



# Records Management, Storage & Retention



# Records Management



- What is it?
  - The systematic management of all records over the life cycle (creation, distribution, maintenance, retrieval, final disposition).
  - The discipline and organizational function of managing records to meet operational business needs, accountability requirements and community expectations.



# Records Management - Terms



- Terms as used in this discussion
  - Documents – one or more sources from which information is gathered; may provide primary, supporting or inconsequential information
  - Records – Organized information created from documents for a specific purpose
  - Indexes – Structured Data used for quick retrieval of records and documents
  - Images – Electronic copies of documents, whether originally created in paper or electronically



# Records Management – Creation



- Creation of records starts with documents
- Documents:
  - May be created on paper
  - May be created electronically
  - May provide only crucial information
  - May provide information not needed for creation of records for a particular purpose



# Records Management – Creation (continued)



- Records:
  - Includes the concept of organization of information
  - Are organized; documents may be disorganized, chaotic, difficult to understand
  - Are created to organize, summarize, or associate information contained in documents
  - Requires understanding of the uses of the information



# Records Management – Creation (continued)



- Indexes:
  - Derived from recorded information
  - Allow for quick access to records and documents
  - Possibly different from documents (faulty indexing, standard office practices, ignores information deemed inconsequential from indexing)



# Records Management - Distribution



- Requires use of indexes or examination of records or documents
- Distribution is today increasingly accomplished through Internet access to records and document images
- May be provided on a record by record basis or through the bulk delivery of data and images



# Records Management – Maintenance



- Filing offices usually maintain data and images using database technologies
- Access through use of indexes
  - “Key field” queries
  - Balance of record information lifted from the database based on key field matches
  - Document images associated with records may be available





# Records Management – Image Storage



- Images may be stored and accessed in several different ways
  - Paper media
  - Microfilm/fiche
  - Optical platters
  - RAID devices



# Records Management – Image Storage



- Paper Media
  - Durable
  - Transportable
  - Technology Independent
  - Not very searchable
  - Requires physical access to location where paper is stored
  - Requires a lot of room(!)



# Records Management – Image Storage



- Microfilm/fiche
  - Durable (LE of 500 years if properly stored)
  - Transportable
  - Technology Independent (well, kind of)
  - Ease of search depends on the ways in which indexes are created
  - Requires physical access
  - Requires much less room than equivalent paper media storage



# Records Management – Image Storage



- Optical Platters
  - Durable
  - Not transportable
  - Technology dependent
  - Speed of access may be light-years ahead of paper and microfilm/fiche, but may be affected by how many platters and drives are available
  - MTBF in mechanicals in “jukebox” drives may cause concern



# Records Management – Image Storage



- RAID devices
  - Step above simple storage on hard drives
  - RAID means “Redundant Array of Independent Disks”
    - It allows data to be stored in multiple locations (redundant)
    - Consists of a controller and two or more drives (array)
    - Stripes or interleaves data across multiple drives, so more than one drive is reading and storing data simultaneously (independent)



# Records Management – Image Storage



- RAID devices (continued)
  - Different RAID levels provide different results
    - RAID 0 – interleaves data across multiple disks – increases speed, does not provide safeguards against failure
    - RAID 1 – uses disk mirroring to achieve full data duplication across multiple drives
    - RAID 3 – data striped across multiple drives; parity bits stored on dedicated drives
    - RAID 5 – similar to RAID 3, but parity bits are interleaved across multiple drives
    - RAID 1/0 or 10 – combination of RAID 0 and RAID 1



# Records Management – Final Disposition



## ■ Retention Policies

- Storage is cheap; may not be in the business of purging data and/or images
- Record Holds – prevent destruction of sensitive information
- Different approaches to record availability
  - On-line – always accessible
  - Near-line – removable media, perhaps in a tape array or some other storage device
  - Off-line – removable media in a “cold storage” status



# Records Management – Future



- Increased usage of clustered or affordable multi-terabyte devices has changed the equation
  - May change or eliminate the discussion about retention
  - Allows full-text searching for OCR-type or natively text-based documents
  - Google and other commercial search engines have changed expectations





# Records Management – Future



- Technology-Independent long-term or permanent storage concerns
  - Document formats will change
  - Computer systems will change
  - Life Expectancy concerns
    - Magnetic Tapes – 10-30 years
    - Optical disks – 5-100 years
    - Paper – 100-500 years (archival grade, acid-free paper)
    - Microfilm – 10-500 years



# Resources



- Association for Information and Image Management (AIIM) – [www.aiim.org](http://www.aiim.org)
- Washington State Digital Archives – [www.digitalarchives.wa.gov](http://www.digitalarchives.wa.gov)
- National Institute of Standards and Technology – [www.nist.gov](http://www.nist.gov)

