

# Digital Preservation: The Next Library Frontier

Presented at:

**EMA 2009**

Binghamton, New York

5 November 2009

**Edward M. Corrado**

Head of Library Technology

Binghamton University

Binghamton, NY, USA

[ecorrado@binghamton.edu](mailto:ecorrado@binghamton.edu)

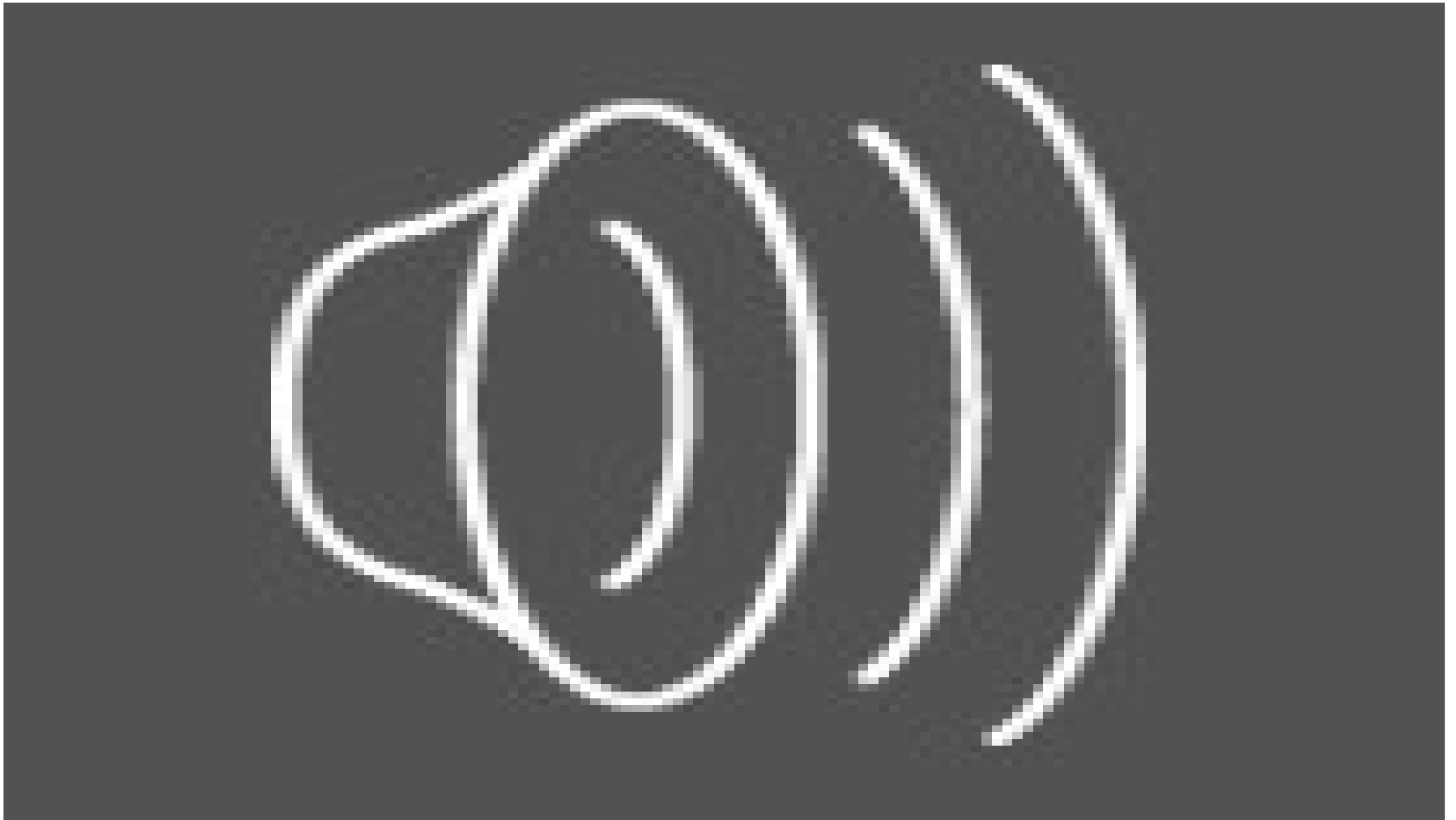
# Libraries & Preservation



Libraries (esp. Academic & National Libraries) have traditionally played important roles in preserving information

Manuscripts, Papers, Archives...

# Digital Preservation & Nuclear Disaster: An Animation



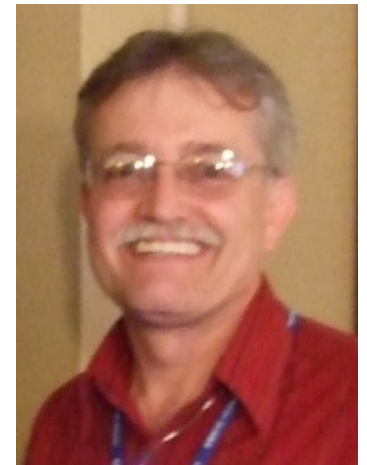
# What is Digital Preservation?

“Digital preservation combines policies, strategies and actions that ensure access to digital content over time.” ALA (2007; Short definition)

"All activities concerning the maintenance and care for/curation of digital or electronic objects, in relation to both storage and access." (Research Councils UK 2008: 6)

- GPO PURL Failure of 2009

“I think this episode also illustrates, once again, that preservation is not about technology at all, it's about \*institutional commitment\* . . . Without institutional commitment, no technology on earth can save you.” - Roy Tennant



# Digital Preservation is not:

An Institutional  
Repository

Computer Storage /  
Backups

Short term commitment

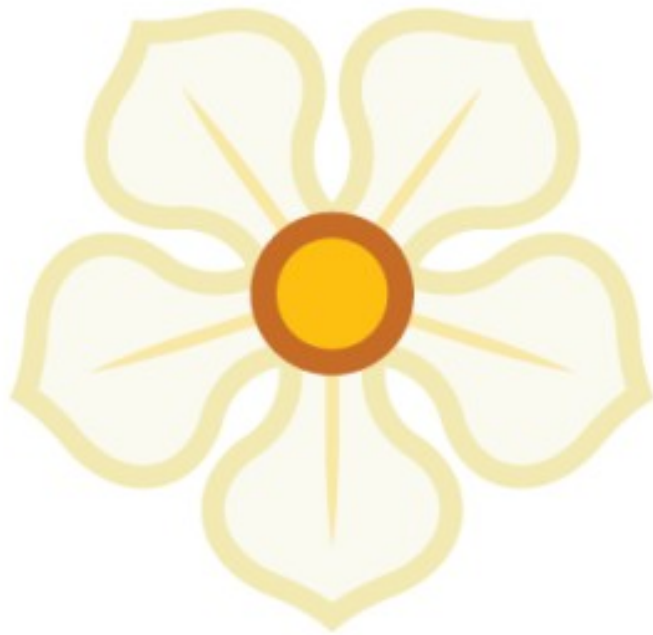
Only a technical  
problem

Cheap!



# Backups Anyone?

MA.GNOLIA 2



*Social Bookmarking for the Open Web*



# Amazon S3 Storage Costs

\$1.80 \* 20000 storage  
\$2.04 \* 20000 data transfer



\$36,000 year 1 storage (20TB)  
\$40,800 year 1 data transfer (20TB)  
\$46,800 year 2 storage (26TB)  
\$12,240 year 2 data transfer (6TB)  
\$61,200 year 3 storage (34TB)  
\$16,320 year 3 data transfer (8TB)

**\$213,360 over 3 years**

# Ongoing Costs

Many other ongoing costs. Can't just fund once....

Electricity

Environmental

Format conversion

Staff

Conformation (can data still be read?)

"Digital information lasts forever -- or five years, whichever comes first." - Jeff Rothenberg (as quoted in Holtz (2009))



# “Digital Preservation as an Albatross”

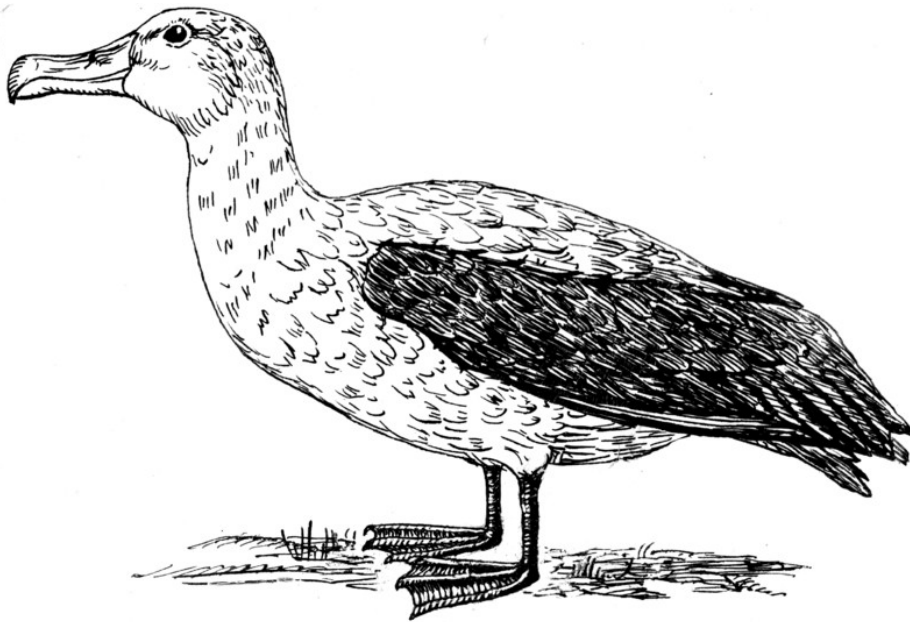
Digital Preservation is  
the mechanics (how)

Not which is really  
important (what)

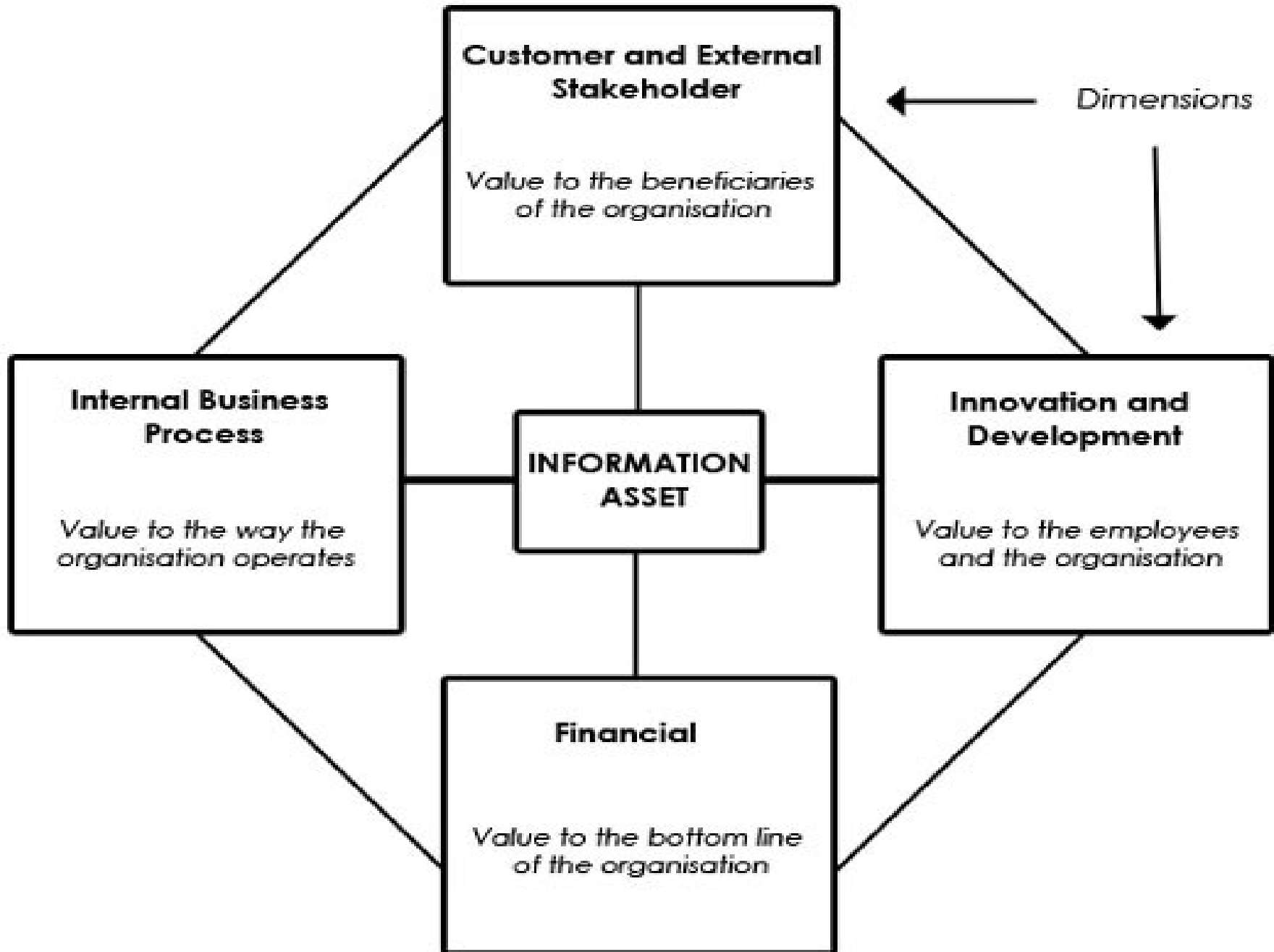
Not the purpose (why)

Business Case needs  
to be made

Currall, J., P. McKinely, and C.  
Johnson (2006)



# espida Balanced Score Card



# Who needs to Preserve Stuff

Governments (Country, States, Cities, etc.)

Institutions trusted to create and maintain knowledge (e.g. Universities)

Why Libraries?

Expertise in [Print] Preservation

Expertise in Information

# What needs to be preserved?

It is easy to say everything, but that is not practical

"Our ability to collect data now outstrips our ability to maintain it for the long run" - William Michener (as quoted in Holtz (2009))

Libraries don't preserve everything in print

"It would be tragic if there were no record of lives that were so influential" – J. L. John (as quoted in Holtz (2009))

# What needs to be preserved? (cont'd)

Government Mandates

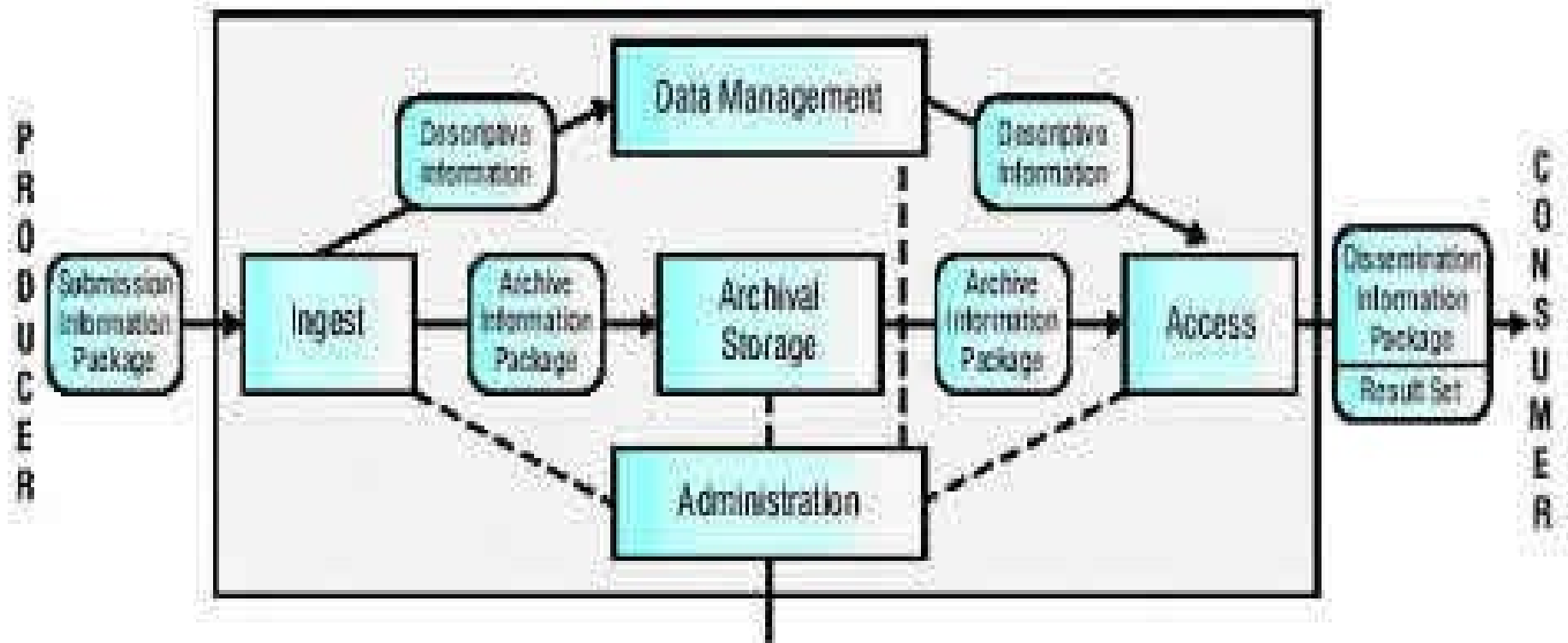
Unique Items (last copy; only copy)

Institutional memory

Collection Development policies

In other words, not very different than print.

# Open Archival Information System (OAIS)



MANAGEMENT

Figure 3

# PREMIS (Preservation Metadata: Implementation Strategies)

## **Objectives:**

Define an implementable set of “core”  
preservation metadata elements...

Draft a data dictionary to support the  
core preservation metadata element  
set

# PREMIS (Objectives Con't)

Examine & evaluate alternative strategies for the encoding, storage, and management of preservation metadata ... as well as for the exchange of preservation metadata among systems

# PREMIS (Objectives Con't)

Conduct pilot programs for testing the group's recommendations and best practices in a variety of systems settings

Explore opportunities for the cooperative creation and sharing of preservation metadata.

# Resources

- ALA. (2007. Definitions of digital preservation. Chicago: American Library Association. Available at:  
<http://www.ala.org/ala/mgrps/divs/alcts/resources/preserv/defdigpres0408.pdf>
- Caplan, P. and R. Guenther, 2005 “Practical Preservation: the PREMIS Experience” Library Trends: 54 (1) Summer 2005 [http://www.loc.gov/standards/premis/caplan\\_guenther-librarytrends.pdf](http://www.loc.gov/standards/premis/caplan_guenther-librarytrends.pdf)
- CCSDS (Consultative Committee for Space Data Systems) (2002). Reference Model for an Open Archival Information System (OAIS). Blue Book, Issue 1. Washington, DC (US): CCSDS Secretariat, January 2002. Technical report. CCSDS 650.0-B-1. Recommendation for Space Data System Standards. Available at: <http://public.ccsds.org/publications/archive/650x0b1.pdf>.
- Currall, J., P. McKinney, and C. Johnson (2006) Digital preservation as an albatross. Archiving 2006 - Final Program and Proceedings, pp. 75-78.  
<http://www.scopus.com/scopus/inward/record.url?eid=2-s2.0-36049044810&partnerID=40>
- Digital Preservation Europe (DPE): <http://www.digitalpreservationeurope.eu/>
- Hotz, R. L. (28 Aug 2009) “A Data Deluge Swamps Science Historians.” Wall Street Journal.  
<http://online.wsj.com/article/SB125139942345664387.html>
- Lavoie, B. (2000) Meeting the challenges of digital preservation: The OAIS reference model.  
<http://www.oclc.org/research/publications/archive/2000/lavoie/>
- Tennant, R. (1 Sept 2009). GPO Purls (Code4lib e-mail list message):  
<http://serials.infomotions.com/code4lib/archive/2009/200909/1443.html>