



FROM THE DIGITAL DARK AGES TO A DIGITAL RENAISSANCE

The Role of Long Term Storage in Digital Curation

An ALCTS Webinar Based on Library of Congress DPOE Store Module
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Store

A. Questions to Consider

- What are the range of factors relevant to your organization that would help you determine the optimal number of preservation copies to store and manage?
- How are you storing and managing content now, and where would you like to be?
- Think about the different mix of storage options, locations, and media that best suits your organization (in terms of access, data security, type of media, costs, etc.)
- Consider the pros and cons of possible storage management options (such as establishing storage partnerships, joining a collaborative group, subscribing to a service, contracting for third party hosting, etc.) in your particular organizational setting.
- What are the pluses and minuses of cloud service options – what factors might make it not a good option?
- What are some of the barriers to implementing storage solutions at your organization?

B. Resources

Storage Issues

- Designing Storage Architectures for Digital Collections 2012, Library of Congress:
<http://www.digitalpreservation.gov/meetings/storage12.html>
- “The Signal: Digital Preservation,” a Library of Congress Blog. Many posts discuss storage of digital content: <http://blogs.loc.gov/digitalpreservation/>
- National Digital Stewardship Alliance, Infrastructure Working Group Survey Responses:
http://www.digitalpreservation.gov:8081/meetings/documents/storage12/DSA12_Infrastructure_Survey.pdf and <http://www.digitalpreservation.gov:8081/meetings/documents/storage12/9-Owens-NDSAPreservationStorageSurveyResults.pdf>
- DSHR Blog. David Rosenthal’s blog on digital preservation: <http://blog.dshr.org/>
- “Planning for Digital Preservation: 20 Questions for Providers of Digital Storage Services,” Bernard Reilly, Center for Research Libraries:
<http://www.nedcc.org/resources/digital/downloads/QuestionstoAskProvidersofDigitalStoragefinal.pdf>
- National Institute of Standards and Technology (NIST), Care and Handling of Optical Discs, by Fred R. Byers, 2004: <http://www.thic.org/pdf/Oct04/nist.fbyers.041026.pdf>
- "Toward Smart Storage for Repository Preservation Services," Steve Hitchcock, et al., The International Journal of Digital Curation, Issue 1, Vol. 5, 2010:
<http://www.ijdc.net/index.php/ijdc/article/viewFile/156/219>

Metadata for Managing Content Over Time:

- "Digital Preservation Metadata Standards," Angela Dappert and Marcus Enders, Information Standards Quarterly, Spring 2010, Volume 22, Issue 2:
http://www.loc.gov/standards/premis/FE_Dappert_Enders_MetadataStds_isqv22no2.pdf
- "Understanding Metadata," National Information Standards Organization, 2004:
<http://www.niso.org/publications/press/UnderstandingMetadata.pdf>
- METS, MODS, and PREMIS, Oh My! by Thomas Habing, 2007:
<http://www.nationalarchives.gov.uk/PRONOM/Default.aspx>
- PREMIS - The PREMIS Data Dictionary for Preservation Metadata is the international standard for metadata to support the preservation of digital objects and ensure their long-term usability:
<http://www.loc.gov/standards/premis/>

File Formats:

- File Information Tool Set (FITS), Application: <http://code.google.com/p/fits/downloads/list>
Documentation: http://code.google.com/p/fits/wiki/developer_documentation
Demo: http://www.digitalpreservation.gov:8081/meetings/documents/ndiipp12/FITS_Demo_DP12.pdf
Last updated: February 2011, Version 0.5.0
- "OIS Recommendations for PDF Files Created for Long-term Preservation and Access,"
Andrea Goethals, Harvard University Library, February 2010
http://hul.harvard.edu/ois/digpres/docs/OIS_recs_for_pdf.pdf
- University of Michigan, Deep Blue Preservation and Format Support, 2008:
<http://deepblue.lib.umich.edu/about/deepbluepreservation.jsp>
- PRONOM - A Practical Online Compendium of File Formats, by Jeffrey Darlington, RLG DigiNews, 2003:
<http://worldcat.org/arcviewer/1/OCC/2007/08/08/0000070519/viewer/file1490.html#feature2>
- Sustainability of Digital Formats, Planning for Library of Congress Collections:
<http://www.digitalpreservation.gov/formats/sustain/sustain.shtml>
- JHOVE (Harvard Object Validation Environment). An extensible software framework for performing format identification, validation, and characterization of digital objects:
<https://sourceforge.net/projects/jhove/>
- Unified Digital Format Registry (UDFR) - Community-managed file formats registry that can be incorporated into local applications (replacing PRONOM and GDFR): <http://www.udfr.org/>
- "Formats for Digital Preservation: A Review of Alternatives and Issues," CENDI Digital Preservation Task Group, March 2007:
http://www.cendi.gov/publications/CENDI_PresFormats_WhitePaper_03092007.pdf

Tools and Systems:

- Lots of Copies Keep Stuff Safe (LOCKSS). An international community initiative that provides libraries with digital preservation tools and support so that they can easily and inexpensively collect and preserve their own copies of authorized e-content: <http://www.lockss.org/>
- Duracloud - a hosted service and open technology developed by DuraSpace that makes it easy for organizations and end users to use cloud services: <http://www.duracloud.org/>
- MetaArchive cooperative – a digital preservation network created for and hosted by memory organizations: <http://metaarchive.org/>
- Chronopolis - a digital preservation network that provides services for the long-term preservation and curation of America's digital holdings: <http://chronopolis.sdsc.edu/>
- HathiTrust - a partnership of major research institutions and libraries working to ensure that the cultural record is preserved and accessible long into the future: <http://www.hathitrust.org/>
- Portico – a large community supported digital archive for e-journals, e-books, and other electronic scholarly content: <http://www.portico.org/digital-preservation/>
- Archivematica - a free and open-source digital preservation system that is designed to maintain standards-based, long-term access to collections of digital objects: <http://archivematica.org>
- Conversion Software Registry - Find software capable of converting from a given source format to a desired target format: <http://isda.ncsa.uiuc.edu/NARA/CSR>
- Xena – a free and open source software developed by the National Archives of Australia to aid in the long term preservation of digital records: <http://xena.sourceforge.net>

Additional Resources:

- "Digital Preservation Management: Implementing Short-Term Strategies for Long-Term Problems (Online Tutorial): http://www.dpworkshop.org/dpm-eng/eng_index.html
- Survey of Institutional Readiness: <http://www.dpworkshop.org/sites/default/files/readiness.pdf>
- Preserving Digital Information - Report of the Task Force on Archiving of Digital Information, 1996: <http://www.clir.org/pubs/reports/pub63watersgarrett.pdf>