

Slide Number	Script
1	Welcome to the online course, "Imaging and Document Management," offered by the State of Michigan, Department of Technology, Management and Budget, Records Management Services.
2	As we move forward in the digital age, many people wonder if paper is dying. Click play on the video to see what digital records can and cannot replace in the paper world.
3	Records Management Services, part of the Office of Support Services in the Department of Technology, Management and Budget, is composed of three units. Analyst Services writes and reviews record retention and disposal schedules for state agencies. The Records Center is the records warehouse operation. And Imaging Services is the imaging and document management unit focused primarily on electronic document management.
4	In this course, we will discuss what electronic records are; what imaging systems are; what is involved in setting up an electronic document management solution; and imaging solutions offered by the State of Michigan.
5	Let's start by discussing what electronic records are.
6	An electronic record, also known as a digital record, is a record that is created and/or stored on personal computers, network drives, and PDAs. Electronic records can be scanned paper documents, born electronic, email, shared drive content, or electronically submitted information.
7	There are some common misconceptions about electronic records, including that scanning is free, that storing images is cheaper than storing paper, and that it's a good idea to scan everything and keep it forever. This course will dispel this misinformation.
8	Many people ask if electronic records are legal, or if they must keep a paper version of records. The short answer is that yes, electronic records are just as legal as paper records. The same state and federal laws that apply to paper also apply to electronic images, objects and data. This includes Freedom of Information Act laws and e-discovery laws. Record retention schedules apply to electronic records just as they apply to paper records. All records that your agency creates need to be identified on a record retention schedule, even if they live their entire life as electronic records and are never printed.
9	The Michigan Record Reproduction Act of 2005 regulates the reproduction of public records by Michigan government agencies. It states that records reproduced according to the act have the same force and effect as paper copies. The act also called for the establishment of records reproduction standards. Michigan has standards for reproducing records from paper to microfilm, and from paper and microfilm to digital images. These standards state that regardless of the record format – paper, electronic, or microfilm – records must be authentic, reliable, have integrity, and be usable and accessible.
10	The Michigan standard for digital records requires that the records use a lossless compression. The alternative is a lossy compression, which loses resolution as it is copy. It's like making a photocopy of a photocopy of a photocopy. With lossless compression, it's like printing a new copy each time. The standard also calls for the use of TIFF images, although it's allowable to convert the TIFFs to PDF once they have been created. Many people prefer PDF for functionality, but it's important that the image start as a TIFF for preservation purposes. Digital images should be scanned at a 200 to 300 DPI resolution, and should be sampled for quality. Any agency creating digital images

	should have written procedures on its process, and you should know what kind of media you are going to use to store the images once you have created them.
11	Remember punch cards, tape, and floppy discs? These were popular media of the past few decades. Now, external USB drives and flash drives are popular, but someday in the not-so-distant future, we'll think these are archaic. Whatever type of media you use, it's important that you migrate your records from them as technology changes.
12	Many people use CDs or DVDs to store records. However, these are subject to CD rot, where the disc oxidizes and rusts. This image shows a new disc, a one year old disc, and a two year old disc, all kept in normal office conditions. Also, discs are easily damaged by scratches. For these reasons, CDs and DVDs are not recommended as a storage solution, though they work well for transferring records from one computer to another.
13	Now let's talk about what we mean when we say imaging system.
14	Imaging systems started being used in the business world in the 1970s, especially faxes. Click play on the video to see how far imaging systems have come since we started using them in the 1970s.
15	Digital imaging goes back even further than that, though. The first fax patent was issued in 1843 and used telegraph lines. The image here shows a fax machine from the 1850s. However, faxes and imaging systems really started being used in the early to mid-1970s.
16	Early imaging systems often failed. Scanners were unreliable and created poor images. Computers did not have enough power or storage to handle digital records. Network speeds were slow and security was weak. The first imaging systems were underpowered, unreliable, unforgiving and controlled, and more than half of them failed. It's a different story today. Powerful, reliable scanners produce accurate images. Our computers and networks have the speed and storage to handle digital images. Security protects our records and standards ensure that they have integrity. Digital records today are legally accepted and commonly used.
17	The State of Michigan has two standard imaging systems available to any agency. These are Records Manager, produced by HP Enterprise, and FileNet, produced by IBM. We will talk later about how to evaluate if either of these systems are a good fit for your office.
18	There's a lot that goes into an imaging system, and many decisions that should be made before an office decides to go digital. There's preparation of your paper records for scanning, a time-consuming task that is often underestimated. There's selection of hardware and software to perform scanning. There's how you will index your digital records so that you can find them later, and how you will gather the index information. You need established quality control and quality assurance procedures to make sure you have a quality product. You need to decide how to store the digital records once you have created them. And you need to know how to dispose of the digital records once you're finished with them. We'll talk about each of these in turn.
19	First let's discuss preparation. When you're taking a paper file and preparing it to go into a scanner, your goal is to make the documents scanner ready without human interaction once you've loaded them into the scanner. This includes removal of staples and paper clips; repair or copying of torn documents; copying or reducing non-standard sized documents; evaluating the condition of paper and copying it if necessary; arranging documents in the order that you want them scanned; and inserting any needed barcodes and dividers. This can be time-consuming work and agencies frequently underestimate it.
20	You also need to select a scanner, any additional hardware, such as computers or

	monitors, and any capture software. Capture software will read information on a document, such as a barcode or typed text, and convert it to index information to be attached to your digital record.
21	When considering a scanner purchase, you should think about price, the daily duty cycle – that’s how many pages the scanner can handle each day – what paper sizes the scanner accepts, and how many pages you can feed in at a time.
22	Different equipment will meet different needs. For example, the image to the left is a hand-held scanner that only scans one document at a time. It will not work for a large office scanner station, but can be great for field staff who only need to scan a few pages. The flat-bed scanner on the right is good for delicate or undersized documents. Large documents, such as maps, require special equipment.
23	The State of Michigan has numerous scanners offered under contract. Records Management Services can assist you with selecting the best option for your office if you need guidance making a selection.
24	Our ever-changing technology continues to bring new way to make digital copies of records. Most tablets or smart phones can use their camera to create digital images, and even to convert them to PDF. Any use of mobile devices for this type of activity should be an agency business decision, not someone an employee does on his or her own. State standards for creating digital images apply when using these types of mobile devices for imaging. And mobile devices have confidentiality concerns. If your agency decides to start using mobile devices for imaging purposes, be sure to document all policies and procedures.
25	Once you select your equipment, you should establish your scanning procedures. Remember the state standards when doing so. Scanned records should be in TIFF format, or TIFF wrapped in a PDF. Scan at 200-300 DPI resolution, and in black and white for business documents. If you need to scan in color, develop a policy for when this should be done. Records Management Services recommends that you only scan in color if you cannot interpret a document in black and white, such as a color graph that cannot be read without color, or a photograph that cannot be distinguished in black and white. You should also establish how you are going to handle under and oversized documents – will you enlarge or shrink them, or scan them at their original size? Will you scan all documents two-sided (or duplex) or one-sided? And will you run optical character recognition – or OCR – in order to make your scanned record text-searchable?
26	There are also many decisions to make about where records will be scanned. Will you use a centralized, decentralized or task-oriented model? A centralized scanning model uses a single scanning location. All records are scanned at a single point in time, either in the mailroom when they first arrive, or post-process, when staff have completed their work. A centralized scanning model is highly controlled and provides consistent quality. However, you can capture too many documents if you scan at the mailroom, and if you scan post-process, you will still have to spend the time and money involved in routing and transporting paper.
27	A decentralized scanning model uses several scan centers at different locations. This model is often used by agencies with district offices, where each office has its own scan station. Like a centralized scanning model, decentralized scanning is controlled and provides consistent quality. It also eliminates the need to transport paper. However, it can be expensive to set up a scan operation at multiple locations, and over time, you run the

	risk of different locations developing their own methods of operation.
28	A task-oriented scanning model has each employee scanning in his or her documents as needed. This model provides an immediate capture method – no one has to wait for their documents to be scanned in, enabling the use of system workflows. It also avoid filing or routing of paper documents. However, there is little control or consistency of quality, and it can be expensive if it involves purchasing multiple scanners.
29	In addition to where you will scan your records, you also must decide when you will scan your records. With a pre-process scanning model, you scan documents as soon as they arrive in the mail. This allows you to leverage your imaging system for your entire business process. However, this isn't a good option if you have a view-only imaging system, as you cannot make changes to documents. Employees also may have to wait for records to be scanned in before they can access them, and it involves significant change to employees when migrating from a paper system.
30	A post-process scanning model does just the opposite – documents are scanned in when the agency is completely finished with them. This model involves the least change management for employees, as they still use their paper system. However, you cannot fully utilize your imaging system, and you now must manage two systems, paper and electronic. This creates greater potential for misplaced documents. There is no right or wrong answer when it comes to what will work best for your office – different solutions will serve different agencies best. It is up to your agency to weigh what decisions will produce the best results for your business processes.
31	Whatever decisions you make, do not neglect to establish quality control and quality assurance procedures, and to make sure they are being used. Quality control is completed at the scanner and involves making sure resolution is correct, contrast is correct, and all pages were scanned. Quality assurance is completed by knowledge workers who can make certain that the correct index values are attached to records, that records are complete, and that records are filed in the system correctly.
32	Index values are how we find electronic records once we have loaded them into an imaging system. These include the name of the record, what folder it's in, what case or company or registrant it relates to. When selecting your index value, think about how you search for these records in a paper system, and about ways you've always wished that you could search for records in a paper system. One of the advantages of an imaging system is that you can search for records in multiple ways, where with a paper system, you must select one way to organize your records and search that way. When entering index values into an imaging system, you can manually enter them with a keyboard, import them from an existing database, use barcodes, or use optical character recognition (OCR) to recognize typed text on paper. Intelligent character recognition – ICR – can recognize handwriting to capture index values, but this technology is unreliable and has a low success rate.
33	Once you have finished making all of your decisions about how to get your records into an imaging system and organized there, don't forget to decide how you will get rid of those records once you're done with them. Part of this is deciding what to do with your paper once you have scanned it. The Michigan Records Reproduction Act says that you do not have to retain paper once you have scanned it in. Records Management Services recommends that you keep paper for 30 to 60 days after scanning, long enough to make sure quality checks have been completed. Once that time period has passed, you should

	develop procedures for securely destroying the paper. And don't forget your electronic records. Records retention schedules apply to them, just as they do to paper records. Make sure your imaging system has built-in triggers and a method for destroying records once they are past their required retention period.
34	Once you've made all these decisions, make sure you document them. Documentation should include standard operating procedures, document preparation, scanning processes, indexing methods, quality control, quality assurance, and disposition. Be sure to keep a contact list with resources for each component of your imaging system – who to call if the scanner needs repair, who to call if you need changes to your capture software configuration, and who to call if you need help with the imaging system.
35	Finally, you should think about an exit strategy. Before selecting any imaging system, make sure there's a way for you to easily move your data and documents out of it and into a new system. Your system will be the best, fastest, greatest system there is when you first go into it, but technology changes fast, and someday you'll want to migrate to a new system. Make sure you retain all rights to your data and documents. If you will have to pay to extract your records, or to stop using the system, make sure you understand what those costs will be. Find out what kind of technical expertise will be required to migrate, and if you can provide these resources or if you must hire them.
36	OK, we're halfway through! This is a good point to take a break if you need one. Start the presentation again whenever you're ready.
37	Now that we've discussed electronic records and imaging systems, and what's involved in setting up imaging systems, let's talk about State of Michigan solutions.
38	The State of Michigan has several master contracts that any state agency can leverage. These include conversion of paper or images to microfilm, conversion of paper or microfilm to digital images, vault storage of microfilm, microfilm inspection and repair, and a master computing contract through which you can purchase, lease or rent equipment.
39	When you use a state contract, you eliminate the need to go through a bid or request for proposal – RFP – process. All billing is done through DTMB, and DTMB staff will work directly with the vendor throughout the process. When using the state's imaging and microfilm contract, you gain from the expertise and experience of the Records Management Services staff, and you can have confidence that all state scanning standards are being followed.
40	The state also has a centralized EDM – electronic document management – initiative that assesses any state agency interested in moving into an imaging system. DTMB analysts performing these assessments will make a recommendation on if EDM is a good fit for your agency and will provide pricing for different EDM options.
41	The state created the EDM initiative to provide a single process to evaluate and assist an agency interested in electronic records management. The analysis is designed to help agencies determine what solution will best meet its needs. The EDM initiative works to help state agencies select and implement efficient, cost-effective digital records solutions.
42	Any state agency can start the EDM assessment process by contacting DTMB to enquire about imaging systems. DTMB business analysts will meet with the agency to conduct a business analysis, and then will provide a written evaluation and comparison of different systems, including pricing. The agency then selects a solution, and signs a charter with the DTMB office that manages the chosen solution. After that, implementation can begin.
43	Most state agencies share some common recordkeeping problems. There are multiple

	copies of records in numerous locations. The shared drive is full. Your email is full. Staff retire and their records are lost in the process. You have frequent and large Freedom of Information Act requests and legal holds. These are the kinds of issues that all state agencies face, and that often drive them toward electronic document management.
44	Electronic records can be a way to streamline business processes and make employees more effective. Paper is alive and well in the American business office, with about 85 percent of business documents still existing in paper, according to a 2013 national study. We can't get away from paper even when we migrate to electronic documents, with the average document being printed five times throughout its business lifetime.
45	The State of Michigan has two enterprise solutions available to state agencies. These solutions are already in operation in the state and do not require any bids, requests for approval, or technical approval for an agency to start using them. The two state solutions are Records Manager and FileNet.
46	Many people wonder why they can't use SharePoint as their agency's electronic document management solution? While SharePoint is a great collaboration tool, it is not an electronic document management solution. It does not have built-in security and retention, and sites and documents are frequently abandoned. The preferred solution is to manage records in an EDM solution and expose them to SharePoint for collaboration needs.
47	The two existing state EDM solutions each have different features. Which solution will work best for you depends on what your agency's needs are.
48	Records Manager is a central, enterprise solution for records from creation to final disposition. It's an out-of-the-box solution requiring no customization or programming, and it's administered at the program level, with agencies conducting much of their own work. Because it is an enterprise solution serving many agencies, it has a low, scalable cost of ownership.
49	Records Manager is used by more than 60 different state agencies, with more than 1,000 users.
50	Records Manager offers robust, multi-tiered search capabilities, granular security, and built-in retention and disposal. It has both version control and audit trails. Central storage allows agencies to reduce record duplication and improve sharing capabilities. Users must be connected to the state network to use Records Manager but records can be checked out to a local computer to allow for document mobility. Records Manager has a user-driven workflow module.
51	Records Manager integrates with the Microsoft Office suite, including with Outlook. It allows for desktop scanning and shared drive integration. Agencies can use the state's imaging vendor or establish their own central scanning station. DTMB has helped numerous agencies migrate a legacy imaging system to Records Manager successfully.
52	Records Manager security is highly configurable and granular, with many layers coming together to allow a user to perform a function – including view – on a record.
53	DTMB usually implements Records Manager by starting with a single record collection or business process, and then moving on to other collections and processes.
54	There is a \$100 per user implementation rate for Records Manager. After that, agencies are billed monthly, \$30 per user per month and \$6 per GB per month.
55	FileNet is also a central, enterprise solution for state agencies. It integrates with other applications and allows for business process automation through workflows. User

	licensing is based on the type of use, and the capture software Datacap is included.
56	FileNet is in use by eight state departments, with more than 6,000 users in state agencies.
57	FileNet uses centralized storage that decreases record duplication and allows for improved sharing of records. It has robust security, version control, and audit trails. FileNet includes task routing and automated workflow. It includes many features for comprehensive bulk image import.
58	The FileNet support team develops search templates for agencies that help with employee change management and ease of system use. These search queries are developed to meet the needs of each agency.
59	The FileNet support team also develops automated workflows that can take certain actions without user direction to best manage complex business processes.
60	And FileNet comes with the capture software Datacap, which can interpret barcodes or typed text, ingesting index information to be automatically applied to digital records.
61	FileNet costs vary depending on what type of users the agency will have, and what type of digital storage solution it selects. The initial implementation fee is either \$300 or \$520 per user, with a \$230 per hour rate for custom development and configuration. After that, monthly fees are either \$45.17 or \$48.50 per user, and either 80 cents or \$1.38 per GB.
62	The DTMB Service Catalog has more information about state EDM choices and how to request an EDM assessment.
63	Records Management Services is available to assist any state agency with records retention, recordkeeping systems, and other records management issues. Please let us know if there is anything that we can do to assist your agency. Thank you for taking this online class.