Managing Digital Content over Time: **Protecting Our Resources**

May 2013

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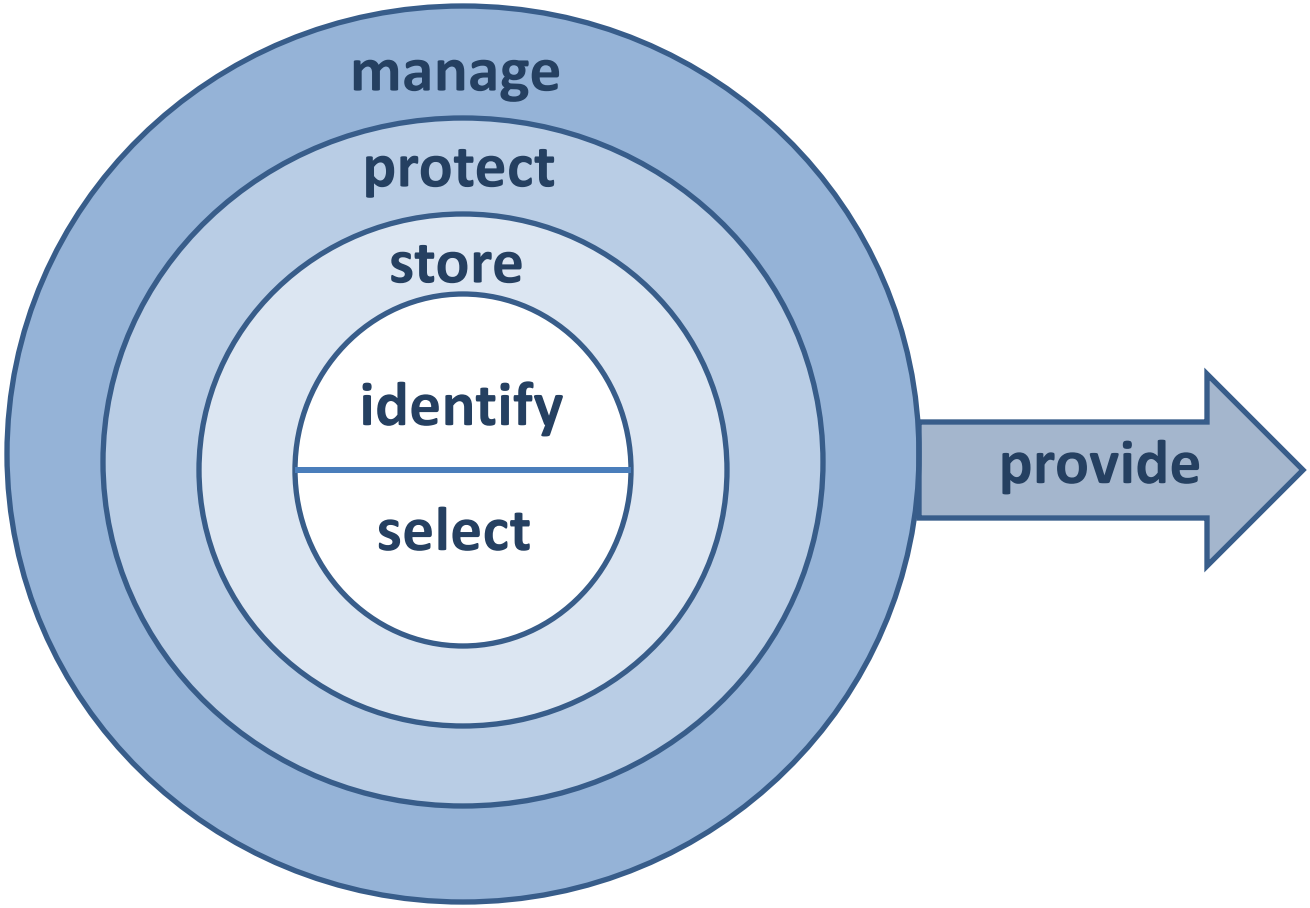
Managing Content Over Time



Why **identify** content?

- Preservation requires a commitment of resources
- Identifying content is a first step to making informed decisions
- Effective planning is based on knowing what needs to be preserved now and in the future
- Not all of our digital content will be preserved

A detailed inventory is the best way to identify content

Why **select** content to preserve?

- Storage may be cheap, management is not
  … especially over time
- What can we reasonably do
- What your stake holders need
- Matching mission to content

Archival **Storage**

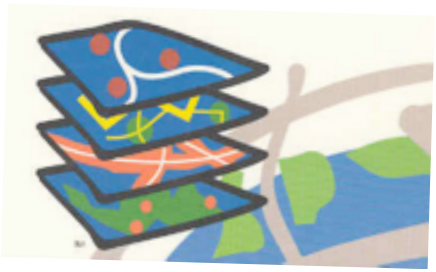
Computer Backups are not preservation

- Backups:
  - Restoring files in case of a failure
  - Temporary
- Preservation:
  - Care for individual files over time
  - Spans generations of technology
  - Not compressed; not encrypted
  - Stored with information about the objects
  - Software and hardware independent

What are we storing?

Digital content: files + metadata = object

- May include any type of content
  - e.g., images, text, sound, video, maps
- Requires some identification and description
  - Captured as metadata



Storage Considerations

Multiple, geographically distributed copies

- Minimum: two copies in two locations
- Hosted services / Storage partners
- How to decide?
  - Cost
  - Expertise
  - Services
- Online, near-line, offline

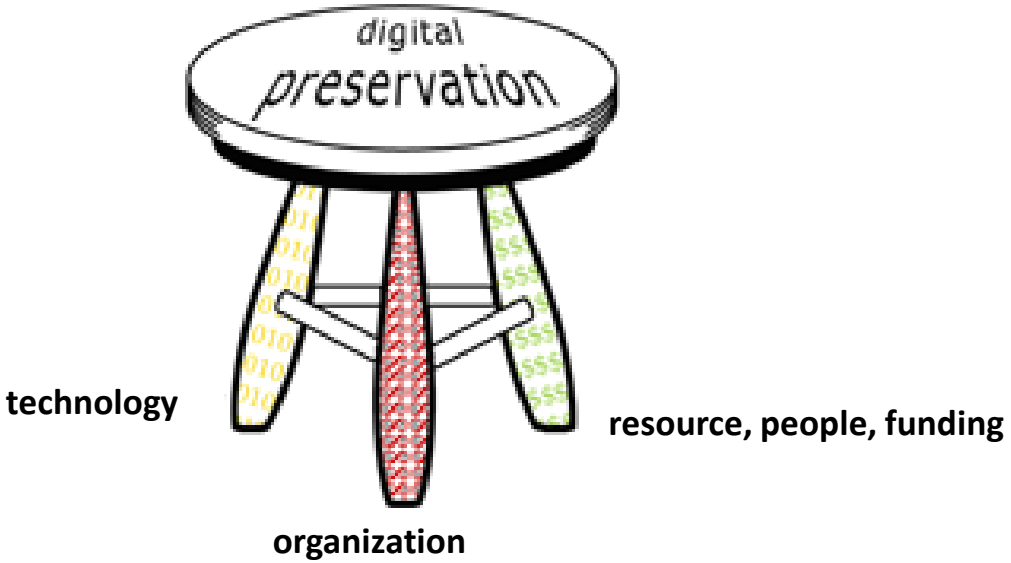
Storage Partners

- Multiple, geographically distributed
- Trusted Storage Partners
- Hosted services, e.g.

Balanced **Manage**ment

An effective approach will address:

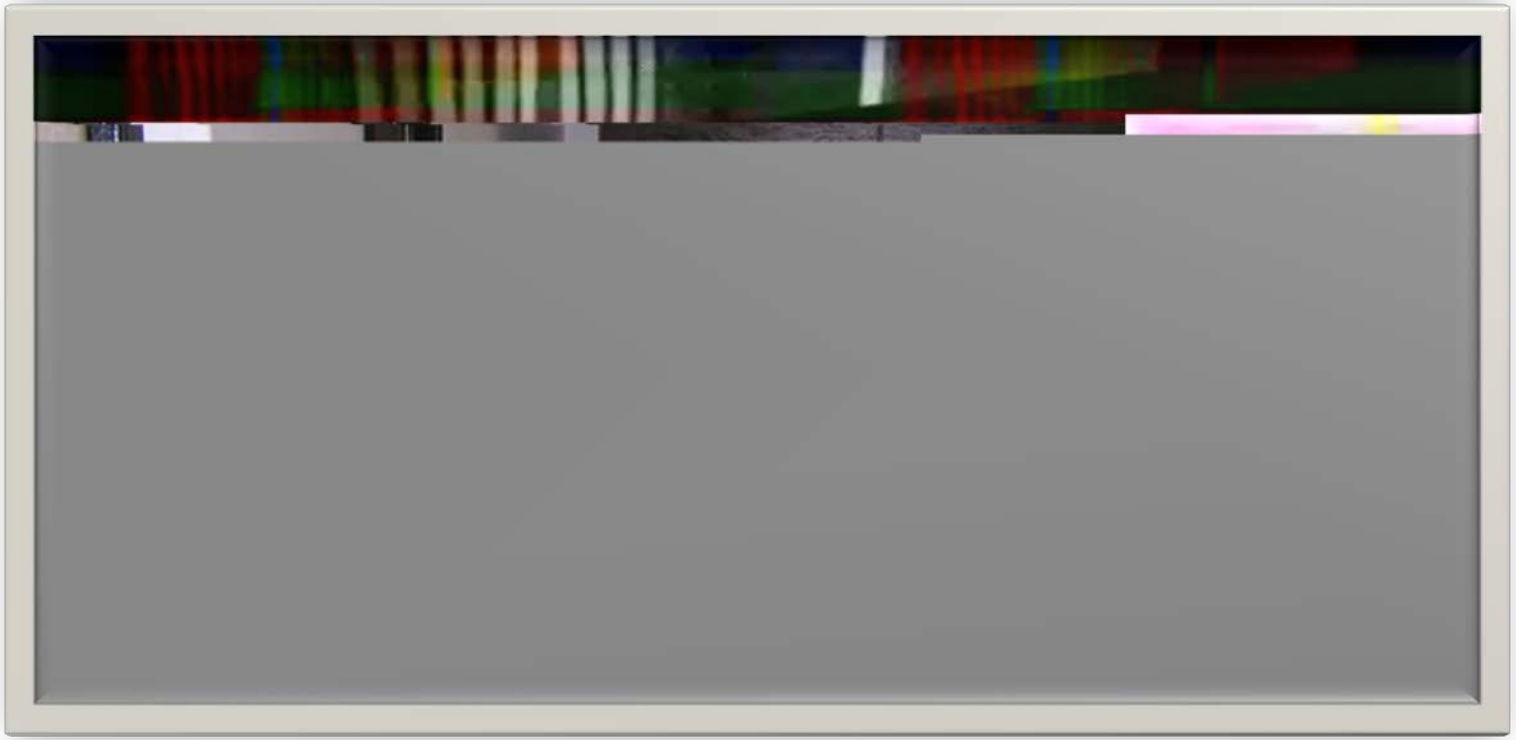
- Organizational requirements and objectives
- Technological opportunities and change
- Resources – funding, staff, equipment, etc.



What are we **Protect**ing content from?

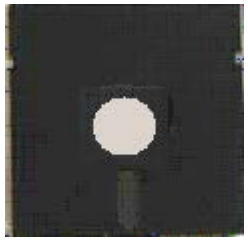
Change or Loss

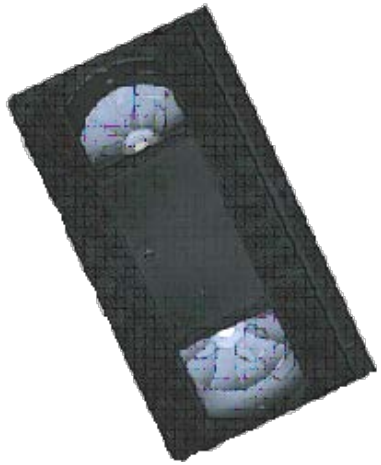
Accidental and intentional



Obsolescence

Evolving Technology





Inappropriate access

Confidential or restricted data

Non-compliance

Standards and requirements

Disasters

Emergencies of all kinds

Everyday Protection

- Where is your content located?
- Who has access to it?
- Who can change the content?

"It's Reykjavik, sir. Apparently those British saving accounts were on a hard disk which got left on a bus."

Risk Management

Steps to protect your content:

- Identify and define possible risks to the data
- Assess potential damage / impact
- Detect errors, problems, damage
- Develop appropriate, feasible plans
- Respond to risks, threats - implement plans

What is Long-term **Access**?

Digital Preservation

- makes long-term access possible…
- provides a path from one generation of technology to the next

Questions?

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Preservation Metadata

All the information needed to manage, find and use digital content over time

Metadata enables long-term preservation

Content: preserve the substance

Fixity: demonstrate content is unchanged

Reference: identifies this content and no other

Provenance: trace to its origin (or to deposit)

Context: preserve linkages with other objects

Original source: Preserving Digital Information Report, 1996

Outcomes

Digital preservation requires an organization to:

- Develop a storage management policy
  - E.g., number of copies, locations, fixity means
- Specify storage service or partner agreements
- Monitor copies of content for errors/change
- Plan for media replacement

Importance of Standards

Open Archival Information Standard

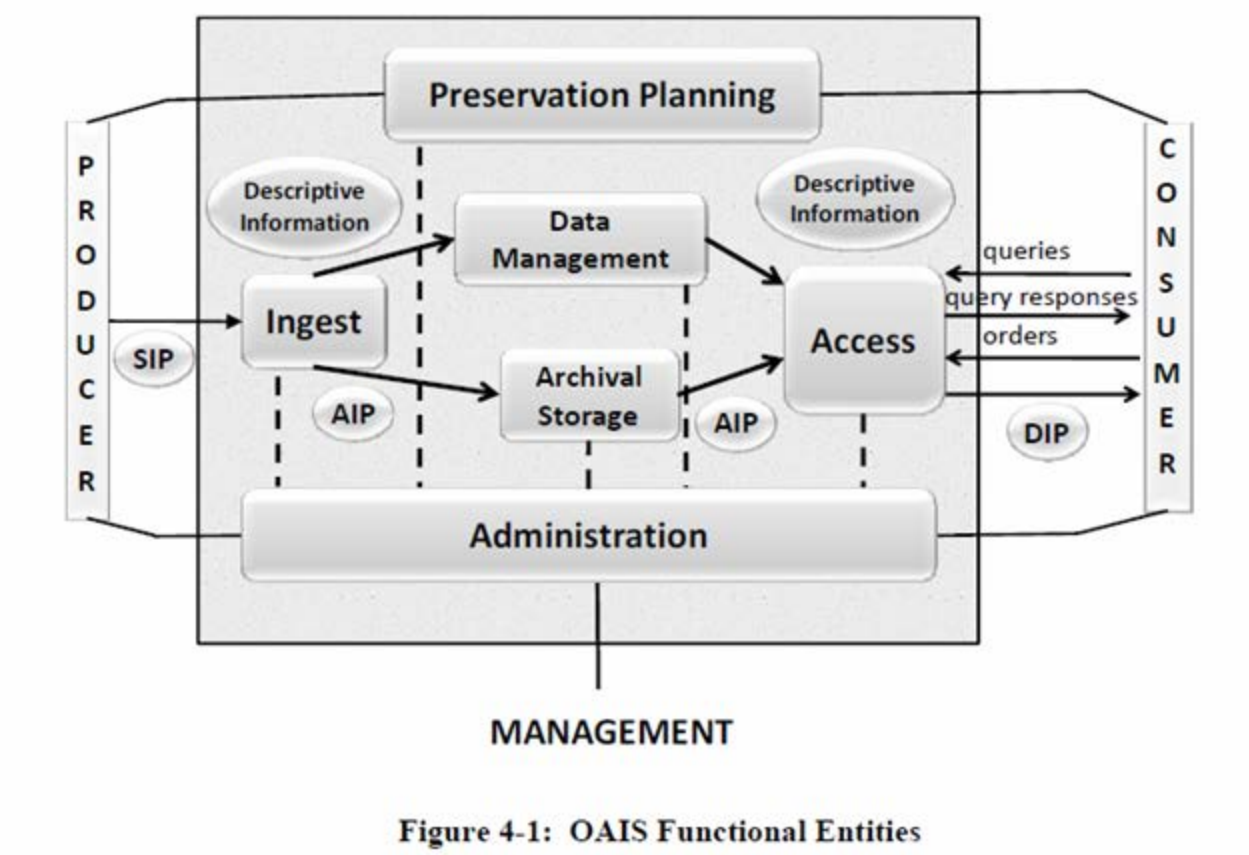

Figure 4-1: OAIS Functional Entities

ISO Standards