, anxieties surface over the ability to use and preserve electronic information over time. These concerns led the Montana State Records Committee to apply for a grant from the National Historical Publications and Records Commission to develop an Electronic Records Management Strategic Plan. The focus of the Strategic Plan is to benchmark the State of Montana against some best practices and national standards and to provide recommendations that would allow the development of an enterprise-wide program detailing standards for the creation, maintenance, disposition and long-term preservation of electronic records.

The Strategic Plan is designed to provide guidance toward best practices and also recommendations to end users, records managers and coordinators, IT staff and other managers regarding the identification, maintenance, disposition and long-term preservation of electronic records. A statewide partnership that recognizes and leverages electronic information systems has the potential to add value and efficiencies to the access of state records and their information. However, this very potential can become a liability if they are poorly planned and implemented or do not retain the integrity of the information.

Good electronic records practices cannot exist in a vacuum, therefore, this plan also touches on general records management practices. Poor records management practices of the traditional formats of records (paper, film, microform, etc) would translate to poor management of electronic records and any implementation of a system to handle electronic records and their long-term preservation would be doomed to failure before it began.

DEFINITION OF ACRONYMS

The following acronyms have been used:

AIIM – Association for Information and Image Management
ARMA – Association of Records Managers and Administrators
ASCII – American Standard Code for Information Interchange
GAO – Government Accounting Office
GIF – Graphic Interchange Format
HTML – HyperText Markup Language
IETF - Internet Engineering Task Force
ISO – International Organization for Standardization
IT – Information Technology
ITSD – Information Technology Services Division
JPEG (JPG) - Joint Photographic Experts Group
KSHS – Kansas State Historical Society
NAGRA – National Association of Government Archivivists and Records Administrators
SGML – Standard Generalized Markup Language
W3C - World Wide Web Consortium
XML – Extensible Markup Language

DEFINITION OF AN ELECTRONIC RECORD

The definition of a record is fairly standard across enterprises. A combination of several common definitions of a record states: "A record means all volumes, documents, reports, maps, drawings, charts, indexes, plans, memoranda, sound recordings, microfilms, photographic records and other data, information or documentary material, regardless of physical form or characteristics, storage media or condition of use, made or received by an agency in pursuance of law or in connection with the transaction of official business or bearing on the official activities and functions of any governmental agency." Published material acquired and preserved solely for reference purposes, and stocks of publications, blank forms and duplicated documents are not included within the definition of government records.

According to Montana Code Annotated 2-6-202 a "public record" includes "any paper, correspondence, form, book, photograph, microfilm, magnetic tape, computer storage media, drawing, or other document, including all copies of the record regardless of physical form or characteristics…that has been made or received by a state agency in connection with the transaction of official business…the term includes electronic mail…."

However, when designing and implementing an electronic records management plan, the definition of an electronic record has to be clarified. This is because the records management staff uses the definition of a record as outlined above, but the IT staff tend to use the term record in a different fashion. When the term "record" is used by someone in IT it is used in the sense that "record" is a file of data. Furthermore, in database management a record is a set of information; records are composed of fields and a set of records makes a file (GAO).

Therefore, before discussion or implementation of an electronic records management system begins the definition of a record must be clear. For the purposes of this plan, the definition of a record follows those that have been listed above.

BENCHMARKING PROCESS

The grant received from the National Historical Publications and Records Commission allowed the Montana State Records Committee to bring in an independent third party to evaluate several Montana State Agencies and the current state of their electronic records programs. The information received was then to be benchmarked against several programs mentioned by the State Records Committee and also against current trends pertaining to electronic records management. These are contained in APPENDIX A. This strategic plan is heavily indebted to those agencies and institutions listed in APPENDIX A. They are on the forefront of an issue that is not only fairly recent, but one in which there is often little consensus.

The process involved the contractor setting up interviews with specific agencies requested by the State Records Committee and others as time permitted. The contractor used a series of general questions pertaining to electronic records. These questions are listed in APPENDIX B. This series of questions were used as the basis of the interview, but these were not the only questions asked during the evaluation process.

Programs and trends used in benchmarking

The foray into electronics records management and the preservation of electronic records presents great opportunities to use information in ways that add value and create efficiencies. However, if poorly planned and implemented, it can create informational liabilities and gridlock. The use of electronic records management systems and then trying to preserve that information is a fairly recent trend in records management. There are reams of information available on tried and true methods to creating, maintaining, dispositioning, and preserving records in the "traditional" formats of paper, photo, film and microforms.

However, partially due to the rapid change in the electronic world, reliable information on dealing with electronic formats is more elusive. There are studies, practices and procedures advocated by vendors, institutes, corporations, governments and records managers. Much of this information is valuable, some is misleading or inaccurate and some turns out to be based more on myth than fact. Even information that is valuable is often contradictory. It is not that one is fact and one is fiction, but rather, that the field is so recent and ever-changing that there are divergent views on how things should work.

This plan was benchmarked against many standards, practices and recent trends in the field of electronic records management. These are listed in APPENDIX A.

State of current electronic records management programs in Montana State agencies

An analysis of the survey results highlighted the following trends.

- No comprehensive, statewide program for managing electronic records
- No statewide authority to require compliance with records management processes

- Current statewide IT programs are an expensive way to achieve an electronic records management system
- An enterprise-wide content management system will not occur without legislative initiative and funding
- Desire of staff to use a workflow product in conjunction with an electronic records system
- Desire to consolidate and share data

Many of the respondents made notice that there is not a comprehensive, statewide program for managing or preserving electronic records. The state has established a statewide program for implementing IT projects and systems. However, there is no statewide guidance for implementing or associating any electronic records management or preservation program to these IT projects. Montana Code Annotated 30-18-116 leaves the creation and retention of electronic records in the hands of each agency. Every agency is responsible for determining to what extent it will delve into electronic records and provides no comprehensive guidance. Many feel that their agency would be more willing to implement a system if it were done at a statewide level. Even though, there is a concern that such an enterprise wide system would be overbearing and expensive.

There is a feeling amongst many of the agencies that there will not be a statewide electronic records management system in place until there is a person, board or agency that is given the authority to statutorily require agency participation. Currently there is the Montana State Records Committee, a Records Manager within the Office of the Secretary of State, and a State Archivist within the Montana Historical Society but all three exist as more of an advisory capacity rather than a compliance role. Although Montana Code Annotated 2-15-404 states that "the secretary of state may develop and implement a statewide electronic filing system to accommodate the electronic filing of records and documents that are required to be filed in the office of the secretary of state", it implies that only those records required by the Secretary of State are covered. This is not a true statewide records management program. Another comment made in the survey that relates to this is that each agency should have their own records management programs audited by the Legislative Audit Division in the same manner that many of their other functions are audited. For further discussion please see the Roles and Responsibilities section of this paper.

Another prevalent comment is that the current ITSD FileNet Systems are an expensive and heavy-handed way to go. The ITSD staff answers this concern by talking about an economy of scale. In short, the more agencies that sign on to a system, the cheaper it is. A statewide system is also less expensive for the state than each agency having its own dedicated IT staff. Nevertheless, agencies believe ITSD services are too pricey and those ITSD systems are not flexible enough to meet agency needs. From a records management, and certainly from a preservation standpoint, a poorly implemented system will become an informational liability as agencies create a work-around on the system they feel does not meet their need.

Most agencies feel that implementing electronic records management and preservation is an expensive proposition. They also feel that with statewide squeezes on current budgets and staff that the only way to achieve a true enterprise-wide content management and preservation system would require both a statutory mandate and funding from the State Legislature.

Another element of an electronic records management system that many people desired is the ability to institute workflow. The ability to conduct the business of an agency entirely within an electronic environment is very attractive. While everyone realizes that a paperless office is not likely, they are excited at the prospect of having multiple persons having simultaneous access to a file or not having a file "buried on a desk somewhere".

Lastly, many agencies expressed the desire to be able to consolidate and share their data. One agency claimed that a mere address change must go through multiple offices and be changed in several different databases. Over time these databases have become difficult to reconcile. The ability to consolidate these databases would save time and money. Many agencies need to share data, but find that the variety of platforms and formats within the state government make sharing data difficult.

BENCHMARKING AND GAP ANALYSIS

ROLES AND RESPONSIBILITIES IN MONTANA STATE AGENCIES

Current Montana State Agency roles and responsibilities

Currently there is no overall state person, agency or board with compliance authority for state records practices. The responsibility for records management within the state falls on the office of the Secretary of State. Montana Code Annotated, Section 2-6-203 gives the Secretary of State the power to establish guidelines for inventorying, cataloging, retaining and transferring agency records. The Secretary also can review and analyze agency filing systems and procedures. The Secretary also must approve filing system requests and establish and operate the State Records Center. Furthermore, the Secretary is responsible for making sure that agencies are current on information regarding records management. To this end the Secretary of State's office has requested that each agency provide a contact point that will assist the Secretary in this function. The Secretary of State has such a list, but notes that there is no consistency in placing persons in this role that have a vested interest in the agency records.

Currently, according to Montana Code Annotated 2-6-203(2), there is a Records Management Bureau that may offer services to other state agencies. However, it has no authority to require that others use its services or comply with its advice.

There is a the Montana State Records Committee that meets to approve destruction requests and give guidance to agencies regarding records management practices. But, it also has little authority beyond that as an advisory board.

Montana Code Annotated 2-15-404 gives the office of the Secretary of State the authority to "develop and implement a statewide electronic filing system to accommodate the electronic filing of records and documents that are required to be filed in the office of the secretary of state".

According to Montana Code Annotated 2-17-512 the ITSD has the authority for planning and program responsibilities for information technology for state government. Requests for shared information technology application software or management systems must be approved by the ITSD.

One of the observations made by the Montana Legislative Audit Division in their 2002 audit of the Records Management Bureau was that, although everyone agreed that "electronic records management will be of increasing importance," the issue is not being addressed at either the agency level or the policy setting level. Another of the recommendations that came out of this audit was that agencies needed to have records managers attached to them that could implement records management programs and train staff.

Benchmarked roles and responsibilities

Kansas has a Public Records Act (K.S.A. 75-3501 through 75-3518) and the Government Records Preservation Act (K.S.A. 45-401 through 45-413) that clearly defines the

responsibilities of state and local government agencies to "organize, protect, provide access to, and properly dispose of their records, including the transfer of noncurrent records with enduring value to the Kansas State Archives." Due to the fact that electronic records are "susceptible to loss, inadvertent destruction, mismanagement, and obsolescence", Kansas insists on "cooperation between management, staff who create and handle electronic records, specialists in information system design, and agency records officers".

Kansas also "considers the management of electronic records a shared responsibility demanding new partnerships with state agencies". Although some of the responsibility for implementation and managing electronic records is just a step away from the world of traditional records management, much of it requires new alignments or partnerships between "administrators, program managers, records officers, and information technology staff in agencies as well as between the agencies and the State Archives."

Some of the lessons learned about roles and responsibilities from implementation of electronic records management systems are found in the Government Accounting Office (GAO) report entitled "Study of Exemplary Practices in Electronic Records Management" issued in 2003. A few of the lessons they speak of include closing the culture gap between the communities of records management and IT. Many records management professionals are still living in a paper world and they do not understand the challenges that IT faces in rolling out its systems and networks. Likewise, IT is often so concerned with hardware and software that they do not understand the ramifications that the systems they are building have on the legal, financial and regulatory informational environments. Although the two communities may often talk to each other, too often they do not truly understand what the other community is saying. To implement a comprehensive electronic records management system, these two communities have to be able to not only communicate, but also to understand the challenges and constraints the other side must operate under.

Any barriers to communication between stakeholders of the process must be broken down, as each stakeholder must realize they are not the only one in the process with business requirements. The presence of informational "silos" between these stakeholders is an obstacle to successful implementation of an electronic records management system.

One of the methods the GAO recommend to accomplish this is to put a new rule in place. It simply states that if new informational IT systems are requested they must have a provision for the complete management of information. If there is no records management component, there is no funding allotted for the system.

Gap Analysis

A very noticeable gap arises between where the State of Montana currently sits in regards to its roles and responsibilities and where benchmarking places it against other agencies and best practices.

There is nothing intrinsically wrong with having such a decentralized program that Montana currently has, however, to have adequate control over its records a decentralized records

program must have someone with overall authority. Currently the state allows each agency to implement its own program with advice and input from the State Records Committee. This may work fine in a paper-based world, but electronic records bring such complexity that this is no longer practical.

One of the inherent problems with each agency having its own records management program is that it can easily lead to information silos as each agency collects and retains its information. Most of these silos are not created on purpose, but rather, the fact that they have information that others can use is not realized. This often leads to multitudes of redundant systems in an institution.

There was no evidence in the research of this paper that there was active cooperation between ITSD, the records management component in the Office of the Secretary of State, or the State Archives. Currently the ITSD must approve systems that agencies implement, but neither the records manager or the state archives has input in verifying that essential records management components are present. All of the programs and practices researched mentioned the fact that the IT, Records Management and Archives worlds cannot be in separate spheres of influence. Both deal with the flow of information throughout an organization and should not only be aware of each other's responsibilities in regards to that information, but active partners in managing it.

RECORD CREATION/CAPTURE

Current Montana State Agency Records Creation/Capture

There are a variety of methods of creating records that are required by the agencies of the Montana State government. Some of the records are created by hand, such as forms filled out by persons doing business with the state government, while others are created in an electronic format. Those agencies that have extensive public contact or work within a case file format (i. e. DPHHS, Corrections, and Revenue) see a larger percentage of records that actually begin on paper. Electronic records are created within quite a hodgepodge of formats. These include word processing, data entry, e-mail, digital scans, digital downloads, digital photography and CAD.

A perusal of the inventory seems to indicate that most records and information used by State Agencies are originally created in an electronic format. However, much of this information is then sent to the printer before it enters its active lifecycle. Most of the agencies surveyed discussed the desire to be able to keep information in a digital format for its entire lifecycle. Much of the information that is created electronically and then printed is scanned into a system in order to provide access and/or storage.

While records capture was not specifically covered in the survey, conversations indicated that most agency personnel were conscientious about the fact that the records and information they created as a part of doing state business were state property and needed to be captured. The only deviation about this was that there was no clear-cut concept about how to handle the records and other information that resided on the PC hard drive and personal network areas of elected officials that had left or were leaving office. This was a concern to several agencies especially in the light of some of the lawsuits that have been levied against the Federal Government over this very issue. In 1989 when the National Security Archives successfully sued the Executive Branch in an effort to prevent the White House from destroying computer files and e-mails related to the Iran-Contra scandal. In 1993, in regards to a challenge to the destruction of the e-mail and word-processing documents of the Reagan, Bush and Clinton White House official at the end of the administration. The Federal Circuit Court for the District of Columbia ruled that e-mail and word-processing files must be managed as government records. The agencies discussed concern that it was only a matter of time until these very issues reached the State of Montana.

Benchmarked Records Creation/Capture

The Indiana University Electronic Records Project defines records creation in a very definitive way. Their definition is: “Record creation occurs at the event or transaction level, and the actual records to be analyzed are those documents received as inputs to the system and those records created as a result of the outputs or elementary processes generated in response to the external or temporal event.” In short, information must be captured to show that an agency is doing its work.

The Kansas State Archives's Electronic Records Guidance list several problems and lessons learned regarding the creation and capture of electronic records; although some of the lessons are applicable to any type of record on any media. One of the foremost issues with electronic records is that they are easily altered and manipulated. Therefore, it is easy to lose or change both the original content and context of the record. To combat this problem, it is imperative that the electronic records management system ensures that records archived within them cannot be changed once they have been created and captured. The best time to "lock down" a record is at the point of creation or initial capture.

Another issue the Kansas State Archives has identified is the ease in which records are created and disseminated. It is important for agencies to consider exactly which records must be created and how they are to be created, captured and disseminated. The agency must then develop guidelines for the capture of the records content, metadata, records type and function.

Perhaps one of the most important guidelines the Kansas State Archives expresses is that "electronic records management procedures are most effective when carried out at the point of creation or very shortly thereafter." It is important to capture records early in their lifecycle rather than try to corral them all when the business process is complete. This will enable the agency to not only capture a record, but also all of its supporting information and ensure that the record has not been tampered with.

Gap Analysis

Although only a few state agencies that are currently capturing and maintaining their records in electronic format, most are creating them that way. It can even be said that the records that are created on forms are being created in electronic format. Many organizations use the handwritten form as a "data entry sheet", classify it as a transient record and then use the database the information has been entered into as the record. This of course assumes that one does not need a handwritten signature.

The major gap between what the state is doing and what many of the benchmarking organizations are doing is that since the state has no real statewide records management system, only a few agencies are actually capturing their electronic records in a systematic environment. The goal would be to enable more state agencies to do this and encourage them to create procedures that would allow them to do it early in the creation process rather than later.

RECORDS MANAGEMENT - RECORDKEEPING SYSTEM & RECORD MAINTENANCE

Current Montana State Agency

All of the agencies surveyed have some type of recordkeeping system in place. These systems range from filing rooms to organized file structures on a computer to in-house databases. A few are using the FileNet system that has been implemented by ITSD. The common element most of these are missing is a method to truly manage the records that they are keeping. Meaning that they are not able to implement common records management practices such as retention scheduling, disclose active or inactive status, or give metadata such as record type, date, or context, or preserve permanent records.

In some cases the recordkeeping system in place cannot accurately track information that is needed, so some of the office staff has instituted a work-around that places agency information onto office PCs rather than the database. Naturally, this undermines not only the records keeping system, but also the accessibility of those records for the rest of the staff.

Most agencies wanted a recordkeeping system that was statewide so that it would allow them to share information with other agencies. Currently, those agencies, and even departments within an agency, share information by paper, disk and e-mail attachments. None of these methods allow for the efficient sharing of information.

All agencies surveyed stated that any electronic records management system would have to support security for privacy and confidentiality issues. Although many of the confidential records are found in all offices, such as Human Resources and other employee information, all agencies have confidential information that is maintained only by their agency.

Benchmarked

The Indiana University Electronic Records Project asserts that many of the primary system used to store and relay data and information are poor recordkeeping systems. That is these systems are designed primarily for data and do not take into account many of the methods that good records management requires. The project also maintains that many institutions will need to rethink their traditional records management methods since they are based in paper records and will not adapt well to electronic systems. The Kansas Guidelines state that, "recordkeeping systems are different from generic information systems in that they maintain linkages to the activities they document and preserve the content, structure and context of the records."

In its Study of Exemplary Practices in Electronic Records Management, the GAO has found that the control of electronic records is very difficult in a "decentralized computing environment." Montana is already addressing this issue with the way they have set up the ITSD. One of the missions of the ITSD is to standardize the statewide computing environment as much as possible.

In their Trustworthy Information Systems Handbook, the Minnesota Historical Society, State Archives Department has set forth several principals they feel make a good recordkeeping system for electronic records. One of these is that, whenever possible, electronic recordkeeping systems should be based on open standards. They define open standards as those that are "developed and adopted by standards bodies such as the International Organization for Standardization (ISO), Internet Engineering Task Force (IETF) and the World Wide Web Consortium (W3C)." Building a system on these standards alleviates many of the problems associated with future migrations and upgrades.

Another principal they espouse is that agencies' recordkeeping systems must manage access to their records in a way that ensures access while protecting confidentiality. Several of their suggestions along these lines include access permissions, maintaining open and active communications between "those responsible for electronic recordkeeping and those responsible for satisfying Open Records Act requests" and implementing automatic measures for redacting confidential information, rather than doing it manually.

The Kansas Guidelines have quite a few things to state about recordkeeping systems and the maintenance of records. One of their major points is that although computer systems have become prevalent and in many cases indispensable for the business of government, too often they are implemented with little attention paid to records management requirements.

Computers allow records to be easily created, manipulated, transmitted or deleted. Even though this is part of their appeal, too often these records are never entered into a recordkeeping system and remain on an individual's hard drive or network area. Therefore, the usefulness of the information is limited, as others may not even know of its existence. On the other hand, if information is in a recordkeeping system, but it is not attached to its identifying information or not placed into context the user has the same problem with the usefulness of the information.

A good recordkeeping system must be able to capture, manage and provide useful access to records and information. It must also be able to accommodate the fact that often records exist in more than one format and sometimes in tandem with the recordkeeping system. For example, although the system may hold and link together all of the records that make up a case file, these files may also exist on paper outside of the system. It should also be able to identify records that are active, inactive, and which are stored on-line, off-line, on-site and off-site and, if applicable, the media that it resides on.

Gap Analysis

The State of Montana already owns several information management systems. The major issues being that not all of them were designed as "recordkeeping" systems. They are systems designed to create and manipulate data, not maintain and preserve it according to records management principles. One of the major systems within the state that has the possibility of meeting the recordkeeping criteria is the FileNet system rolled out by ITSD. Even this requires various modules and, often, tweaking to comply with records management. The

perception of this system throughout the state is that it is too expensive and too complicated for agency needs.

One of the other major problems with the recordkeeping systems dispersed throughout the state agencies is at least twofold. First, they are often incompatible with each other and second, they are often not accessible to other agencies that are using the same information. The incompatibility issue would have to be dealt with by working at centralizing many of the state information and recordkeeping systems. Done correctly, it should be possible to protect any confidentiality concerns agencies might have.

Another problem that is faced within many state agencies is that the systems being used are either obsolete and/or proprietary. This makes proper recordkeeping very difficult.

RECORDS MANAGEMENT – RECORD INTEGRITY AND LEGAL ADMISSIBILITY

Current Montana State Agency

Since electronic records are easily manipulated, verifying the integrity of an electronic record can be challenging. Lacking a visually verifiable signature, confirming that an electronic record has been authorized or approved can present a problem. Since many agencies had hardcopies of documentation, they were not so concerned with record integrity. These agencies also realized that by going mostly electronic, there could be major problems with this issue.

Several Montana State agencies accept electronic signatures for their records, but others resist electronically signing records or have records requirements that preclude the possibility of electronic signatures. The survey revealed no clear-cut consensus on electronic signatures. However, several agencies stated that because of certain stamps or seals that they must place on documentation, electronic signatures would be either impractical or impossible without a change in their business process.

Benchmarked

The Minnesota Trustworthy Information Systems Handbook discusses the issue of reliability and authenticity of records. The major point Minnesota has is that a combination of processes and system security is a major step toward record integrity. Creating and maintaining the system documentation, capturing record metadata on the front end, creating audit trails through system logs, restricting "write" privileges and using authentication to verify users are a few of the ways to keep record integrity.

The Kansas Guidelines are very comprehensive on the issue of record integrity. They agree with the Minnesota Handbook in that "information systems and records management policies need to ensure that agencies produce and maintain full and accurate records that are acceptable for legal, audit, and other purposes." Kansas offers many suggestions about how this should happen. They believe that cooperation and coordination between agencies is required. This coordination should include not only records staff and IT, but also legal counsel and business managers. The cooperation of all of these units is necessary to build a statewide consensus on what constitutes an electronic signature and ensures records integrity.

Some of the things an agency can do to ensure record integrity and increase that chance of a record withstanding a legality test in court are to develop and implement written policies and procedures. Ensure users are trained on these policies and procedures and understand they must be adhered to. The system must be used as a normal course of business and must have audit trails in place to verify compliance. Also, the system (hardware and software) must undergo a validation process to establish its reliability and security. This must all be documented.

Gap Analysis

The major component of record integrity and legal admissibility of electronic records is to prove that the method used to process electronic records is used in the everyday course of business. It should also show that it has been implemented in such a way that the improper manipulation of a document is close to zero. Since very few Montana agencies, except those engaged in e-commerce, rely on electronic documents in such a way that this would be an issue there really isn't a major gap between current practice and those benchmarked. However, as electronic records become more prevalent, it is only a matter of time until the integrity of state documentation will be in question. Therefore, this is a major point to look at when implementing an electronic records management system.

RECORDS MANAGEMENT – LIFECYCLE (WORKFLOW) OF A RECORD

Current Montana State Agency

The lifecycle of a record in current Montana State Agencies is extremely varied. The basic trend seems to be that at some point it becomes paper and is eventually stored. Most of the time that storage is as paper in boxes. There is a trend toward storing documents electronically in a scanned format. Many agencies would like to implement scanning as a storage method, but find the cost of using the ITSD system for basic scanning and storage to be prohibitive.

In paper heavy agencies a record lifecycle usually consists of a case file that finds its way from desk to desk until the case is concluded. At that point the case file is stored for later access.

Most agencies surveyed were excited about the idea of being able to use an electronic records system for workflow. They believed this would lead to fewer missing papers and to greater efficiencies since a file could have multiple access and would not get "buried" on a desk somewhere in the process.

The two major issues that most agencies would have to solve before electronic workflow became a reality would be that the "cult of paper" would have to diminish and agencies would have to accept the legality of electronic signatures. Many agencies made reference to resistance of some staff members to going electronic because they liked the paper. These staff members will have to be convinced that the PC is more than a glorified typewriter.

Benchmarked

The Indiana Project must have also dealt with those that felt the PC was a big typewriter or had a fear of technology because they made the statement that "traditional records management strategies established for paper records will have to be altered in significant ways to accommodate electronic records."

One of the ways that this is done will be talked about later in the Business Process section. However, to do workflow in an efficient manner the Indiana Project also discusses the need to determine exactly what information is needed and in what form. It does not matter whether the information is correct or not, but if it is actually needed.

Another item that pertains to workflow is brought up in the Kansas Guidelines. Part of workflow is to ensure that when information is used all information related to the transaction is available. Another challenge is that electronic records often lack the physical clues that paper records contain (letterhead, color, etc). Any user or authenticator of the information must be aware of this.

Gap Analysis

Since most records created within the state of Montana end up moving through their life on paper, despite having mostly an electronic start, there is only one major gap issue. That is, once a record is put into an electronic state, what is the over riding reason it becomes paper? There seem to be a couple of major reasons. First, most agencies have their business processes built around a paper record. The other reason is that few agencies have converted to electronic workflow due to both the initial cost of doing so and the fact that it is such a fairly recent technology that there is some trepidation.

RECORDS MANAGEMENT – ACCESSIBILITY

Current Montana State Agency

Records are only of value if you can use them to find the information you need in a format that is useful. To be able to do this without undue hardship on the user is accessibility.

Many of the agencies surveyed discussed the fact that they had electronic records on either older platforms or in a proprietary format and sometimes both. There was a concern that the information on the older platforms would be very difficult to move on to newer platforms or become unusable before it could be migrated. Also, many of these agencies expressed a desire to be able to share their information both within the agency and with other agencies, but were unable to do so because of incompatibility issues.

Another accessibility issue is that many records created on the PC never find their way onto a network. When working with electronic records systems this is the one of the scenarios that causes concern.

Although the State of Montana has a statewide network and employees have various rights of access, not many agencies are using it to their advantage to leverage their information and its access. Some of these agencies expressed a concern over the cost that they would incur in order to do this. Despite this, the Montana Constitution Article 2, Section 9 discusses the fact the citizens have a right to access the records of their state. Therefore, not only is employee access for conducting business an issue, but so is how to provide the public with the access that is required.

Montana also presents a challenge in that it is a very large state in land area, but small in population. Therefore, although many agencies have field offices, these tend to be either widely dispersed, have a small number of employees or both. Although this may make having accessibility to networks more of a challenge, it also makes the need to have those networks desirable.

Benchmarked

One of the major advantages that electronic records have over paper records is their accessibility. If the records are on a statewide or agency wide network, any user with the correct access permissions should be able to access the records. This holds true for multiple users at multiple sites.

According to the Kansas Guidelines there are two components that are essential to the accessibility of electronic records: The first component is that it is possible to locate and retrieve records. The second is that it is feasible to access the desired records, given the quality of the retrieval tools and volume of records.

To ensure the accessibility over time Minnesota recommends that great care be taken in the implementation of electronic records management systems and only open standards are used. Otherwise an agency may be left to rely on only one vendor or, perhaps, none at all.

One of the accessibility situations that the Kansas Guidelines caution against is storing records either in an incompatible format or on an incompatible system, which means that the record losses all value. In short, if you cannot get to it or read it, it does not exist.

Gap Analysis

Montana is doing a fairly good job in providing access to its electronic records. Most employees who have a need can get to those records they need and there are constant additions to the Montana government website for citizen access. However, in an ideal world, access could be better. Much of the employee access is through older and obsolete systems to records on platforms that are barely supported. This information needs to be migrated before its format becomes so old and obsolete that the information is permanently lost. There are also systems in use that are perceived as so inflexible or difficult to use that employees are putting information onto their computers instead of the system. This, of course, makes access to that information impossible for other employees.

RECORDS MANAGEMENT – RECORD RETENTION AND DESTRUCTION

Current Montana State Agency

Montana State Code Annotated 2-6-204 authorizes the destruction of records that have met their retention period only after a review by the Montana State Records Committee. This fact is well known in the agencies surveyed. The Legislative Audit Division's 2002 audit of the Secretary of State found that several agencies were deficient in their retention practices. Since the main purpose of this paper is not records retention, there was little follow-up done regarding actual retention practices of paper records. However, the audit did voice the concern that due to the ease of adding storage space for electronic records that retention programs might begin to lag even more than the audit found with the increased use of electronic records.

All the agencies surveyed stated that they followed their retention schedules and that these schedules were up to date. All agencies followed both the administrative schedule that listed the records series that all or most agencies have in common (i.e HR, procurement, and budget) and also the one that is particular to them. However, when queried about the types of electronic records they maintained, most understood that many of these records are not maintained per their retention schedule. These electronic records that are stored on the state network also reside on the backups. This means that although the paper, and other physical format, records are maintained in the retention schedule, electronic records are slipping through the cracks.

Montana State Agencies are to transfer those records not required for current operations and those that have long-term administrative value to the Secretary of State and/or to the State Archives. Both agencies have several methods for storing these records. They can be boxed or filmed and then stored. This works well for records with longer-term retention and those in paper format. However, most agencies have nothing in place for electronic records beyond backing them up on a network server or personal PC. Even if an agency desired to transfer these records to the Office of the Secretary of State or the State Archives, neither has a method in place to store them. For the same reasons, those records that would normally go to the Montana State Archives due to their historical value cannot be transferred.

Also the Montana Records Management Bureau has regulations in MONT. ADMIN R. 44.14.101 that state that if agencies are going to store their documents in electronic form they must have not only a retention schedule in place, but also a schedule to refresh and migrate the documents. However, there is no provision in place that guarantees access by the public.

Benchmarked

Perhaps one area of records management that is the most misapplied and misunderstood is the area of records retention. Records retention serves many purposes. Among these purposes are space issues, mitigation of legal risk and institutional history. There are some who use retention mainly to administer space. These are the types that want to start destroying records when the file cabinet, file room or hard drive is full. However, they often do not take into

account the legal ramifications of their actions. Then there are those to whom retention is only a legal issue. Depending on their viewpoint they may be tempted to hold records for too long of a time or too short. Then there are those who reject retention. These tend to be those who want to keep everything, just in case. While all of these viewpoints have some merit, they must be taken as a whole.

One of the principals put forth by the Minnesota Handbook is that "agencies should take measures to ensure the accurate and consistent application of retention schedules to their electronic records." One of the elements that they use for this is to use a "combination of records management applications, user-based management, and extensions to existing applications and operating systems to both associate and apply retention schedules with the appropriate records."

The Kansas Guidelines acknowledge that electronic records need to be destroyed according to a retention schedule; however, it is a challenge to do so. One of the issues faced in Kansas is that the public, unless specifically exempted from the Open Records Act, must be given access to electronic records. This means that electronic records cannot be maintained any longer than necessary. To do so would place a large burden on agencies and their maintenance of and access to systems.

Gap Analysis

When dealing with electronic records it is often easier to build more storage space than work with records retention. The agencies responding to the survey, in large part, did not have any retention in place for electronic records. Retention of electronic records is a difficult matter. Retention schedules should not have to mention electronic records specifically and more so than they mention paper specifically. It is the information being assigned retention rather than the media. As agencies begin to implement electronic records management, they will also have to assign a retention period to the records. It is said in the records management world that you cannot have a records management program without a legally authorized retention schedule in place. Creating retention within a recordkeeping or other information systems is a difficult proposition. It is definitely a project that should have the persons working on it observing and taking to heart what those organizations that have already completed it recommend.

RECORDS PRESERVATION – STORAGE ENVIRONMENT, MEDIA & ACCESSIBILITY

Current Montana State Agency

Montana State records that need preservation for historical reasons are sent to the Montana State Archives, within the Montana Historical Society. There they are usually stored either on paper or microform. Records that need preservation for a lengthy retention, greater than 20 years, but are not sent to the State Archives are also generally either stored in paper format or filmed and stored. Both of these methods are suitable for long-term preservation and well understood by the records management community. Due to the fact that these records tend to be in an inactive state, their accessibility is not immediate. It takes time to retrieve them from the locations in which they are stored. However, records sent to the Montana State Archives are accessible to the public.

The Montana Historical Society is not equipped to receive, preserve or provide access to records stored in an electronic format, but most agencies surveyed said they had records that they would like to transfer and keep in their electronic format. Meanwhile, these records are being stored on tape or CD. Not only do both of these media degrade fairly quickly over time, but they also face the danger of the information becoming irretrievable due to the obsolescence of hardware and software. There is a concern that unless this issue is soon resolved the records of 100 years ago may be more accessible than the electronic records of the 1980's and 90's.

Another problem the Montana Historical Society will face is budget and staffing. Accepting and managing electronic records over the long-term will come with a large price tag. According to the Legislative Audit of 2002 the Historical Society sought additional funding of $176,000, but received a one-time appropriation of $25,000. The 2001 funding was for a mostly paper-based archive, adding electronic records to it will exponentially increase these costs.

Benchmarked

Most people within the records management world realize that preservation, storage and accessibility of records over time are major issues. Most realize that solutions to the problem will not be cheap. However, when it comes to solutions, there are many different opinions. Since the issue is fairly recent there are not the "tried and true" methods of other formats. Each agency or institution that finds a solution realizes that it is unique to their situation. Although they may be able to provide guidance and helpful hints, their solution cannot work "off the shelf".

The Minnesota Handbook addresses the ongoing accessibility of records. They specify that agencies must use a system that allows for accessibility of its records through its entire retention. Some of the methods they recommend are to periodically refresh the media to fight its degradation and archive supporting software with the data or migrate to newer versions on a periodic basis.

Gap Analysis

The State of Montana does a good job of using proper media for storage and accessibility for records with long-term retention issues in non-digital format. Electronic records are wonderful for instant access, workflow, ease of use and a variety of other things. However, when it comes to long-term preservation, electronic records do not fare well. Currently, the Montana Historical Society does not provide the means for state agencies to transfer their historical records in an electronic format. To enable the Historical Society to accept these records would take an enormous amount of initial expenditures. Once the Historical Society is enabled to accept agency historical records electronically, it will still require more funding than it currently has. The cost, in terms of labor, equipment and supplies, to continuously refresh and migrate information is high. Each migration also brings the risk of data corruption and the loss of information.

RECORDS PRESERVATION – FORMAT, CONVERSION AND MIGRATION

Current Montana State Agency

At present there are some initiatives within the state government of Montana to go to electronic records management systems. These will need to begin addressing items such as document format, conversion of documents to the selected format and migration from present systems. Meanwhile, those agencies that want to go in this direction need to keep an eye on what is going on.

Benchmarked

Some of the issues that need to be addressed in electronic records conversion and migration are that format of the data. The Kansas Guidelines maintain that data that is to have long-term preservation should be converted to an open standard file. File formats recommended are ASCII for text and TIFF for images of documents. Other formats recommended are JPEG or GIF for those records that have a high online accessibility rate. For those documents that require some type of structure Kansas recommends conversion into simple, open standards such as SGML or XML.

The longer that records have to be maintained electronically, the more difficult it becomes to ensure that they keep their original content and context. Each conversion and every migration runs the risk that the documents or information may be compromised. Bringing records out of legacy systems, some of which are proprietary or no longer vendor supported, make this scenario even more likely.

Due to the cost, both in dollars and system downtime, when looking at the possibility of moving systems forward a careful analysis of the records must be made. Those that have met their retention criteria do not need to be moved forward. Only those records required should be migrated and, in some cases, it might be less expensive to print them and store them.

Gap Analysis

There really is not much of a gap analysis to be made here. However, those agencies that are looking at converting and migrating to an electronic records management system need to keep in mind the lessons learned, some the hard way, of other organizations.

BUSINESS PROCESS DESIGN – SYSTEM IMPLEMENTATION

Current Montana State Agency

A few agencies surveyed had implemented a new system recently and others were looking at the possibility of doing so. The agencies looking were trying to determine if the cost of moving into updated systems outweighed the cost of staying in older ones. In most cases, agencies felt that the efficiencies gained by moving to a new system were worth the cost. But new systems were mostly still in the planning stages

In those that have done recent implementations, there is a constant theme of "I wish we would (or could) have…." At least one of these felt that the solution they received was too inflexible for their needs and it has led users to find work-around solutions. These work-around solutions diminish record integrity.

Benchmarked

One of the principals that the Minnesota Handbook points out is that "recordkeeping considerations should be addressed in the system planning and development stage rather than waiting until the end of the records lifecycle." This relates back to record creation and capture. By considering it on the front-end, it makes everything easier at the end.

Also being done in recent trends is that recordkeeping requirements are necessary for new project approval. It is also necessary to build retention and disposition schedules into system development.

This is difficult to get buy-in on and just as difficult to enforce. However, the GAO states that, the primary reason that plans or initiatives to develop these kinds of processes has failed, is that top management does not support it. Of course, as the Indiana project stresses, "the decision to implement will be based on a variety of factors, including an appraisal of the value of the records, costs and benefits, risk of retaining or disposing of documentation, and organizational needs and priorities." But, without the support of top management, it will probably not happen.

Gap Analysis

Several Montana State agencies have implemented systems in the recent past or are working towards implementing one in the future. The only observation here is that of those that have moved to systems recently, there seemed to be a lot of "wish we woulda". Although this is common, and perhaps unavoidable, after implementation, it can be kept to a minimum with proper and complete planning.

BUSINESS PROCESS DESIGN – RECORDS PROCEDURE AND PROCESS IMPLEMENTATION

Current Montana State Agency

All agencies have electronic records of some type, even if they do not specifically see them as "records". It seems that most agencies desire the convenience of an electronic records management system, but very few have looked hard at implementing one. Vendors and IT often tell those that have looked that there is a ready solution. But only an extreme few have actually looked at their business processes to determine exactly what they need. An off the shelf system may work, but it will probably require a good deal of tweaking.

The Legislative Audit of 2002 mentions that many of the agencies they audited did not have any records management polices in place and many did not have a records manager on staff to implement such policies.

Benchmarked

As discussed earlier, many agencies will need to change the way they traditionally think of records management in order to move into an electronic environment. Although an electronic records management system will probably not work well by trying to move an agency's workflow into electronic form. Likewise, it is unreasonable to ask an agency to completely change its way of doing business because "the computer won't let you do that". Existing workflow and agency systems must be evaluated to determine exactly what processes are done and why.

The Indiana Project addresses this concept very well as follows:

> Analysis of existing systems is normally a more time consuming, more difficult process. It involves not only specifying requirements and metadata specifications and a list of records to be captured. It also requires an analysis of how the present system is managing the data. In essence, the process involves analysis of "what is" as depicted by models and system documentation with "what should be" as defined by the requirements, specifications and models. More specifically, analysis of existing systems includes the following activities: a description and analysis of the business processes by means of a technique known as "modern structured analysis," 2) a description of how the information system is presently managing records of the identified processes, 3) an evaluation of the information system against the Functional Requirements and Metadata Specifications in the context of the identified business processes, and 4) recommendations for intervention to satisfy the Functional Requirements and Metadata Specifications.

Business process analysis can be a method used to not only help implement an electronic records management system, but also to assist an agency in streamlining it processes and improving its efficiency. By looking closely at their workflow, agencies can often identify

problem areas and bottlenecks. Often these are the result of practices that were practical, required or efficient at one time, but now are just in place because nobody has taken the steps to remove them from the process.

Gap Analysis

Once again, this is an area of lessons learned that the State of Montana needs to explore before it reaches this point as a whole. There are just a few agencies that are implementing systems and they all said or implied that doing a business analysis is necessary. A good analysis will help create efficiency and point to areas that an agency needs to improve. Some comments related to this area were that there was a fear that any electronic records management system that ITSD implemented would be the one they wanted, in the manner in which they wanted it and the system would not take into account business needs.

BUSINESS PROCESS DESIGN – END-USER TRAINING

Current Montana State Agency

Currently, there are quarterly classes offered through the Department of Administration that are Records Awareness and/or basic Records Management classes. These classes are also given, as requested, to individual agencies and departments. When given in this setting the classes tend be more focused on the business of the agency.

Those persons within the state that deal with records are encouraged to participate in the local ARMA chapter. This Chapter provides regular meeting and networking sessions that allow for continuing education.

Benchmarked

A couple of the biggest points relating to end user training are that the end user should know why they are creating electronic documents and they should be computer proficient. Without knowing why they are producing information, it is possible that there is no due diligence and the information becomes suspect. Users also need to know computers, not necessarily as the IT staff knows them, but be able to do more than just use a computer to type.

The GAO report implies that through training you can create an organizational awareness of records management. This awareness works best if it is driven from the top management down.

Another item in the GAO Report is that through proper training you can lessen the initial loss of productivity that always accompanies new systems; users see that others are also in their situation and thereby have resources and avert, or at least mitigate, user avoidance of the system.

A regular meeting of the users to introduce any tweaks or idiosyncrasies is also beneficial. These types of meetings are also helpful to the database administrators and IT staff, as the user has often discovered that the system can do things other than what it was designed for.

Gap Analysis

The current End-User training for the State seems to be based on Records Awareness or Records Management. As the state moves into the world of electronic records the focus of the training will need to expand to account for all end users of a system, not just the records managers or liaisons. The training will need to include the basics of records awareness and records management, but also provide insights into why the system is in place and how it benefits the agency. There will also need to be emphasis on the consequences, both legal and fiscal, of system avoidance. The trainers will also need to be aware that they can often learn as much, or more, about what a system can do from its end users as they can from anyone else.

WHAT'S THE PLAN?

RECOMMENDATIONS FOR GETTING FROM HERE TO THERE

One of the first steps in beginning to implement a statewide electronic records and information system is to get top-level management support. In the case of state government this would be the Governor's Office and the State Legislature. Without their strong endorsement, any attempt to implement a system would be very difficult, if not impossible. This support could be in terms of implementing legislation that would enact a strong records management policy and create a position in the state that would have the authority to create, approve, and enforce compliance with a records management policy for state agencies. This position should also have the authority to establish any working groups necessary to carry out the function of the post. This is especially true when trying to develop and implement a large-scale project. Large projects will require persons from a multitude of areas, disciplines and backgrounds in order to effectively construct a working product.

Part of the statewide records management system would be to create, or appoint, persons in each agency that would be able to educate staff about and assist with implementing records management procedures and processes. Much of the time these posts are given to the "new kid on the block", much the same as any other disliked chore. However, this is a position that should have someone in it who is very knowledgeable about the business of the agency.

Another role for someone who oversaw the state records program would be similar to the ITSD role in approving new information systems. In collaboration with ITSD, this person would also approve new information systems only after they verified whether or not the system required records management components and, if needed, if they were present. Records Management and IT have similar goals in that they are both interested in the most efficient, economical and lawful way of creating, managing, disseminating and preserving information. Therefore, they must cooperate and communicate with each other.

One situation in which a meeting of the minds between IT and records management must take place is in the development and deployment of true recordkeeping systems. There are arguments that not all information systems need to be recordkeeping systems, nor can they be. While this is true, these systems must have components in place that meet records management criteria. ITSD is already headed in the direction of a statewide information system, but the perception throughout the state is that it is too expensive and too complicated for agency needs. Granted, a statewide system would be both complex and expensive and everyone must realize that the one size fits all mentality will not work. It will also not be completed overnight for everyone, but rather over a period of time, one project at a time. Meanwhile, agencies are working with systems that are obsolete and/or proprietary and it takes time and money to try and keep them going. However, a properly planned and implemented recordkeeping system, based on open standards should help alleviate these issues.

Basing a system on open standards also allows for a common platform across the state. Many of the frustrations that agencies voiced concerning electronic records where based in the fact

that information they needed to share or receive could not be done electronically because of system incompatibility.

Development of an electronic records management system will have to address the issues of creation or capture of electronic records. The goal would be to have policies in place to enable more state agencies to do this and encourage them to create procedures that would allow them to do it early in the creation process rather than later. These procedures would need to address, at a minimum, what constitutes an electronic record and its contents. The contents of an electronic record include its metadata, structure and content within context.

The development would also be required to take a good look at record integrity. IT and records management would have to work closely together on this issue. Records management would have to outline types of processes or procedures that help ensure record integrity and IT would have to put them place on the system.

Closely related to record integrity is access to the information. The recordkeeping system chosen would need to have the flexibility for access by multiple people at multiple locations as agencies, especially those dispersed throughout the state, conduct business. At the same time, it would be required to protect the confidentiality and integrity of records on the information system.

Perhaps one of the more difficult situations in electronic records management is that of retention. Any recordkeeping or electronic records management system implemented has to address electronic records retention. The key point to remember is that it is the information being assigned retention rather than the media. The only time electronic records should be specifically mentioned are in situations where retention on one type of media or another is required. For example, keep the X record on the network drive for 90 days and then transfer it to off-line storage for one year. Once again, it is the information that is retained, not the media. When mentioning media in a retention schedule, the scheduler has to know the life expectancy of media. For example, store on a 3.5" floppy for 25 years is not realistic. Not even mentioning the obsolescence of hardware and software, a floppy will not last that long in a readable format.

Not only is the obsolescence of hardware and software an issue with records retention, but it also presents a real nightmare when talking about long-term preservation of digital formats. The only known way to preserve digital information over time is through constant refreshing of the media and migration of the information. However, with each migration there is a chance of data loss or corruption. This migration has to be done on a regular cycle as hardware and software changes at a phenomenal pace. Even keeping the data in open formats requires constant migrations. Skipping the migration for a cycle or two due to budgetary constraints could lead to permanent loss of information. One technology that many institutions are using is taking digital outputs and running it through a reader to produce microfilm. This retains the digital outputs and metadata for electronic access via the web or other information systems. But, it also creates a media that has a long-term shelf life.

For those agencies that are considering moving into an electronic records management system there are a few lessons learned to remember. First, start with a day forward approach. Develop and implement the system and state that on a certain date it will be the system used at the agency. This immediately created legacy materials that must be dealt with. There are at least two approaches to these legacy materials. One is to pre-populate the system with the legacy system materials. Doing this requires a lot of time and energy in such areas as data mapping, data cleanup, data transfer and verification that the data moved correctly into the proper areas of the new system. This is a lot of work, but for some organizations it is time and money well spent. The other approach is to start with an empty system and move the legacy materials as they are needed. There is still time spent preparing the legacy material to move, but only those items that are truly useful are moved. Which path is taken depends entirely on the business needs of the organization.

Implementation of a new system can be difficult and careful planning is required. No detail is too small or irrelevant. Things like colors, fonts, screen flow, and others that seem like minutia will often be the ones that trip up the successful implementation.

However, one of the most important planning issues is business analysis. Taking the time to really analyze what a department or organization does and how information flows during the course of business is the real key to a successful implementation. The systems that fail are those that have been pulled off a shelf, developed for ease of control by an IT staff, or those systems that worked well for the business next door so it will work for mine too. Each organization is different and systems must be tweaked in order to make a good fit. There is no “one size fits all”. If an electronic records management system does not reflect how an agency works, it will not be successfully implemented. An organization will resent any system that forces it to entirely change how it does business in order to support the system. It will find a work around if a system does not reflect its business or is so inflexible that it cannot accommodate a change in workflow. Implementation of an electronic system will mean change, but the change should reflect the efficiencies that the system brings to the business, not a change because “the system won’t allow that”.

Workflow is understandably one of the big draws in electronic records management. However, until all the pieces of basic records management are in place - a recordkeeping system, records maintenance, records retention and long-term preservation - a workflow system would just add another layer of uncontrolled complexity. Many systems can successfully integrate records management and workflow. However, if workflow is implemented with without records management in place it will be much more difficult to add that module to the mix later.

One of the final items is education and training. Train the end user in the way the system works, but also educate them in the reasons the system is used. Talk about record integrity, record accessibility, legal mitigation and reasons for preservation. For the records management staff, make sure they have training beyond the system they use. Going to local ARMA or AIIM meetings is useful. The national conferences are also very good. The Managing Electronic Records (MER) Conference held every year in Chicago is a marvelous opportunity to gain insight into electronic records. Organizations like NAGARA offer

seminars and conferences in electronic records aimed at government agencies. There are also records management listservs that have reams (if printed) of information. The goal is to make sure both the records staff understand the assets and liabilities behind electronic records. This knowledge can make the system even better.

CONCLUSIONS

There is a lot of information in this paper. However, to develop and implement an electronic records management system that takes into account creation, maintenance, retention and long-term preservation there are just a few key points. First, it is difficult or impossible to do it well without top-level support. In a state government setting this would be the Office of the Governor and the State Legislature. Next, it takes planning and more planning. Measure twice, cut once is an excellent axiom for this situation. To continue, make the system fit the business, not the other way around. By trying to squeeze business processes into an off the shelf system, there will be problems. Finally, education of the end users is critical. By teaching the user not only how to use the system, but the reasons the system should be used should make everything a bit more pleasant.

APPENDIX A

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APPENDIX B

I have been brought in to work with the State Records Management Bureau, the State Records Committee and the State Archivist to assist in developing a strategic plan for the creation, management, disposition and long-term preservation of electronic records in the Montana State government.

Below are a series of questions I will be asking you in order to get a feel for the current status of electronic records management in the state government. *This in not an audit*, rather the results of the survey will be used in order to benchmark the current status against current trends in electronic records management.

CREATION

1. Walk me through a typical record that this office either creates or deals with.
2. What percentage of records does this office produce that are created and maintained on paper?
3. What percentage is created electronically and then maintained on paper?
4. What percentage is created and maintained electronically?
5. When you create an electronic record, what format(s) is it created in?
6. What format is most used in the creation of your records?
7. Do you create or maintain electronic records other than documents, such as databases, video, audio, digital photos, CAD, etc.?
8. If so, how large of a percentage of your electronic records are they?

MANAGEMENT

9. Does your agency have, or is it currently acquiring or implementing an Electronic Records Management System?
10. If you have an electronic records management system, is the main use of the ERM for workflow or is it to track records?
11. Do you have any proprietary software or hardware that you use to create or maintain electronic records?
12. Do your have any electronic records that require special handling due to privacy or confidentiality concerns?
13. If so, what types of records are they?

DISPOSITION

14. Has your retention schedule been updated in the last 3 years?
15. Does your retention schedule account for all electronic records produced by your office?
16. Is your retention schedule adhered to?

PRESERVATION

17. Are you currently storing electronic records?
18. If you are storing electronic records, what media is being used?

19. Do you currently have electronic records that will be transferred to the State Archives in electronic or digital format?

OTHER

20. Do you have a current records management procedure that I can get a copy of?
21. What are one or two recommendations or "wishes" that you might have that you would like to see in any future records management or electronic records management initiative?
22. Are there any other comments or question you have?