Standards for Long-term Management of Electronic Records

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Although tedious and obscure, negotiations over standards are among the most complex and important political arenas of modern societies, with myriad institutional, financial, symbolic, and practical dimensions.

Lessons from Previous Standards Development

- Standards battles are not (necessarily) about “best” technical solution, but competing worldviews and sets of interests.
- It takes considerable resources to contribute to standards development, so players have to see a direct benefit to them – educated guesses about those perceived benefits will help you to better understand the process.
- “Openness” can vary by degree, along many dimensions.
- “De jure” (i.e. official) standards can come from many different types of groups/processes – e.g. ISO, consortium, government body, UN, professional association.
Standards Strategies for Stakeholders

• Get everyone to adopt as a standard something that:
  – You’ve already implemented
  – Includes technology others will have to license from you
  – Will create a large market for products where you have an advantage

• Try to block standardization (if you don’t want interoperability)
  – Don’t participate
  – Participate but drag your heels
  – Embrace but add proprietary extensions, or don’t implement fully or correctly
The User-Provider Standardization Planning Model [Source: Cargill, 1997, p. 92]

Examples of Standards Important to Electronic Records

- Reference Model for an Open Archival Information System (OAIS)
- UNICODE – character encoding that allows for characters beyond the limited set of ASCII
- Dublin Core – limited set of elements particularly useful for “dumbing down” metadata for exchange across systems
- OAI-PMH – protocol for harvesting metadata across repositories
- XML – syntax for marking up data elements
- PDF/A – flavor of PDF designed to be preservation-worthy
- DOD 5015.02 – specifies requirements for entire records management systems
- ISO 15489 – records management
- Others?
Proprietary and Open Standards

• Three dimensions of openness
  – Public process of creation
  – Freedom to use
    • Public availability of full specification
    • Licensing fees for proprietary technologies required to implement specification
  – Ability to make changes
Standards Terminology – What to Assume & Do in Relation to Compliant Products/Services

• Required features (MUST)
  – Assume compliant products/services implement
  – Always implement in your compliant products/services

• Suggested features (SHOULD)
  – Should not assume other compliant products/services will implement
  – Do implement it in your compliant products/services

• Allowed features (MAY)
  – Assume other compliant products/services might implement
  – Only implement in your compliant product/service if you find this useful to meet your intended purposes

• Forbidden features (MUST NOT)
  – Assume compliant products/services do not implement
  – Never implement in your compliant products/services
Who Creates Standards? Players and Process

• SDOs
  – American National Standards Institute (ANSI)
  – National Information Standards Organization (NISO)
  – International Organization for Standardization (ISO)
  – International Electrotechnical Commission (IEC)
  – Consultative Committee for Space Data Systems (CCSDS)
  – Internet Engineering Task Force (IETF),
  – ECMA (formerly the European Computer Manufacturers Association)

• Professional & Trade Associations
  – AIIM, ARMA, Society of American Archivists (SAA), Institute of Electrical and Electronics Engineers (IEEE), International Council of Museums (ICOM)

• Consortia
  – Dublin Core Metadata Initiative (DCMI)
  – Organization for the Advancement of Structured Information Standards (OASIS)
  – Workflow Management Coalition (WfMC)
  – World Wide Web Consortium (W3C)

• Detail work usually done within individual organizations & technical committees
• Formal approval through ISO by member bodies
ISO TC20/SC13 (Aircraft and space vehicles -> Space data and information transfer systems)

ISO/IEC Joint Technical Committee (JTC 1) – Information Technology [Where does ERM go?]

- SWG  - Accessibility (SWG-A)
- SC 2  - Coded character sets
- SC 6  - Telecommunications and information exchange between systems
- SC 7  - Software and systems engineering
- SC 17 - Cards and personal identification
- SC 22 - Programming languages, their environments and system software interfaces
- SC 23 - Digitally Recorded Media for Information Interchange and Storage
- SC 24 - Computer graphics, image processing and environmental data representation
- SC 25 - Interconnection of information technology equipment
- SC 27 - IT Security techniques
- SC 28 - Office equipment
- SC 29 - Coding of audio, picture, multimedia and hypermedia information
- SC 31 - Automatic identification and data capture techniques
- SC 32 - Data management and interchange
- SC 34 - Document description and processing languages
- SC 35 - User interfaces
- SC 36 - Information technology for learning, education and training
- SC 37 - Biometrics
Standards in Your Context?

• What standards are most important to your work on electronic records?

• For each standard, who can/should be involved in:
  – Raising awareness about the standard?
  – Implementing the standard?
  – Evaluating compliance with the standard?

• What’s your role in all of this?