Library of Congress

Storage Architectures for Digital Collections 2025

Suggested Background Reading

In conjunction with the 2025 DSA Meeting at the Library of Congress, here are a few suggested background readings suggested by attendees. Please note, these items are not intended as exhaustive or prescriptive; they are merely intended to provide useful context related to the meeting topics. Also see previous meetings at: www.digitalpreservation.gov/meetings/.

Digital Preservation Community and Storage Users:

1. Resources collected by Digipres Commons
   http://www.digipres.org/

2. "Digital Preservation Storage Criteria – version 4 (2024)
   https://osf.io/n32vm/

3. "Bit List of Digitally Endangered Species Interim Report 2024", Digital Preservation Coalition
   https://www.dpconline.org/digipres/champion-digital-preservation/bit-list#

4. "A Risk-Driven Approach to Bitstream Preservation", Digital Preservation Coalition
   https://www.dpconline.org/docs/technology-watch-reports/2793-bitstreampreservationrisk/file

5. "2024 Optical Media Durability Update", David SH Rosenthal blog
   https://blog.dshr.org/2024/08/2024-optical-media-durability-update.html

6. "Special Issue on When data turns into archives: making digital records more accessible with AI", AI & Society, 2024
   https://link.springer.com/journal/146/updates/26671434

7. "Music Industry's 1990's hard drives are dying", Arstechnica.
   https://arstechnica.com/gadgets/2024/09/music-industrys-1990s-hard-drives-like-all-hdds-are-dying/

8. "Energy, Digital Preservation and the Climate: Proactively Planning for an Uncertain Future", Sibyl Schaefer.
   https://ipres2024.pubpub.org/pub/1sm257xx/release/2

9. “File Fixity in the Cloud”, KR Rimkus
https://ipres2024.pubpub.org/pub/d3akwsah/release/1

10. “Complete Delete”, Simson Garfinkel
https://mit-serc.pubpub.org/pub/fesqymtr/release/3

11. “Learning Lessons from the Cyberattack”, British Library.
https://www.bl.uk/home/british-library-cyber-incident-review-8-march-2024.pdf/

Storage Provider Community:

12. “The Dawn of AI Disruption: Tape Will Become Key Enabler of Massive Data Retention”, Horison Information Strategies.
https://asset.fujifilm.com/www/us/files/2025-01/c1e7c7e9c707409b75b757464ab06e1e/Horison-Tape-Market-Outlook-Jan-2025.pdf

13. “Addressing the Data Storage Crisis”, by Don Monroe, Communications of the ACM.
https://dl.acm.org/doi/10.1145/3696672

14. “INSIC International Magnetic Tape Storage Technology Roadmap 2024” Information Storage Industry Consortium (INSIC).
https://www.lto.org/wp-content/uploads/2024/07/INSIC-International-Magnetic-Tape-Storage-Technology-Roadmap-2024.pdf

15. “Four Top Storage Trends for 2025”, Brian Posey.
Top Data Storage Trends for 2025, by Brian Posey

16. “Storage Industry Predictions for 2025”.
Storage Industry Predictions for 2025

17. “Storage for Huge AI Demands”, Rainer Kaese, Toshiba.
https://www.storagenewsletter.com/2025/02/05/storage-for-huge-ai-data-demands/

18. “Driving AI Success with Active Archive”, Vinod Mohan, DataCore Software
https://www.storagenewsletter.com/2025/01/30/driving-ai-success-with-active-archive/

19. “Amazon S3 Adds New Default Data Integrity Protections”, Amazon Web Services.
https://aws.amazon.com/about-aws/whats-new/2024/12/amazon-s3-default-data-integrity-protections/

Hard Drive Recycling:

20. "Reusing Hard Drives", Horizon Technology.
https://horizontechnology.com/news/reusing-hard-disk-drives-hdd-the-case-for-circular-storage-in-the-enterprise-data-center/

21. Microsoft Robotic Disk Drive Disassembly Project.
https://blocksandfiles.com/2024/09/06/microsofts-robotic-disk-drive-disassembly-is-a-step-on-road-to-ending-its-e-waste/

https://datarecovery.com/rd/microsoft-uses-robots-e-waste/

22. "Diskmantler Hard Drive Disassembly and Recycling System", Storage Newsletter.
https://www.storagenewsletter.com/2024/04/22/garner-products-diskmantler-hard-drive-disassembly-and-recycling-system/

New Media:

23. "DOTS: An Immutable Solution to the AI Threat to Data Provenance", Group 47
https://group47.com/whitepaper/
https://group47.com/g47/wp-content/uploads/DOTS_Introduction__Data_Provenance-WEBSITE.pdf

24. "Preserving Our Digital Legacy: An Introduction to DNA Storage", DNA Data Storage Alliance
https://dnastoragealliance.org/publications/

Coalition for Content Provenance and Authenticity:

20. Coalition for Content Provenance and Authenticity (C2PA) overview: https://c2pa.org/

- C2PA specification: https://c2pa.org/specifications/specifications/1.3/specs/C2PA_Specification.html with issues tracked on https://github.com/c2pa-org/specifications/issues
- Content Credentials: https://contentcredentials.org/verify
- LC led project information: http://bit.ly/4ioaNQa
- Selected adoption info:
    - Google: https://blog.google/technology/ai/google-gen-ai-content-transparency-c2pa/
    - YouTube: Building trust on YouTube: 'Captured with a camera' disclosure