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SI 655
Management of Electronic Records

Week 05
February 16, 2009
Standards & Best Practices
Outline

• Where are We?
• Standards and Best Practices
Where are We?

- **PART 1 - Contexts**
  - RKR (law, policy, practice)
  - Trust
  - Evidence (discovery, admissibility),

- **PART 2 - Promoting Accountability**
  - Standards & Best Practices
  - Tools and Technology
  - Compliance and Audit
  - Social Demands/Incentives

- **PART 3: Issues & Environments**
  - Contradictions
    - FOIA, Privacy, Secrecy
  - Records and Accountability Environments
    - Government, International Organizations, HR
    - Corporate
    - Healthcare

- **Part 4: Wrap up**
Standards

- A rule, principle, or measure established as a model or example by authority, custom, or general consent.

- In the computer industry, standards are rules that encourage open systems and provide the basis for portability, interoperability, and manageability.

(Rockley, Kostur, and Manning, Managing Enterprise Content: A Unified Content Strategy, 2002)
Best Practices

• Statements from laws, regulations, administrative rules, and established practice within different domains that define desirable model behavior

• Processes, practices, and systems identified in organizations that performed exceptionally well and are recognized as models for behavior
Standards & Best Practices

- Provide guidance for programs, functions, systems
- Promote interchange, interoperability, longevity
- Provide a basis for monitoring and compliance auditing

SEE:
- ARMA International Standards Development
  http://www.arma.org/standards/development/index.cfm
- ISO TC 46 - Information and Documentation
  http://www.iso.org/iso/standards_development/technical_committees/list_of_iso_technical_committees/iso_technical_committee.htm?commid=48750
Types of Standards

• Formal vs. De facto
• Open vs. Proprietary
• International, National, Industry, Professional
• Scope: Global process to minute parts
• Abstraction: Model to detailed specification
• Compliance: Mandatory to Voluntary
Standards Making Processes

• Formal standards bodies (ISO, NISO, IEEE)
• Voluntary standards bodies (IETF, professional associations)
• Consortia and membership bodies (W3C)
• Industry and Trade Associations
Standards Development Process

Problem or Need

Working Group(s)

Draft 1

Draft 2-n

Comments

Comments

Formal Review & Approval

Adoption

Time Frame: 2 - 10+ Years
Adoption / Compliance

- Applicable date and retroactivity
- Integration into products and services
- Certification
- Network effects
- Compliance Monitoring
- Exceptions/Sanctions
Electronic Records and Records Management Standards

- System standards
- Software standards
- Metadata Standards
- Process Standards
Some notable (E)RM standards

- OAIS Reference Model
- ISO Records Management Standard
- Various Metadata Standards
- Best ("Good") Practices
OAIS Reference Model

- **Formal** vs. De facto
- **Open** vs. Proprietary
- **International**, National, Industry, Professional
- Scope: Global process to minute parts
- Abstraction: **Model** to detailed specification
- Compliance: Mandatory to **Voluntary**
OAIS Background

• Records management and archiving are becoming a ubiquitous problem
• 1982 -- CCSDS finds no consensus on digital archiving terminology or standards
• 1980s/1990s -- Many expensive, risky, and not always successful migration and rescue efforts for space data
• 1995– CCSDS sponsors numerous data archiving workshops resulting in the OAIS recommendation to ISO
• 2002 -- OAIS approved as ISO 14721
OAIS -- Open Archival Information System Reference Model

- High level model for digital archives developed by the space data community

- Specifies three aspects of archiving
  - Environment for preservation
  - Types of Information “Packages”
  - Functions of archival information systems
OAIS Environment

- **Producers**
  - people and/or client systems

- **Management**
  - sets overall policy

- **Consumers (Users)**
  - people and/or client systems that use the preserved information
Types of Information Packages

- **Submission Information Package** -- SIP
  - supplied by producers

- **Archival Information Package** -- AIP
  - transformation of SIP for long-term management

- **Dissemination Information Package** -- DIP
  - package delivered to consumers upon request
Functions

- Ingest
- Archival Storage
- Data Management
- Administration
- Access
- Preservation Planning

SEE: OCLC Digital Archive
- http://www.oclc.org/digitalarchive/
OAIS Functional Entities

SIP = Submission Information Package
AIP = Archival Information Package
DIP = Dissemination Information Package

Applications of OAIS

• Evaluation criteria for digital archiving systems
• Framework for dividing preservation responsibilities among producers, organizations with preservation responsibilities, and consumers
• Framework for additional standards development
• Aggregate demand for technology vendors
SIP  = Submission Information Package
AIP  = Archival Information Package
DIP  = Dissemination Information Package

Producer-Archive Interface

• Phases
  – Preliminary
  – Formal Definition
  – Actual Transfer
  – Validation

AIP
Figure 2-1: Main Phase Objectives and Outputs
Preliminary Phase

- Identify information the archive will preserve
- Preliminary definition of data objects that the producer will transmit to the archive
- Analyze feasibility
- Decide on feasibility from both Producer and Archive perspective
- Estimate resources needed
- Summary Document/Preliminary Agreement
Preliminary Stage -- Issues

- Establish contacts on both sides
- Exchange of general information about content to be delivered and archive capabilities
- Development and testing of archive methodology
- Feasibility test on both sides (technical, legal, financial)
Preliminary Agreement

• SIP Content (Content Information, Preservation Description Information, Descriptive Information)
• First submission timetable
• Access restrictions
• Validation Procedures
• Revision and renegotiation clauses
Formal Definition Phase

• Goals -- Precise and Formal Definition of:
  - Data to be delivered by the Producer to the Archive
  - Contractual and legal aspects
  - Complementary elements required to the transfer and validation process
  - Schedule
Issues addressed in Formal Definition phase

• Precise specifications of data (e.g. quantity, data types, data definitions, documentation, etc.)
• Transfer medium
• Transfer methods and tools
• Security requirements
• Validation plan
• Change/Revisions to plan
Current Status of OAIS

• Main use is in analyzing, designing, building and certifying digital repositories for long-term storage

• SEE: Digital Repository Certification
  http://www.crl.edu/content.asp?l1=13&l2=58&l3=162&l4=91
Records Management Standards

• International Records Management Standard ISO 15489
  - Formal vs. De facto
  - Open vs. Proprietary
  - International, National, Industry, Professional
  - Scope: program and process
  - Compliance: Mandatory to Voluntary
ISO 15489 Content

• Scope of the Standard
• Benefits of Records Management
• Regulatory Environment (specific to each organization)
• Policies and Procedures (of an RM Program)
• Requirements
• Design and Implementation
• Processes & Controls
• Monitoring & Auditing
Requirements

- Determining records needed for each business process
- Formatting and media selection
- Establishing metadata and links
- Managing records retrieval and distribution
- Managing risks (business continuity)
- Managing preservation of records
- Managing security of records
- Managing retention of records
Processes and Controls

• Determining which records are captured
• Determining retention
• Capturing records
• Registration
• Classification
• Storage
• Access
• Tracking
• Disposition
• Documentation
Implementation / Adoption

• What issues / problems might impede adoption of this standard?
  – Expensive
  – Time Consuming
  – Ignored
  – Limit Innovation
  – Difficult to Change
Best Practices

- Shift from “Best” to “Good”
- Tension between best practices for ERM and best practices for specific business processes
- Reasonableness

Sedona Guidelines

- Develop sound and defensible processes to manage ER via law, IT and RM lenses
- Voluntary
- Best Practices
- General
- Scope
  - Creation/Capture
  - Content
  - Quality
  - Structure/Organization
  - Retention/Disposition*
  - Disclosure/Accessibility/Protection*