



Digital **Preservation** Coalition

Did You Take a Laptop  
Left in a Subway Train @  
around 5:30 pm on 16<sup>th</sup> Nov?

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**I AM NOT INTERESTED IN  
PRESSING CHARGES.**

I JUST WANT MY MACBOOK BACK SO I CAN  
DO MY SCHOOL WORK.

Please, if you have any information  
whatsoever call 07447165024

Thank you  
**KATE K.**

## Institutional Readiness and Digital Preservation

**How are you doing just now?  
How do you want to improve?**

@williamkilbride

[www.dpconline.org](http://www.dpconline.org)

1. Assessing institutional readiness: How are you doing now?



## **Assessing your organisation's capability to undertake digital preservation**

### **Benchmarking**

- Strengths and weaknesses
- Goals and timescales
- Incremental
- Planned improvements
- Not just about techniques



## Maturity Models: Charles Dollar: Digital Preservation Capability Maturity Model



See also ...

- Adrian Brown's advice on Maturity Modelling
- AIDA and CARDIO
- Cornell's 5 stages
- DRAMBORA

## Digital Preservation Capability Maturity Model: (see <http://bit.ly/1HRNCJg>)

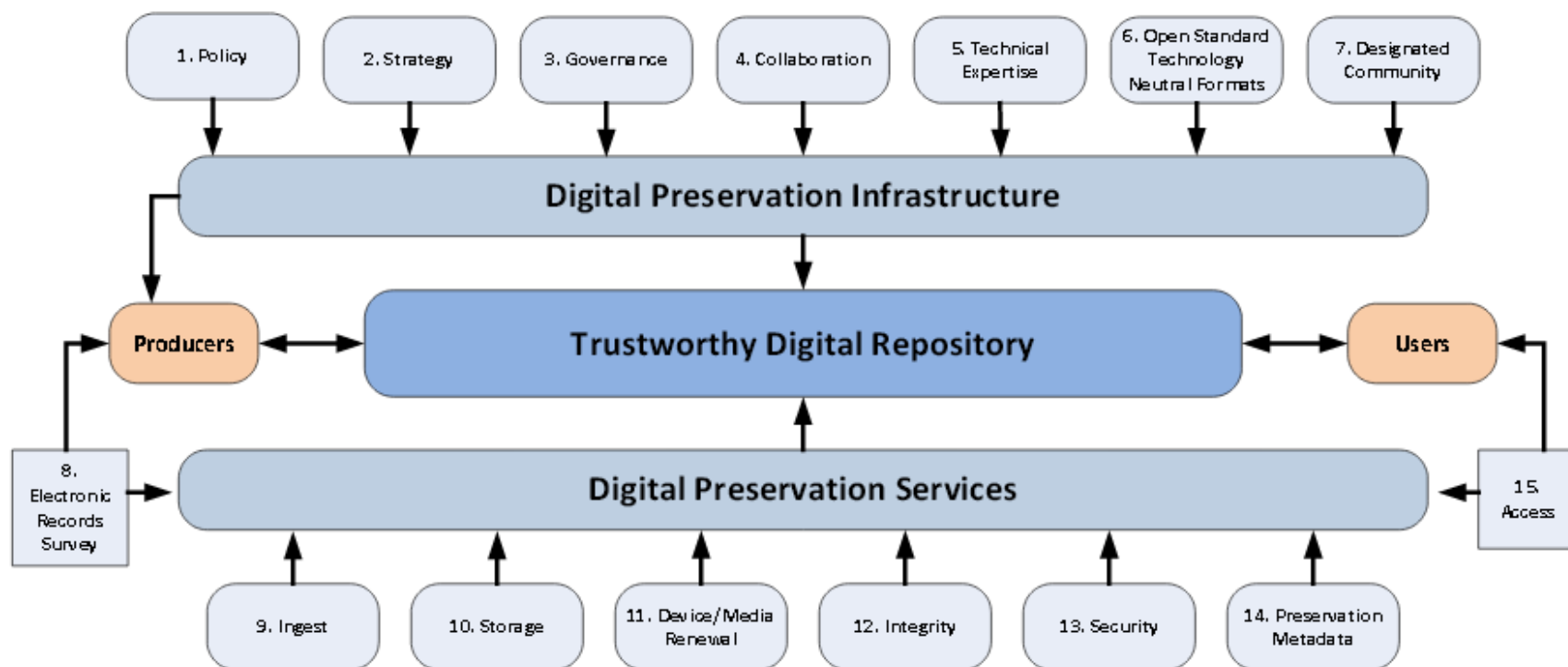


Figure 2. Digital Preservation Capability Maturity Model

# Charles Dollar's Digital Preservation Capability Maturity Model (DPCMM),

15 core indices

## 7 infrastructure indices

- Policy, Strategy
- Governance
- Collaboration
- Technical Expertise
- Open standards
- Designated Community

## 8 preservation service indices

- Ingest
- Storage
- Media Renewal
- Integrity
- Security
- Metadata
- Access
- Record Survey



## Digital Preservation Capability Maturity Model (DPCMM),

15 core indices

Score each index 0-4

- Nominal
- Minimal
- Intermediate
- Optimal

Capability Levels	Composite Index Score
Nominal Digital Preservation Capability	0
Minimal Digital Preservation Capability	1 - 15
Intermediate Digital Preservation Capability	16 - 30
Advanced Digital Preservation Capability	31 - 45
Optimum Digital Preservation Capability	46 – 60



## Some Questions ...

How much of the organisation is in scope?

Just your team or IT, management etc.

How much can you rely on others?

What about outsourced services?

What to do about collaborative services?

What about purchased products?

What to gain from the exercise?

Your own improvements?

Investment?

Work planning?

2. Assessing practice: How do you want to improve?



## Trust and Preservation

Long time coming ...

‘certified archival repository ....will be able to prove that they are who they say they are by meeting or exceeding the standards and criteria of an independently-administered program for archival certification’ CPA/RLG 1996

Connection to

- Outsourcing / business planning
- Legal place of deposit
- Accreditation (cf Archives for the 21<sup>st</sup> Century, RCUK Policy etc)
- Credibility of ‘the new profession’

## Preservation Trust and E-Journals

*Why would you trust a preservation service? From 10000m ...*

**Trust =**

**(Skill\*Transparency\*Sustainability) <sup>TIME</sup>**

Technical know how, planning,  
standards, research, infrastructure,  
staff, industrial scale, risk assessment

business model, rights management,  
income, regulation, succession planning,  
economies of scale and scope

open source, community ownership,  
independent audit, sharing methodologies  
clarity of purpose and scope, planning



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## DRAMBORA

*Digital Repository audit based on risk assessment*

## OAIS Compliance?

## DANS Data Seal of Approval

*Lightweight self certification methodology for research data archives.*

## Nestor Kriterienkatalog

*Participation in distributed network for preservation, national basis DIN 31644*

## ASD-STAN LOTAR

*Industry specific project to integrate OAIS with STEP to ensure legal verification of CAD / CAM and PDM data*

## Trusted Digital Repository

*Criteria describing 'trust' in preservation*

## TRAC and ISO 16363

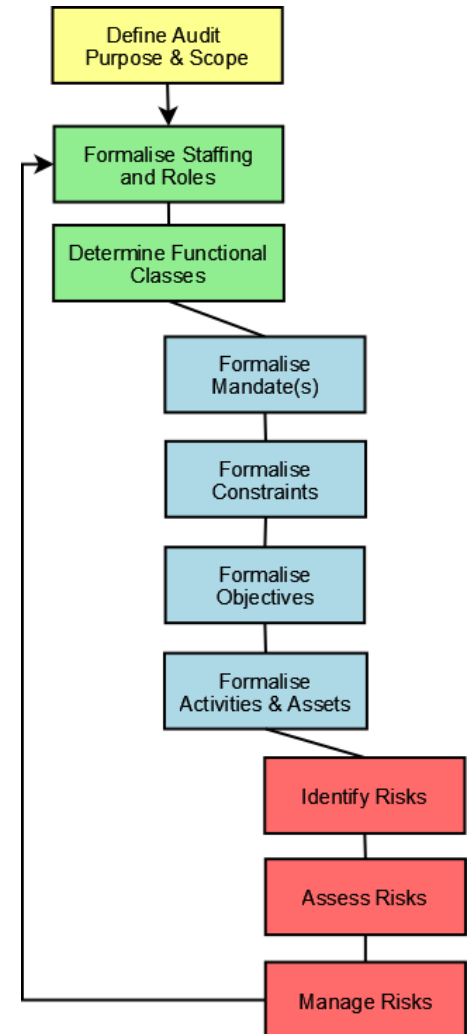
*Certification of trustworthy status*

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# DRAMBORA Method

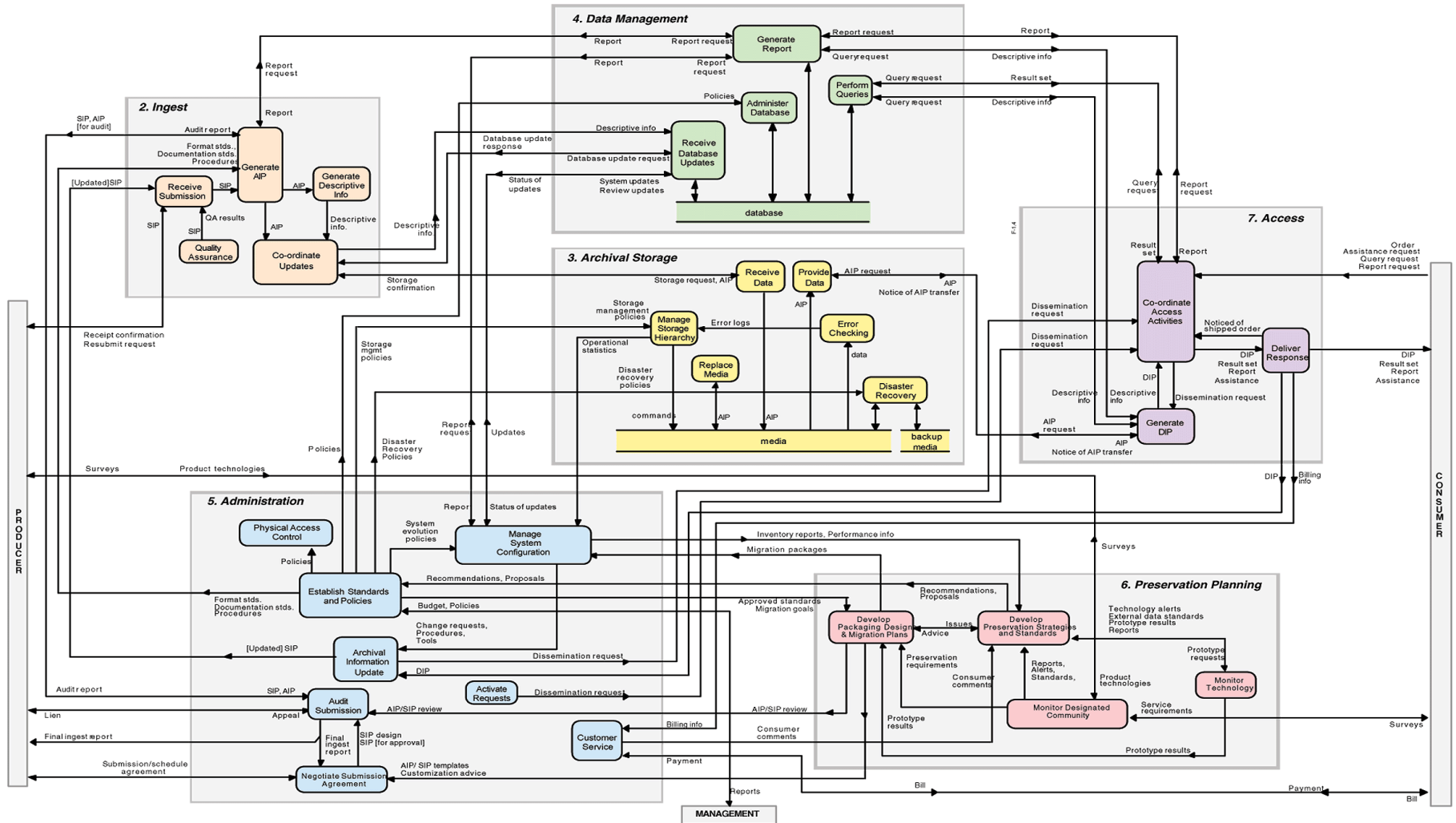
- Discrete phases of **self-assessment**, reflecting the realities of audit;
- Preservation is fundamentally a risk management process
  - Define Scope
  - Document Context & Classifiers
  - Formalise Organisation
  - Identify and Assess Risks



## **OAIS Compliance? (ISO14720)**

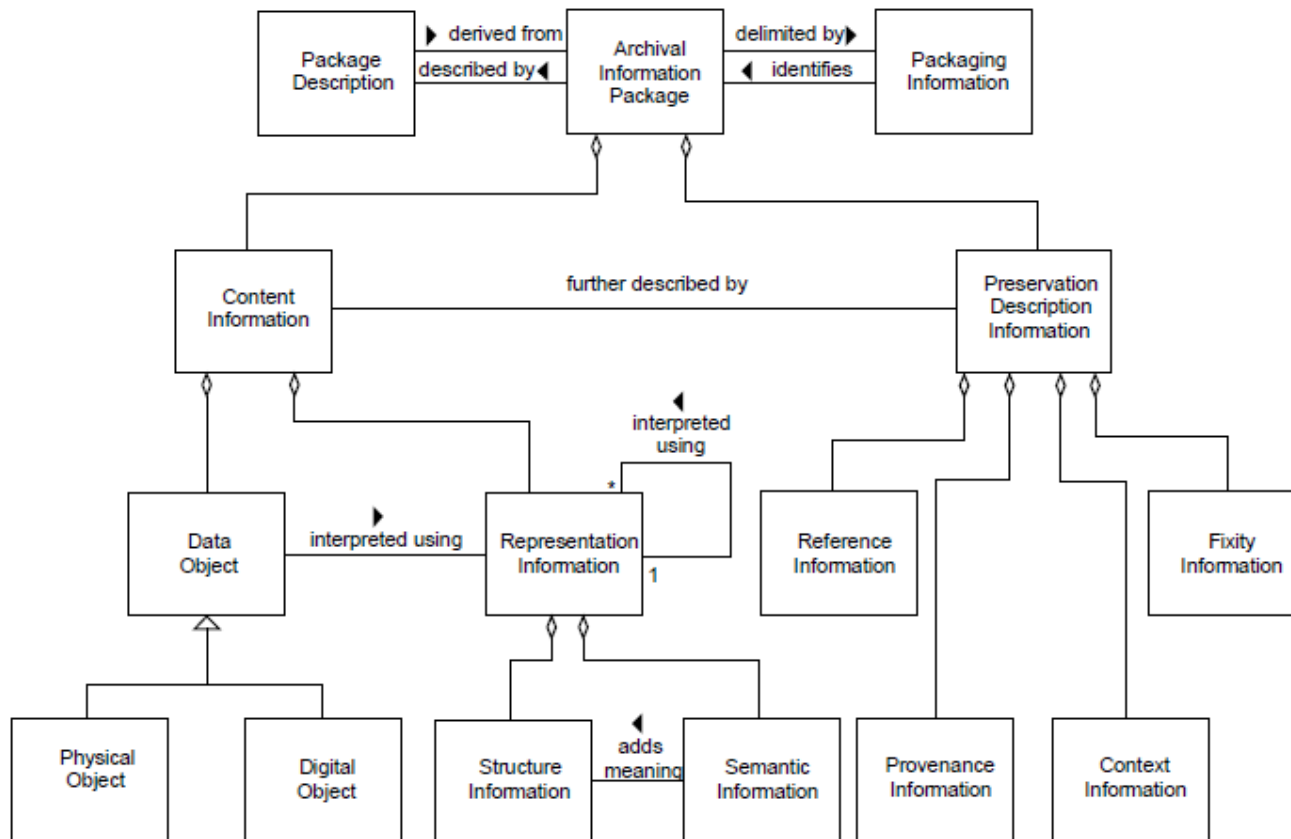
- Negotiate with for appropriate content
- Obtain sufficient control
- Determine the scope of the community
- Ensure independent utility of data
- Follow procedures for preservation
- Disseminate data to community

# OAIS Functional Model





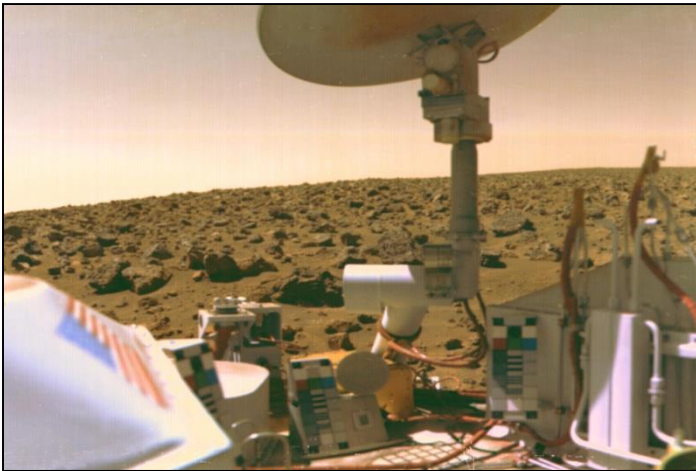
# OAIS Information Model





## Trusted Digital Repository...

1. Compliance with OAIS
2. Administer responsibly
3. Organizational viability
4. Financial sustainability
5. Technological and procedural
6. System security
7. Procedural accountability



Courtesy NASA/JPL-Caltech

# Trustworthy Repository Audit and Certification (TRAC)

## 1. Organisational Infrastructure

*Governance, Staffing, Policy Finance, Legalities*

## 2. Digital Object Management

*Acquisition of Content, Creation of AIP, Preservation Planning, Archival Storage, Information Management, Access Management*

## 3. Technology, infrastructure and Security

*System infrastructure, Appropriate Technologies, Security*



Trustworthy Repositories Audit & Certification: Criteria Checklist				
	C. Technologies, Technical Infrastructure & Security	Auditor:		Page
		Interviewee(s):		Date
	C.3 Security			
	Evidence (Documents) Examined	Findings and Observations		Result
C3.1 Repository maintains a systematic analysis of such factors as data, systems, personnel, physical plant, and security needs.				
C3.2 Repository has implemented controls to adequately address each of the defined security needs.				
C3.3 Repository staff have delineated roles, responsibilities, and authorizations related to implementing changes within the system.				
C3.4 Repository has suitable written disaster preparedness and recovery plan(s), including at least one off-site backup of all preserved information together with an off-site copy of the recovery plan(s).				

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The Archive: Content & Access > Archive Certification

## Archive Certification

**Portico's Certification**  
CRL Audit

In 2010, Portico became the first digital preservation service to be independently audited by the Center for Research Libraries (CRL) and subsequently certified as a trusted, reliable digital preservation solution that serves the needs of the library community. [Read the announcement »](#)

The stated purpose of the CRL audit was to promote understanding of and, where justified, confidence in, digital repositories.

The CRL website states: "In today's economic climate libraries must realize the greatest possible return on their investment in electronic scholarly resources and digital preservation services, and need to move aggressively to reduce the costs of redundant print holdings."

[Read the final CRL audit report »](#)

**WHAT PARTICIPANTS SAY**



"In the end, it is a matter of trust that Portico will be there, and we have confidence in them."

Jeffrey Horrell, Dean of Libraries  
Dartmouth College

[Read more testimonials »](#)

**READ MORE ON CERTIFICATION**

[Portico TRAC Self Report »](#)  
[Final CRL Audit Report »](#)

**70,887**  
Committed E-Books with PCA

Archive Facts & Figures  
Archive Growth  
Content in the Archive  
Recommend Content  
Access to Archived Content  
Audit the Archive  
Archive Certification

## TRAC in practice

- *E-journal content is a well developed field*
- *PORTICO is a commercial escrow agent for content*
- *Audit of an escrow agent lends credibility to it's claims and business case*



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The Center for Research Libraries (CRL) ... hereby **certifies Portico as a trustworthy digital repository**. CRL has found that Portico's services ... **conform to the requirements** for a trusted digital repository. ... CRL has concluded that the practices and services ... are generally **sound and appropriate** to the content being archived and the needs of the CRL community. ... CRL expects that in the future, Portico will **continue to be able to deliver** content that is understandable and usable by its designated user community.

worth it's weight in pixie dust?

# ISO 16363

- Development of TRAC
- Organisational Infrastructure
- Digital Object Management
- Security Risk Management

A	B	C	D	E	F	G
<b>3. ORGANIZATIONAL INFRASTRUCTURE</b>						
<b>3.1 GOVERNANCE &amp; ORGANIZATIONAL VIABILITY</b>						
	<b>Metric</b>	<b>Supporting Text</b>	<b>Examples of Documents the Repository can use to demonstrate it is Meeting this Requirement:</b>	<b>Brief description of evidence (add rows if necessary to list all relevant documents for a metric) Use short titles for documents. Provide detailed description of each document on the Reference tab.</b>	<b>Explanation of how the repository addresses this metric</b>	
3.1.1	THE REPOSITORY SHALL HAVE A MISSION STATEMENT THAT REFLECTS A COMMITMENT TO THE PRESERVATION OF, LONG TERM RETENTION OF, MANAGEMENT OF, AND ACCESS TO DIGITAL INFORMATION.	This is necessary in order to ensure commitment to preservation and access at the repository's highest administrative level.	Mission statement or charter of the repository or its parent organization that specifically addresses or implicitly calls for the preservation of information and/or other resources under its purview; a legal, statutory, or government regulatory mandate applicable to the repository that specifically addresses or implicitly requires the preservation of information and/or other resources under its purview.			
3.1.2	THE REPOSITORY SHALL HAVE A PRESERVATION STRATEGIC PLAN THAT DEFINES THE APPROACH THE REPOSITORY WILL TAKE IN THE LONG-TERM SUPPORT OF ITS MISSION	This is necessary in order to help the repository make administrative decisions, shape policies and allocate resources in order to successfully preserve its holdings.	Preservation Strategic Plan; meeting minutes; documentation of administrative decisions which have been made.			
3.1.2.1	<i>The repository shall have an appropriate, formal succession plan, contingency plans, and/or escrow arrangements in place in case the repository ceases to operate or the governing or funding institution substantially changes its scope.</i>	This is necessary in order to preserve the information content entrusted to the repository by handing it on to another custodian in the case that the repository ceases to operate.	Written and credible succession and contingency plan(s); explicit and specific statement documenting the intent to ensure continuity of the repository, and the steps taken and to be taken to ensure continuity; escrow of critical code, software, and metadata sufficient to enable reconstitution of the repository and its content in the event of repository failure; escrow and/or reserve funds set aside for contingencies; explicit agreements with successor organizations documenting the measures to be			



# Meanwhile: Self assessment Data Seal of Approval

<http://datasealofapproval.org/>

1. The producer deposits data with sufficient information for others to assess the quality and compliance with disciplinary and ethical norms.
2. The producer provides the data in formats recommended by the repository.
3. The producer provides the metadata requested by the data repository.
4. The repository has an explicit mission in the area of digital archiving.
5. The repository uses due diligence to comply with regulations and contracts.
6. The repository has documented procedures for managing data storage.
7. The data repository has a plan for long-term preservation.
8. Archiving follows explicit workflows across the data life cycle.

[www.dpconline.org](http://www.dpconline.org)



<http://datasealofapproval.org/>

9. The repository assumes responsibility for access to the digital objects.
10. The repository enables the users to utilize the data and refer to them.
11. The repository ensures the integrity of digital objects and metadata.
12. The repository ensures the authenticity of digital objects and metadata.
13. The technical infrastructure supports standards like OAIS.
14. Consumers must comply with access regulations set by the repository.
15. Consumers conforms to any codes of conduct that are generally accepted for the exchange and proper use of knowledge and information.
16. Consumers respect the applicable licences of the repository regarding the use of data.



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## ISO 16939

*Standard for a certification authority*

*'PTAB'*

### Integrated framework to unify:

*'basic', 'extended' and 'formal' certification*

- *ISO16363*
- *DIN 31644*
- *Data Seal of Approval*

### Initial Audits

*Reports from audits*

*Auditor training*

*No specific audit facility yet*



3. In summary ...



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None of these standards is mature

Need to read across into Archives

Accreditation / PRSA

Lack of transparency / authority /  
credibility

Different routes for different types of  
archive?

OAIS Review

OAIS Obsolescence

- File as atomic unit
- Repository as metaphor
- Collaboration

PEOPLE

AND

OPPORTUNITY

NEED TO BE CENTRAL



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