**ICP bibliography**

From Mike:

Global Change Science Requirements for Long-Term Archiving Report of the Workshop, Oct 28-30, 1998 National Center for Atmospheric Research <http://www.globalchange.gov/browse/reports/global-change-science-requirements-long-term-archiving>

HARNESSING THE POWER OF DIGITAL DATA: TAKING THE NEXT STEP Co-sponsored by the Environmental Protection Agency (EPA), CENDI (The Federal STI Managers Group), and the Interagency Working Group on Digital Data (IWGDD) June 29 – July 1, 2010 <http://www.cendi.gov/publications/pub_CENDI-2011-1.pdf>

Heterogeneous Missions Accessibility

Design Methodology, Architecture and Use of Geospatial Standards for the Ground Segment Support of Earth Observation Missions ESA <http://esamultimedia.esa.int/multimedia/publications/TM-21/TM-21.pdf>

Long term data and knowledge preservation for the Earth Sciences Archive S. ALBANI (ESA)D. Giaretta(STFC) <http://www.sciops.esa.int/SYS/CONFERENCE/include/pv2009/papers/5_Albani_LongTermDataAndKnowledgePreservationForEarthScience.pdf>

LP DAAC Product Lifecycle Plan

Open-File Report 2014–1139

<http://pubs.usgs.gov/of/2014/1139/pdf/ofr2014-1139.pdf>

LP DAAC Product Lifecycle in Action

<http://commons.esipfed.org/sites/default/files/4980-EPS-SDomanV2.jpg>

[sdomanbennett@usgs.gov](mailto:sdomanbennett@usgs.gov)

A Validation Framework for the Long Term Preservation of High Energy Physics Data Dmitri Ozerov, David M. South Deutsches Elektronen Synchrotron, Notkestrasse 85, 22607 Hamburg, Germany <http://iopscience.iop.org/1742-6596/513/4/042043/pdf/1742-6596_513_4_042043.pdf>

From CEOS/WGISS

CEOS (Committee on Earth Observation Satellites) /WGISS (Working Group on Information Systems and Services, Data Stewardship Interest Group) documents, available at: http://www.ceos.org/index.php?option=com\_content&view=category&layout=blog&id=137&Itemid=218

* [Data Lifecycle Models and Concepts](http://wgiss.ceos.org/dsig/whitepapers/Data%20Lifecycle%20Models%20and%20Concepts%20v8.docx)
* *Many different life cycle models*

 [Long-Term Archive Strategies](http://wgiss.ceos.org/dsig/whitepapers/DSIG%20Data%20Long-Term%20Archive%20Strategies.docx)

* *Short and interesting to read:*

*A key concept to addressing long-term archive strategies is to embrace that science data, including EO data, have Data Life Cycles associated with them. A very simple records management lifecycle model, originating from the records management community, consists of:*

*Phase 1. Creation*

*Phase 2. Maintenance and Use*

*Phase 3. Disposal*

*This simple model could be easily adapted for EO data to look something like:*

*Phase 1. Acquisition*

*Phase 2. Maintenance and Use*

*Phase 3. Long-Term Archive*

From USGS

* The United States Geological Survey Science Data Lifecycle Model, John L. Faundeen and al.
* *Main model elements*

From LTDP

* Preservation workflow
* *Input procedure for CCSDS -> genericity possible?*
* Consolidation procedure
* *Associated with the preservation workflow*

Information to be preserved

* LTDP Preserved Data Set Content
* ESDIS -Earth Science Data and Information System- NASA Earth Science Data Preservation Content Specification, at <http://earthdata.nasa.gov/sites/default/files/field/document/423-SPEC-001_NASA%20ESD_Preservation_Spec_OriginalCh01_0.pdf>

<https://earthdata.nasa.gov/esdis/esdis-standards-office-eso>

<https://wiki.earthdata.nasa.gov/display/ESO/ESO+Standards+Interest+Group>

* *Information to be preserved*

Terminology:

CCSDS terminology (OAIS, PAIS, PAIMAS)

From Interpares

* Part 5: chain of preservation model

Architecture

* RASD, Reference architecture for Space Data Systems, CCSDS 311.0-M-1
* *Fig 4-2-8, sections 8.3, 8.4, 8.5*
* RASIM, Reference architecture for Space Information Management, CCSDS 312.0-G-1

Publications (to be analyzed)

**From preserving data to preserving research: Curation of process and context**

**Auteur:** Mayer, Rudolf1; Pröll, Stefan1; Rauber, Andreas2; Palma, Raul3; Garijo, Daniel4

1Secure Buisness Austria, Vienna, Austria2Secure Buisness Austria, Vienna, Austria, Vienna University of Technology, Austria3Poznan Supercomputing and Networking Center, Poland4Universidad Politecnica de Madrid, Spain

**Infos sur la publication:** Dans Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) , 490-491. Springer Verlag, (Oct 4, 2013).

**Résumé (English):** In the domain of eScience, investigations are increasingly collaborative. Most scientific and engineering domains benefit from building on top of the outputs of other research: By sharing information to reason over and data to incorporate in the modelling task at hand. This raises the need to provide means for preserving and sharing entire eScience workflows and processes for later reuse. It is required to define which information is to be collected, create means to preserve it and approaches to enable and validate the re-execution of a preserved process. This includes and goes beyond preserving the data used in the experiments, as the process underlying its creation and use is essential. This tutorial thus provides an introduction to the problem domain and discusses solutions for the curation of eScience processes. ©2013 Springer-Verlag.

**Conférence:** International Conference on Theory and Practice of Digital Libraries, TPDL 2013

**Date de publication:** Oct 4, 2013

**ISBN:** 9783642405006

**ISSN:** 03029743

**Identificateur (mot clé):** Curation, e-Science, E-science workflows, Engineering domains, Problem domain, Re-execution, Sharing information

**Lieu de la conférence:** Valletta

**Numéro/type de conférence:** 99641

**Pays de la conférence:** Malta

**Publication:** Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)

**Titre:** From preserving data to preserving research: Curation of process and context

**Volume:** 8092 LNCS

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**State-of-the-art of long-term preservation in product lifecycle management**

**Auteur:** Brunsmann, Jörg1; Wilkes, Wolfgang1; Schlageter, Gunter1; Hemmje, Matthias1

1Univ. of Hagen, Hagen, University of Hagen, Hagen, 58084, Germany joerg.brunsmann@fernuni-hagen.de ; wolfgang.wilkes@fernuni-hagen.de ; gunter.schlageter@fernuni-hagen.de ; matthias.hemmje@fernuni-hagen.de

**Infos sur la publication:** International Journal on Digital Libraries 12.1 (Jul 2012): 27-39.

**Résumé (English):** Providing access to digital information for the indefinite future is the intention of long-term digital preservation systems. One application domain that certainly needs to implement such long-term digital preservation processes is the design and engineering industry. In this industry, products are designed, manufactured, and operated with the help of sophisticated software tools provided by product lifecycle management (PLM) systems. During all PLM phases, including geographically distributed cross-domain and cross-company collaboration, a huge amount of heterogeneous digital product data and metadata is created. Legal and economic requirements demand that this product data has to be archived and preserved for a long-time period. Unfortunately, the software that is able to interpret the data will become obsolete earlier than the data since the software and hardware lifecycle is relatively short-lived compared to a product lifecycle. Companies in the engineering industry begin to realize that their data is in danger of becoming unusable while the products are in operation for several decades. To address this issue, different academic and industrial initiatives have been initiated that try to solve this problem. This article provides an overview of these projects including their motivations, identified problems, and proposed solutions. The studied projects are also verified against a classification of important aspects regarding scope and functionality of digital preservation in the engineering industry. Finally, future research topics are identified.

**Date de publication:** Jul 2012

**ISSN:** 1432-5012

**Identificateur (mot clé):** product lifecycle management, digital information access, long-term digital preservation system, long-term digital preservation process, design and engineering industry, product design, product manufacture, software tool, PLM system, geographically distributed cross-domain collaboration, cross-company collaboration, heterogeneous digital product data, metadata, legal requirement, economic requirement, data archive, hardware lifecycle, CAD

**Numéro:** 1

**Publication:** International Journal on Digital Libraries

**Titre:** State-of-the-art of long-term preservation in product lifecycle management

**Volume:** 12

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Document 3 sur 13

**Preserving knowledge: keys to effective lifecycle management**

**Auteur:** Lippin, J.1

1Honeywell Process Solutions, Bracknell, Honeywell Process Solutions, Bracknell, UK

**Infos sur la publication:** Hydrocarbon Processing 90.12 (Dec 2011): 63-6.

**Résumé (English):** Work smarter; that is the mandate for every manufacturer in the 21st Century. In the face of tougher global competition and shrinking pools of expertise, many plants are realizing they need to maximize infrastructure investments and squeeze every last drop out of their assets to remain competitive. This realization is rapidly driving the adoption of innovative technologies that can offer maximum productivity and full enterprise visibility, among other things. But there is another realization that not every manufacturer has picked up on. Working smarter means much more than investing in the latest automation technologies. It means ensuring that companies understand the full, long-term impact these new technologies have across the enterprise when they are adopted, as well as, how they fit with their current systems and may integrate with future technologies that have not even been considered.

**Date de publication:** Dec 2011

**ISSN:** 0018-8190

**Identificateur (mot clé):** knowledge preservation, lifecycle management, global competition, infrastructure investments, innovative technologies, productivity

**Numéro:** 12

**Publication:** Hydrocarbon Processing

**Titre:** Preserving knowledge: keys to effective lifecycle management

**Volume:** 90

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**Product lifecycle metadata harmonization with the future in OAIS archives**

**Auteur:** Brunsmann, Jörg1

1University of Hagen, Germany joerg.brunsmann@fernuni-hagen.de

**Infos sur la publication:** Dans Proceedings of the International Conference on Dublin Core and Metadata Applications , par Brunsmann, Jörg,  126-136. Dublin Core metadata initiative, (Dec 1, 2011).

**Résumé (English):** Metadata plays a crucial role in supporting the discovery, understanding and management of the large product data collections generated throughout all phases of the product lifecycle. Product data models are annotated with metadata which represent meaning in conformance with evolving metadata schemas while, for business, contractual and legal reasons, these semantically enriched models are ingested into OAIS (Open Archival Information System) based archives for later reuse. Notably, it is not uncommon for a product service provider to operate products for several decades; even after the engineers whose embodied knowledge supports their operation retire or leave the company. This product longevity and volatile knowledge, alongside rapid technological innovations and evolving metadata schemas, require that special preservation processes be used to keep the archived product data and metadata interpretable. While preservation of the data is concerned with product data model normalization, validation and file format migration, the preservation processes for metadata are of a different nature given that referenced schemas evolve independently from the products they describe. Although widely referenced, the OAIS reference model unfortunately does not observe metadata schema versioning or metadata harmonization in any depth. This paper therefore aims to introduce dedicated metadata preservation functionality into OAIS archives, based on operational schema update processing.

**Conférence:** International Conference on Dublin Core and Metadata Applications, DC-2011

**Date de publication:** Dec 1, 2011

**ISSN:** 19391358

**Identificateur (mot clé):** Harmonization, Linked Schema, Long-term preservation, OAIS, Product life cycle management, RDF, Product Lifecycle Management

**Lieu de la conférence:** The Hague

**Numéro/type de conférence:** 94456

**Pays de la conférence:** Netherlands

**Publication:** Proceedings of the International Conference on Dublin Core and Metadata Applications

**Titre:** Product lifecycle metadata harmonization with the future in OAIS archives

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**Data Sharing by Scientists: Practices and Perceptions**

**Auteur:** Tenopir, Carol1; Allard, Suzie1; Douglass, Kimberly1; Aydinoglu, Arsev Umur1; Wu, Lei1; Read, Eleanor2; Manoff, Maribeth2; Frame, Mike3

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**Infos sur la publication:** PLOS ONE 6.6 (Jun 29, 2011).

**Résumé (English):** Background: Scientific research in the 21st century is more data intensive and collaborative than in the past. It is important to study the data practices of researchers - data accessibility, discovery, re-use, preservation and, particularly, data sharing. Data sharing is a valuable part of the scientific method allowing for verification of results and extending research from prior results.

Methodology/Principal Findings: A total of 1329 scientists participated in this survey exploring current data sharing practices and perceptions of the barriers and enablers of data sharing. Scientists do not make their data electronically available to others for various reasons, including insufficient time and lack of funding. Most respondents are satisfied with their current processes for the initial and short-term parts of the data or research lifecycle (collecting their research data; searching for, describing or cataloging, analyzing, and short-term storage of their data) but are not satisfied with long-term data preservation. Many organizations do not provide support to their researchers for data management both in the short- and long-term. If certain conditions are met (such as formal citation and sharing reprints) respondents agree they are willing to share their data. There are also significant differences and approaches in data management practices based on primary funding agency, subject discipline, age, work focus, and world region.

Conclusions/Significance: Barriers to effective data sharing and preservation are deeply rooted in the practices and culture of the research process as well as the researchers themselves. New mandates for data management plans from NSF and other federal agencies and world-wide attention to the need to share and preserve data could lead to changes. Large scale programs, such as the NSF-sponsored DataNET (including projects like DataONE) will both bring attention and resources to the issue and make it easier for scientists to apply sound data management principles.

**Date de publication:** Jun 29, 2011

**ISSN:** 1932-6203

**Numéro:** 6

**Titre:** Data Sharing by Scientists: Practices and Perceptions

**Volume:** 6

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Document 6 sur 13

**Information management along the lifecycle of data and application systems: Challenges and solution approaches**

**Auteur:** Fischer, Georg1; Herbst, Axel1

1SAP AG, United States ge.fischer@sap.com ; axel.herbst@sap.com

**Infos sur la publication:** Dans Proceedings of the 2009 International Conference on Information Quality, ICIQ 2009 , par Fischer, Georg, Herbst, Axel, Massachusetts Institute of Technology, (Dec 1, 2009).

**Résumé (English):** A tried and tested method for improving the quality of information in the business system and control data volume growth, is moving selected, eligible data from the application system to less expensive long-term storage. To ensure that the eligibility of the data is actively taken into account, methods such as archivability checks must be part of this process. Descriptive policies play into the strategy, to allow for the compliant retention of the moved data along its entire life cycle. A further challenge is controlled destruction to complete the life cycle of data according to the law. At the same time, the fact that often the life span of application systems is shorter than that of the data itself, needs to be considered. In this presentation we show how long-standing archiving techniques for business data are challenged anew by the growing complexity of today's legal and business requirements, causing an evolution to information lifecycle management.

**Conférence:** 14th International Conference on Information Quality, ICIQ 2009

**Date de publication:** Dec 1, 2009

**Identificateur (mot clé):** Application systems, Business data, Business requirement, Business systems, Control data, Information life cycle management, Life span, Long-term storage, Quality of information, Solution approach

**Lieu de la conférence:** Potsdam

**Numéro/type de conférence:** 94655

**Pays de la conférence:** Germany

**Publication:** Proceedings of the 2009 International Conference on Information Quality, ICIQ 2009

**Titre:** Information management along the lifecycle of data and application systems: Challenges and solution approaches

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**The personal curation of digital objects A lifecycle approach**

**Auteur:** Williams, Peter1; John, Jeremy Leighton2; Rowland, Ian1

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**Infos sur la publication:** ASLIB PROCEEDINGS 61.4 (2009): 340-363.

**Résumé (English):** Purpose - This paper aims to set out a coherent intellectual framework to help to better understand how people create, organise, manage, use and dispose of their personal digital archives. The context for this is the increasing volume and diversity of digital information objects being captured and stored by individuals in their personal capacities and the need to find ways to preserve this material for posterity.

Design/methodology/approach - The research presented here is based on literature analysis, the questions having been informed by an earlier series of in-depth interviews. The approach taken is to synthesise key concepts from the computer science, information management, and archives and records management literatures. Key concepts from the existing literature in computer science, information management, and archives and records management were elicited and synthesised to create a coherent document lifecycle narrative.

Findings - Individuals exhibit great diversity in terms of personal information management and digital archiving practice at just about every point in the digital information cycle: much more so than is the case in formal repositories. Practices exhibited are not always conducive to efficient document management. This represents a very keen challenge for professional curatorial practice.

Practical implications - Little is known about how individuals manage digital information resources in their personal capacity, outside of their corporate or institutional employment. Yet both individuals on their own and professional curators on behalf of repositories are increasingly being faced with the challenge of how to deal with digital media. It is hoped that this paper will contribute to a growing debate in this area.

Originality/value - Personal information management from the perspective of personal digital archives is a surprisingly under-researched area and the proposed model adopts an archival information lifecycle approach. It seeks to apply and promote an archivally-oriented personal information management.

**Identificateur (mot clé):** Information facilities, Digital storage, Information exchange, Collections management, Individual psychology

**Numéro:** 4

**Publication:** ASLIB PROCEEDINGS

**Titre:** The personal curation of digital objects A lifecycle approach

**Volume:** 61

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**Process improvement and risk mitigation - QA/PA contribution to mission cost reduction**

**Auteur:** Mantineo, Alfio1; Scaglioni, Stefano1; Vicari, Emmanuel2

1ESA-ESOC, OPS-CQ, Robert Bosch Str. 5, D-64293 Darmstadt, Germany Alfio.Mantineo@esa.int ; StefanoScaglioni@esa.int 2ESA-ESTEC, OPS-CQ, Keplerlaan 1, 2200 AG Noordwijk, Netherlands Emmanuel.Vicari@esa.int

**Infos sur la publication:** Dans European Space Agency, (Special Publication) ESA SP , par Mantineo, Alfio, Scaglioni, Stefano, Vicari, Emmanuel, European Space Agency, (Dec 1, 2008).

**Résumé (English):** The activities performed under the Product Assurance &Safety function are well known in any Space Mission. Two of the most relevant ones are the identification and tailoring of the applicable standards (e.g. ECSS) and the management of problems, waivers and non conformances. Assuring Compliance of product or services: The application of specific standards and the monitoring of the problems and their correct resolution have the objective of assuring the compliance of the product or the service with the mission requirements. This reduces the overall risk that some of the problems experienced on ground would show up again in situations far more difficult and expensive to be managed. This is one way of performing risk mitigation. A second element that is probably not immediately visible is the process of gathering and elaborating the experience (the "lessons") in order to improve the standards, their tailoring and their implementation processes. Improvement and cross fertilization: The analysis of the problems in terms of "root causes" allows shifting from immediate solution/restore of the service, to the avoidance of the reoccurrence of the same incident in the same system or similar system. The identification of the "lessons learned", their analysis and validation constitutes an extremely valuable base of knowledge at corporate level that provides benefit to all future activities in terms of problem prevention, process efficiency, resource allocation prioritisation and know how preservation. Both these two approaches (ensuring compliance and improvements/cross fertilisation are strictly interrelated in the implementation of PA/QA functions in OPS and are documented in its Quality Management System. The direct involvement of PA/QA staff in the integration activities and operations allow gathering first hand information on problems and their root cause. The costs associated to these activities are easily accountable and contribute to the "cost of the quality". On the other plate of the scale there are the "costs of non-quality". All NCRs raised, the time spent for managing the records, the MRBs and, a far more important factor, the effort necessary to fix and re test and re-validation.(The later in the lifecycle the heavier in terms of costs). In spite of these costs risks can still materialize into actual problems or failures with of course all associated financial losses. Looking at the statistics on problems recorded the key point is to build up a business case showing that a reduction of problem occurrences (even a small fraction) will fully cover the entire "costs of quality" therefore making quality cost free. Unfortunately, it is not straightforward to demonstrate a reduction of problems rate in absolute terms by comparing different projects, due to the non routine nature of space activities. However, some considerations can be done on: •the lack of reoccurrence of similar problems across different project or •the improvement achieved on a specific process if its contribution to the overall number of problems decrease in terms of percentage.

**Conférence:** Trilateral Safety and Mission Assurance Conference, TRISMAC 2008

**Date de publication:** Dec 1, 2008

**ISBN:** 9789292212216

**ISSN:** 03796566

**Identificateur (mot clé):** Business cases, Corporate levels, Cross fertilizations, Financial losses, Implementation processes, Know hows, Lessons learned, Life-Cycle, Mission requirements, One ways, Process efficiencies, Process improvements, Quality costs, Risk mitigations, Root causes, Safety functions, Space activities

**Lieu de la conférence:** Noordwijk

**Numéro:** 657 SP

**Numéro/type de conférence:** 74994

**Pays de la conférence:** Netherlands

**Publication:** European Space Agency, (Special Publication) ESA SP

**Titre:** Process improvement and risk mitigation - QA/PA contribution to mission cost reduction

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**Data curation + process curation = data integration + science**

**Auteur:** GOBLE, Carole1; STEVENS, Robert1; HULL, Duncan2; WOLSTENCROFT, Katy3; LOPEZ, Rodrigo4

1Computer Science at the University of Manchester, United Kingdom2School of Chemistry at the University of Manchester, United Kingdom3School of Computer Science at the University of Manchester, United Kingdom4European Bioinformatics Institute (EBI), Hinxton, Cambridgeshire, United Kingdom

**Infos sur la publication:** Briefings in bioinformatics 9.6 (2008): 506-517.

**Résumé (English):** In bioinformatics, we are familiar with the idea of curated data as a prerequisite for data integration. We neglect, often to our cost, the curation and cataloguing of the processes that we use to integrate and analyse our data. Programmatic access to services, for data and processes, means that compositions of services can be made that represent the in silico experiments or processes that bioinformaticians perform. Data integration through workflows depends on being able to know what services exist and where to find those services. The large number of services and the operations they perform, their arbitrary naming and lack of documentation, however, mean that they can be difficult to use. The workflows themselves are composite processes that could be pooled and reused but only if they too can be found and understood. Thus appropriate curation, including semantic mark-up, would enable processes to be found, maintained and consequently used more easily. This broader view on semantic annotation is vital for full data integration that is necessary for the modern scientific analyses in biology. This article will brief the community on the current state of the art and the current challenges for process curation, both within and without the Life Sciences.

**Date de publication:** 2008

**ISSN:** 1467-5463

**Identificateur (mot clé):** curation, semantic annotation, processes, services, workflow, ontology, metadata

**Numéro:** 6

**Publication:** Briefings in bioinformatics

**Titre:** Data curation + process curation = data integration + science

**Volume:** 9

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**Use of a standard process for submission of data for archive and preservation**

**Auteur:** Rank, Robert H.1; McDonald, Kenneth R.

1NOAA/NESDIS/OSD/CLASS, Suitland, MD, NOAA/NESDIS/OSD/CLASS, Suitland, 20746, MD, USA

**Infos sur la publication:** Dans 2006 IEEE International Symposium on Geoscience and Remote Sensing , par Rank, Robert H., McDonald, Kenneth R.,  377-80. IEEE, (2006).

**Résumé (English):** The comprehensive large array-data stewardship system (CLASS) has adopted the open archival information system (OAIS) reference model to provide a framework and general guidelines in conducting its interactions with its data providers. The benefit of using OAIS is that it provides a common set of functions, processes and documents that are required to accomplish the data transfers and a common terminology to establish the scope of the effort and the respective responsibilities of the data providers and the archive. To complete this task a workgroup was formed for the development of a data submission process using recommendations for space data system standards from the consultative committee for space data systems (CCSDS) reference model. The paper will present the early prototyping activities that are underway for enhancing CLASS to support archive and distribution of earth observing system (EOS) data.

**Date de publication:** 2006

**ISBN:** 0780395093

**Identificateur (mot clé):** standard data submission process, data preservation, Comprehensive Large Array Data Stewardship System, CLASS, Open Archival Information System, OAIS reference model, data transfer, space data system standards, Consultative Committee For Space Data Systems, CCSDS reference model, EOS data archiving, EOS data distribution, Earth observing system data

**Lieu de la conférence:** Denver, CO

**Pays de la conférence:** USA

**Publication:** 2006 IEEE International Symposium on Geoscience and Remote Sensing

**Titre:** Use of a standard process for submission of data for archive and preservation

**Titre de la conférence:** 2006 IEEE International Symposium on Geoscience and Remote Sensing

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**ILM Audit research: to file archive or not to file archive?**

**Infos sur la publication:** International Journal of Micrographics and Optical Technology 24.5 (2006): 6.

**Résumé (English):** The ILM Audit reveals that businesses have recognised the need to tackle unstructured files. Information lifecycle management is now considered a mature concept and thinking is moving on to concepts such as protected data lifecycle management (PDLM). PDLM integrates data protection, business continuance, and disaster recovery strategies into the long-term retention and management of data as its lifecycle requirements cause it to be copied into and subsequently repositioned entirely to a secondary storage archive. It does this by allowing archives to be defined as multiple copies on multiple media types and it uses a distributed architecture to allow these copies to be written and managed at different network locations. PDLM represents the full integration of archiving with other vital storage management processes into a single enterprise-wide facility for ensuring that data is available for both operational and disaster recovery, that it is protected and compliantly retained for suitable periods, and that the most cost effective storage technology can be leveraged to minimize storage and storage management costs.

**Date de publication:** 2006

**ISSN:** 0958-9961

**Identificateur (mot clé):** ILM Audit research, unstructured file management, information lifecycle management, protected data lifecycle management, data protection, business continuity, disaster recovery, secondary storage archive, storage management, enterprise-wide facility

**Numéro:** 5

**Publication:** International Journal of Micrographics and Optical Technology

**Titre:** ILM Audit research: to file archive or not to file archive?

**Volume:** 24

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**Information management for through life product support: The curation of digital engineering data**

**Auteur:** McMahon, C.1; Giess, M.1; Culley, S.1

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**Infos sur la publication:** International Journal of Product Lifecycle Management 1.1 (2005): 26-42.

**Résumé (English):** Many engineering companies are today undergoing a paradigm shift from product delivery to through life service support. The shift applies across a range of different sectors, including defence, civil aerospace and construction. If these sectors are to remain competitive, they require new business, operational and information system models that extend 30 years or more into the future. This paper is concerned with identifying the research status and agenda in the development of information systems to support the process of product introduction and through life support. The paper first concentrates on issues of engineering model representation, including the storage of product lifecycle management (PLM) data for long term access, and the capture of design rationale, decision outcomes and design process information. It then addresses systems issues, including the longevity of digital hardware and storage media, and strategies for the archiving of digital data over several generations of computer hardware and software. Next, issues of data organisation are concerned with how large collections of information can be organised to assist information access by diverse communities over long timescales, and with appropriate security and identification of information provenance. Finally, management issues are concerned with the strategic and organisational approaches to through life information management adopted by organisations throughout the value chain, with the way people and communities work with information collections, and with how working practices may change in the future.

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**Identificateur (mot clé):** product lifecycle management, information management, through life product support, digital engineering data curation, digital data archiving, defence sector, civil aerospace sector, construction sector, product introduction, information systems development research, engineering model representation, design rationale, decision outcomes, design process information, digital hardware longevity, storage media, management issues, value chain

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**Digital preservation lifecycle management for multi-media collections**

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**Résumé (English):** Increasingly, intellectual content is born digital. In order to make it as easy as possible for content creators to preserve their content for the long-term, preservation processes should be integrated into the content production lifecycle. Our. project takes an existing video production workflow and integrates it with a digital preservation life-cycle management process that will enable the digital content to be archived for long-term preservation. The collection, Conversations with History, is produced at the University of California, Berkeley, edited by University of California, San Diego-TV (UCSD-TV), and broadcast and Web-cast through UCTV. The proposed system will demonstrate an effective preservation methodology by demonstrating a standard reference model for digital preservation lifecycle management that can be integrated into active production workflows.

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