



**LOTS OF COPIES KEEP STUFF SAFE**

# A New Architecture for LOCKSS Interoperability and Community Engagement

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“Hard Turns” Panel

[IMLS “It Takes a Village” Forum on OSS Models of Collaboration and Sustainability](#)

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# On “Hard Turns”

# where we started



™

Project Descriptions - Brief and Medium

**Permanent Publishing: Local control of content delivered via the web**

[Brief](#)  
[Medium](#)

## Description

[Brief](#)

### Creating a Permanent Web Publishing and Access System

LOCKSS™ stands for "Lots Of Copies Keep Stuff Safe™". As the name suggests, it applies contemporary automation to the old idea of preventing loss by multiplying copies. LOCKSS™ provides a bootable floppy disk that converts a generic PC into a preservation appliance. The PC runs an enhanced web cache that collects new issues of the e-journal and continually but slowly compares its contents with other caches. If damage or corruption is detected it can be repaired from the publisher or from other caches. The intent is to make it feasible and affordable even for smaller libraries to preserve access to the e-journals to which they subscribe.

With support from NSF and Sun Microsystems, Stanford developed an alpha version of the system and ran a 10 month test with a single journal, six libraries and 15 caches. With the Mellon funding and continued support from Sun, a more complete beta implementation has been developed.

The beta version is being distributed to over 40 libraries worldwide who will run about 60 caches. Beta test sites include major libraries such as the Library of Congress, and smaller ones such as the University of Otago in New Zealand. Four "shadow" publisher machines at Stanford will mirror about 15 GB of content from real journals, and simulate brief failures and permanent outages. Failures of the caches and corruption of their contents will also be simulated, as will attacks by simulated "bad guys".

The beta software will be released as open source. With experience from the beta tests and further funding it is hoped to produce a production version in 2002.

[Internet Archive: "projectdescbrief"](#)



# sustainable digital preservation...

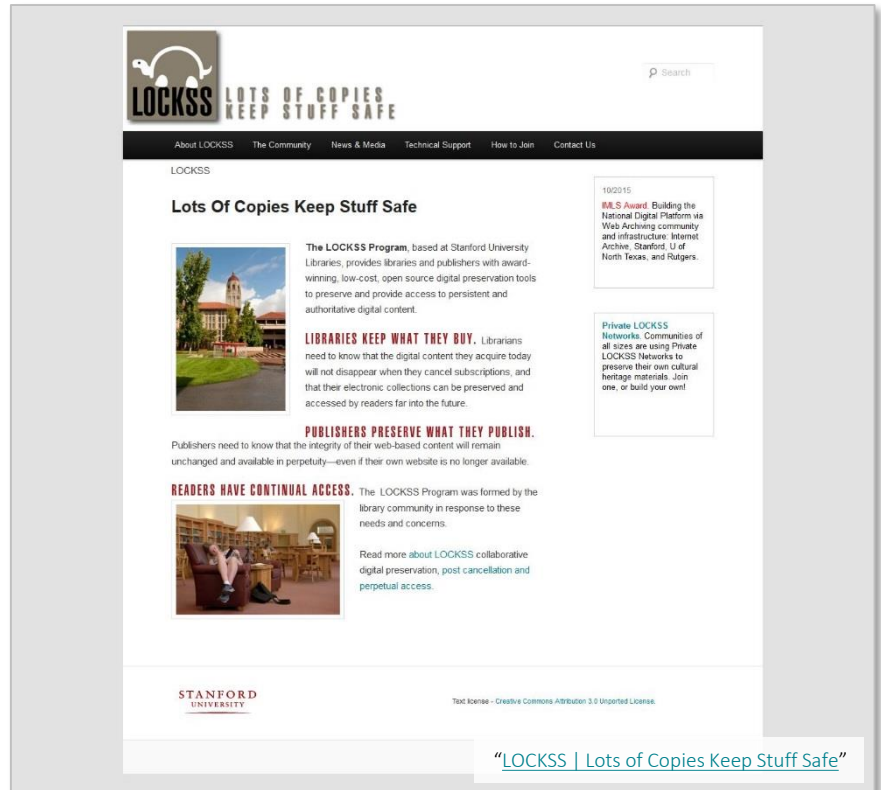
- is an active **community** effort
- focuses on **actual threats**
- eschews **central points of failure**
- **anticipates turnover** in its enabling systems



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# LOCKSS today

- successfully operating for 19 years
- tens of networks
- hundreds of institutions
- self/community-sustaining
- periodic grants for capital projects





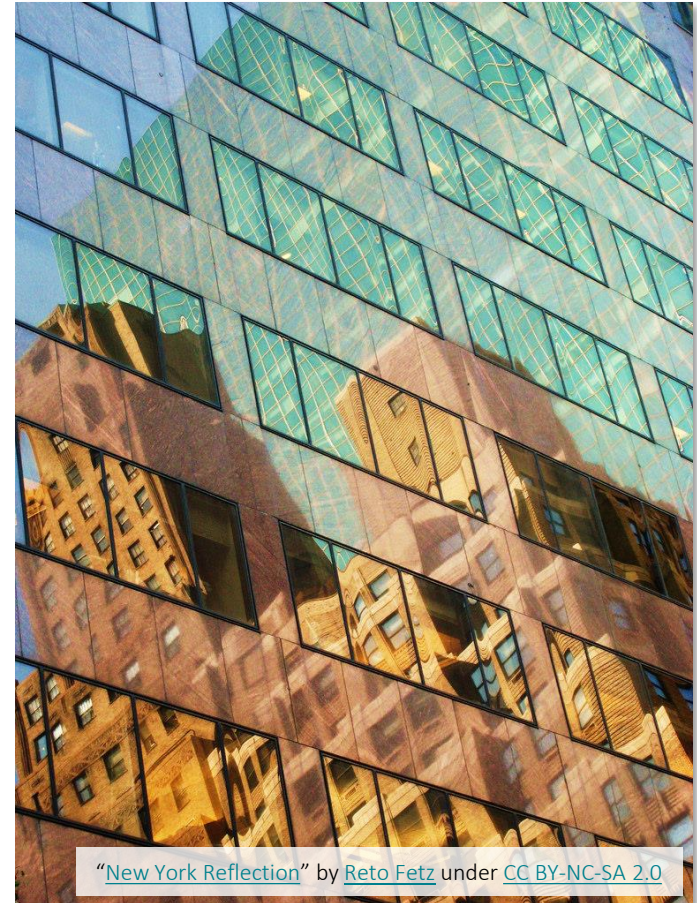


# Where We're Going

*"The two bridges"* by [Frank Schulenburg](#) under [BY-SA 2.0](#)

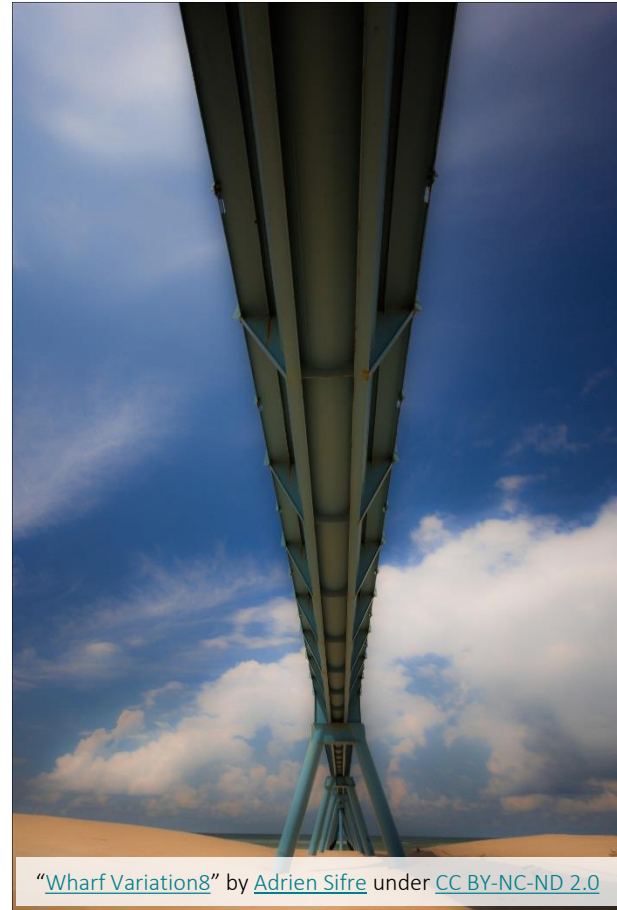
# what does re-architecture entail?

- **conserve + extend** existing functionality
- re-architect major components as discrete, documented, **interoperating web services**
- incorporate extant **community-supported OSS**



# how that supports sustainability

- **lower barriers** to working w/ LOCKSS technologies
- **align w/ communities** developing OSS to solve shared problems
- **reduce** support + operations **costs**





# takeaways

- core, enduring utility of particular software **may become gated** by evolving ecosystem
- periodic investment needed to find **new sustainable plateaus**
- align w/, court, foster most **mature + best-resourced communities**

