

# Managing Electronic Records

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## Objectives

- Understanding the basics of managing e-records
- Practical strategies to ensure e-records & their storage devices are being managed
- Understanding basics of e-records preservation
- Identify one or more activities to carry out



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## Agenda

- E-records overview and challenges
- Knowing what to manage
- Strategies in managing your e-records
- Implementing the plan
- Practical steps moving forward



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Issues and Opportunities

## E-RECORDS OVERVIEW



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## Same Rules Apply

- RM fundamentals apply regardless of format
  - Storage
  - Organization
  - Ownership
  - Retention & disposition
  - Security & protection
  - Authenticity
  - Preservation



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## Same Questions

Paper	E-Records
• What records do you have?	• Same
• Who created them?	• Same
• Who is responsible for them?	• Same
• Where are they stored?	• Same
• What's their retention period?	• Same
• What is their format?	• Same



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## Same Challenges

Paper	Electronic
<ul style="list-style-type: none"><li>• Depts working without direct RM guidance</li></ul>	<ul style="list-style-type: none"><li>• Same</li></ul>
<ul style="list-style-type: none"><li>• Lack of understanding of the RM process</li></ul>	<ul style="list-style-type: none"><li>• Same</li></ul>
<ul style="list-style-type: none"><li>• Not knowing what the potential issues are</li></ul>	<ul style="list-style-type: none"><li>• Same</li></ul>



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## Additional e-Challenges

- Multiple managers
    - IT, Clerk/RMO, Department, user
  - Creation devices
    - PC, laptop, tablet, smart phone, etc.
  - Continuous changes
    - Live applications (e.g. database-driven apps, GIS, web sites )
  - Storage locations
    - Multiple repositories to manage (e.g. servers, handheld devices, cloud, etc.)
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## Additional e-Challenges

- Accessibility
    - Local, shared, security, public
  - Trustworthy
    - Revision control
    - Legal compliance
  - Preservation challenges
    - Maintaining readability/functionality
    - Proprietary file formats; obsolescence
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## Growth Challenges

- Approximately 85% of all government documents are created electronically
  - Larger haystack to search through
  - Redundant storage
  - Multiple versions
  - Orphaned files



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## Potential Issues

Issue	Consequence
<ul style="list-style-type: none"><li>• Repository redundancy</li><li>• Increased # of repositories</li><li>• Poor organization &amp; classification</li><li>• Increased risks<ul style="list-style-type: none"><li>– Compliance</li><li>– E-Discovery</li><li>– Perception</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Increased backup costs</li><li>• Increased operating costs</li><li>• Lower staff efficiency<ul style="list-style-type: none"><li>– Trouble finding records</li></ul></li><li>• Wrong decisions<ul style="list-style-type: none"><li>– Costly fines</li><li>– Unnecessary/duplicate work</li><li>– Poor public image</li></ul></li></ul>



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## Goal: Simplify

- Making the complex understandable
  - Reduce tech talk
  - Focus on higher level process
- Basis for common understanding
  - Getting all parties on the same page



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## Question

Why not keep everything forever?



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Types, categories & locations

## KNOW WHAT YOU HAVE



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## Types of E-Records

- Word processing
- Spreadsheets
- PDF
- Databases
- Scanned images
- Email & attachments
- Presentations
- Photos
- Websites
- Social media apps
- Audio recordings
- Videos
- Electronic publications
- GIS
- CAD (Computer Aided Design)



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## Where Are Your Records?

- Desktop PC's
- Laptops
- Network servers
  - File servers
  - Application servers
- Removable media
  - CDs, DVDs, USB drives, etc.
- Backup tapes
- Remote sites
- Home offices
- Tablets
- Smart phones
- "The Cloud"

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## Most Difficult to Manage

- Those you don't know about
- Those managed by someone else
  - e.g. vendor or other 3<sup>rd</sup> party
- Those not managed
  - Known, but not sure how to manage



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## Categories of e-Records

- Structured
  - Database driven applications (financial, permits, etc.)
- Unstructured
  - Word processing, spreadsheets, PDF
  - E-mail



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## Structured e-Records

- Need to identify which apps *create* records
  - e.g. financial system, permitting application, case management software, etc.
- Records often controlled by application
  - Not much you can do, without changing application



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## Structured e-Records

- Identify database type
  - e.g. Microsoft SQLServer, Access, Oracle, MySQL, etc.
- Determine retention capabilities
  - How long is the data retained?
  - How *often* should backups of data be taken?
  - Are there record disposition capabilities built in?
- May need vendor's help in determining
  - Often not known or easily determined by users



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## Unstructured e-Records

- Usually stored in personal or shared folders
  - Limited to no control on folder naming conventions
- Majority are non-records
  - Work-in-process, output to paper, copies, etc.
- Most difficult to harness
  - Not properly named (letter1.doc, January report, etc.)
  - Difficult to weed through due to volume



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## Social Media

- Third-party hosted and managed
  - Facebook, Twitter, blogging with comments
- Need centralize management
  - Limit who can post
  - Governing policies must be in place
  - Tools needed to retain past information



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## Locally or Cloud?

- Where are your records stored?
  - On your servers or a 3rd party (e.g. vendor, state, federal)
- If internally:
  - Which devices store the data and who controls them?
- If third-party:
  - What does your contract stipulate?
  - Where are the primary servers?
  - Where are the backups?



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## Which is the larger challenge for you?

Structured, unstructured or 3<sup>rd</sup> party?

Any examples you can share?



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## Back to Paper Similarities

- Start with an inventory
  - What e-records are being created?
  - Where are your e-records stored?
  - Who owns the records?
  - Who manages them & how?



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Setting a Strategy

## MANAGING WHAT YOU HAVE



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## Managing e-Records Strategy

1. Know what you have
2. Identify risks
3. Determine focus
4. Develop action plan



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## 1. Identifying e-Records

- Identify the records
  - Creation applications
  - Storage locations
- Identify the owner
  - Creator, custodian, and owner
- Determine 'official' record
  - Paper print-out or electronic?
  - Work-in-process or final?



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## Typical Findings

- Structured e-records
  - Generally easier to determine creation application
  - May require IT & vendor to get *real* answers
- Focus on:
  - Retention capabilities
  - Storage location (local and cloud)
  - Owner
  - How often the data is being changed/updated



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## Typical Findings

- Unstructured e-records
  - Vast majority are not records
  - Focus initially on records
  - Still need to address non-records (purging, organization)
- Focus on:
  - Record vs non record
  - Storage location
  - Organization methods
  - Owner



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## 2. Identify Risks

- Is everything managed?
  - Not knowing if they are is a risk
- Where are the threats?
  - Lack of security
  - Lack of protection
  - Risk of future inaccessibility



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## Potential Risks

- Security – physical & logical/IT
  - Physical access to server room/storage area
  - Improper access (externally or internally)
- Protection
  - Disasters – natural & man-made (viruses, tampering)
  - Accidental deletion/changes
  - Lack of proper off-site backup



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## Potential Risks

- Retention
  - Lack of control
  - Assured you are keeping everything needed?
  - Inability to dispose what you can easily?
- Preservation
  - Which are stored in proprietary apps or formats?



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## Potential Risks

- Uncontrolled duplication
  - Digital copiers
  - Email
  - Social media
- Storage location
  - Cloud, state agency applications, other 3<sup>rd</sup> party (e.g. vendor, shared services, BOCES, etc.)
  - Improper media for long term retention



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## 3. Determine Focus

- Where to begin?
  - Where is your larger risk?
- Short term and long term
  - Low hanging fruit
  - Imminent threats
  - Day-forward and backlog
- Can't address everything at once
  - Be realistic in your approach



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## 4. Action Plan

- Focus area will influence action plan
- Balanced approach
  - Serious issues are priority
  - What can easily be achieved?
  - Identify short term and long term answers
- Plan accordingly



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## Other Advice

- Keep it as simple as possible
  - Non technical
  - Small, manageable steps
- Get advice
  - NYS Archives Representative, peers, consultants
- Patience
  - Current situation was not created overnight
  - Solution cannot be implemented all at once



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## Project Management

- Critical to overall success
  - Often forgotten
- Not always identified as needed for:
  - Records destruction
  - Backfile conversion
  - Implementation of ECMS
  - Developing policies and procedures
  - Training



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What advice or experience  
can you offer in developing an  
action plan?

What other questions do you have?



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## IMPLEMENTING A STRATEGY



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## Practical Steps

- Disposing
- Organizing
- Preserving
- Managing (on-going)
- Documenting (policies & procedures)
- Educating



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## Dispose of What You Can

- Determine records retention requirements
  - Use same schedules
- Separate records from non records
  - Work-in-process, copies
- Determine official record
  - Paper or electronic?
- Perform consistently in course of business
  - Periodic review needed



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## Disposition Benefits

- Frees space
- Reduces clutter
- Brings focus
- Reduces risk



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## Organization

- Structured
  - Output periodic reports to PDF/A
- Unstructured
  - Purging & developing a file plan

Note: Preservation will be discussed later



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## Unstructured e-File Plan

- Standardized filing method for unstructured files
  - Location where final “record” copies are stored
  - Determine how you search for records
  - Facilitate retrieval and access
- Recommendations
  - Begin modeling using paper filing systems
  - Use intelligible names
  - Be consist
  - Use to track retention and versions



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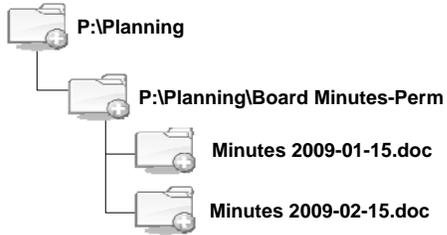
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## Naming Conventions



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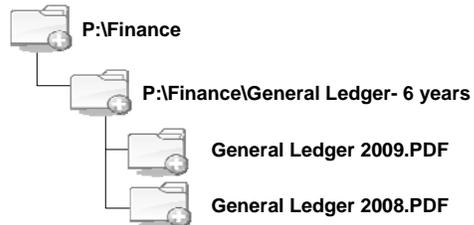
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## Naming Conventions



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## Big Buckets Approach

- Group records by function, document type, or other category
  - At a level higher than records series
  - Links group of records to a retention period



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## Big Buckets Pros and Cons

- Pros
  - Simplifies role of end user
  - Simplifies system requirements
  - Improves consistency
- Cons
  - Leads to increase in retention periods for some docs

Note: policy must reflect changes



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## Do you have a standardized file plan in place now?

Would the big bucket approach work for you?



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## Preservation Concerns

- Will file be readable for entire retention period?
  - Format less of a concern for short term retention
    - Native or neutral format (e.g. .doc, PDF, etc.)
    - COLD (Computer Output to Laser Disc)/ERM (Enterprise Report Management) w/ ECMS
- Long term
  - PDF/A
  - Computer Output to Microfilm (COM)



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## Media Limitations

Medium	Practical Physical Lifetime	Average Time Until Inoperable
Optical Media (CD)	10-30 years	5 years
Magnetic Disk	5-10 years	5 years
Digital Tape	1-50 years	5 years
Analog Video Tape	1-10 years	5 years

Source: Jeff Rothenberg, Rand Corporation



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## Media Storage Standards

- Store media in proper environment
  - Dust-free, closed container
  - Temperature (60°-68°); Humidity (35%-45%)
  - Properly labeled
  - Keep away from cleaning supplies & chemicals
  - Keep secure
  - Maintain access log



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## Preservation

- Maintenance
  - Tape should be periodically rewound (every 24 months)
  - Periodically refresh or transfer data to new media
- Develop migration plan
  - Move/convert data before system is obsolete
  - Include in budget
  - Consider as hardware & software changes
- Test process



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## Preserving Databases

- How to preserve what is constantly changing?
- Start with need and then address in policy
  - Snapshots captured at predetermined periods
- Determine retention requirements
  - Long term retention requires movement to XML



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Why not rely just on backups  
to preserve permanent  
e-records?



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## Policies and Procedures

- Integrate e-records into overall RM program
  - One RM program; e-records are just another format
- Must have senior official's support
  - Governing board acceptance
- Get IT input
  - Often do not have time to write themselves
  - Document systems & retain for life of system



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## Examples of Policies

- Acceptable use
  - Systems use, social media, etc.
- Organizing
  - How files (including email) should be named & filed
- Roles and responsibilities
  - Record coordinators, administrators, etc.
- Protection
  - Back-up procedures
  - Security, passwords



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## Education

- Awareness & education
  - Initial training
  - Periodic reinforcement
- Integrate into new hire & staff review process
  - Signed staff acknowledgement



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## PRACTICAL STEPS GOING FORWARD



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## Suggested Steps

- Use what you know now
- Discover what you don't know
- Prioritize
- Determine policy needs
- Address low hanging fruit
- Evaluate technologies
  - e.g. Electronic Content Mgt System considerations



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## Use What You Know

- Start with willing partners/departments
  - Your department or willing participant
- Inventory what you have
  - Unstructured e-record file plan
  - Structured record output
- Learn what works and does not for you
  - Consider using a consultant



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## Discover What You Don't Know

- Pick next willing functional area(s)
- Inventory
- Determine needs
- Prioritize



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## Action Plan

- Address low hanging fruit
- Evaluate technologies (e.g. ECM considerations)
- File plan
  - Folder & file naming convention
  - Email folder structure
  - Periodic output to PDF/A for structured e-records
- Policies
  - Address cloud contracts, social media, preservation, etc.



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## LAST WORDS OF ADVICE



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## Conclusions

- Integrate into overall RM program
  - Develop policies to guide RM program
  - Procedures for day-to-day activities
- Integrate ERM into normal course of business
  - Senior official's support required
  - Develop e-records file plan
- Make the best use of technology
  - Partner with IT
  - Build functionality into your system



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## ERM Benefits

- Reduces risk & compliance costs
  - Demonstrate compliance; facilitates discovery
- Improves staff efficiencies
  - Reduce time searching for records
- Supports business continuity
  - Identifies essential records for protection
- Facilitates sharing of information
- Reduces redundant copies



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## Managing Electronic Records

Thank you!

For more information:

[www.archives.nysed.gov](http://www.archives.nysed.gov)



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