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.
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
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
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(!)
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
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)
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
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