




LOCKSS

Lots (though Fewer) of (and
More Hosted) Copies Keep
Stuff Safe

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[Internet Archive Web and Data Services Partner Meeting](#)
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A photograph of a wooden signpost for the Pennine Way, set against a misty, overcast sky. The signpost is made of dark wood and has a horizontal arm pointing to the right with the words "PENNINE WAY" and a small circular logo engraved on it. The background shows a hazy, mountainous landscape with some snow patches on the ground. A white rectangular box is overlaid on the center of the image, containing the text "What threatens the long-term persistence of digital information?".

What threatens the
long-term persistence
of digital information?

Amazon cloud crash wipes out customer data; Will users be compensated?

By Molly McHugh —
Posted on April 28, 2011 10:57 am

SECURITY

Ohio's Recent Spate of Cyberattacks Is Indicative of the National Trend

Home Video Politics U.S. Opinion Business

Angry Employee Deletes All of Company's Data

Published January 24, 2008
Fox News

Call it a tale of revenge gone wrong.

Yahoo Quietly Pulls The Plug On Geocities

Posted Apr 23, 2009 by Leena Rao (@leenarao)

Sorry, new GeoCities accounts are no longer available.

Current GeoCities customers: Save 50% on a web site with Yahoo! Web Hosting.

- Get a personalized web address (e.g., www.leanarao.com).
- Design a great-looking site with easy-to-use tools.
- Never worry about ads appearing on your site.
- Get unlimited disk space to store all your pictures and audio tracks.
- Welcome so many visitors as you like, thanks to unlimited data transfer. Details.
- Get answers even at 2 a.m., with 24-hour phone support.

Sign in to GeoCities

Learn more | View demo

f t in WhatsApp Email

FUTURE PERFECT EXPLAINERS MORE

"Climate change" and "global warming" are disappearing from government websites

The deletions follow a pattern of policy changes on climate change under the Trump administration.

By Umair Irfan | Updated Jan 11, 2018, 12:30pm EST

f t SHARE

Davos The Trump Effect Politics

#SCIENCE NEWS
JULY 20, 2009 / 3:19 PM / 9 YEARS AGO

Moon landing tapes got erased, NASA admits

Maggie Fox, Health, Science Editor

WASHINGTON (Reuters) - The original recordings of the first humans landing on the moon 40 years ago were erased and re-used,

understand preservation threats

- long-term **data integrity** is hard
- need architecture informed by **actual leading threats** to data
- don't underestimate:
 - people making **mistakes**
 - **attacks** on information
 - organizational **failure**



mitigate preservation threats

- lots of copies is **necessary but not sufficient**
- central points of failure can **undermine all copies at once**
- **multi-organizational** preservation storage provides:
 - **resilience** against organizational failure
 - **compartmentalization** against operator error
 - **decentralization** against attacks
 - **diversity** in technical infrastructure



"Domino's" by david pacey under CC BY 2.0

LOCKSS Networks

- a dozen **networks**
- hundreds of **institutions**
- **all types** of content
- preservation via **diversity** of:
 - technologies
 - institutions
 - networks



perma.cc



THE ALABAMA DIGITAL PRESERVATION NETWORK
PRESERVING ALABAMA'S DIGITAL RESOURCES

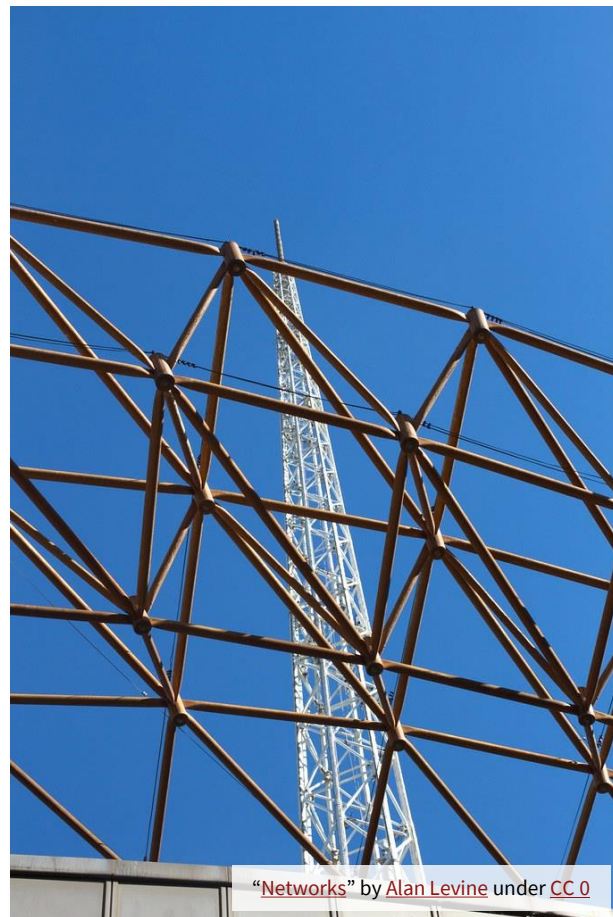


Ivy Plus Libraries
Confederation



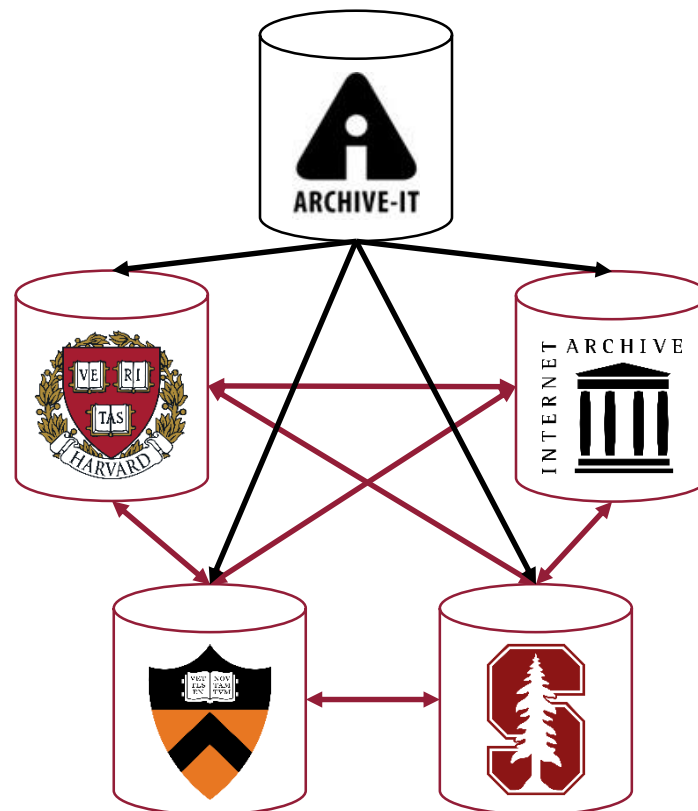
network model evolution

- in original, Global LOCKSS Network, **all nodes stored copies**
- communities running private LOCKSS networks are **consolidating nodes**
 - **only a subset** run nodes
 - **whole community** is served, participates in governance, provides funding
- **under (co-)hosted service model**, Stanford + trusted partners may serve as anchor storage hosts



IPLC Preservation Network pilot

- **5x nodes:** Harvard, IA (x2), Princeton, Stanford
- **all IPLC Archive-It collections** ingested + under active preservation
- ingest + audit/repair **take place automatically** via LOCKSS software





Questions

“Any Questions?” by [Matthias Ripp](#) under [CC BY 2.0](#)