Status Update: May 2006

Introduction:

DLF Aquifer is evolving a project into a key Digital Library Federation program for pooling collections. The working group structure established in March 2005 provides the framework and capacity for collaboration in three program areas:

- Understanding what users need and want.
- Understanding the impacts of metadata quality on building services for shared collections.
- Developing software and schemas to enable access to and use of distributed collections.

Accomplishments:

The DLF Aquifer working groups and the metadata harvesting host library, University of Michigan, issued the following core work products over the past year:

- DLF Aquifer Services: Institutional Survey Report http://www.diglib.org/aquifer/SWGisrfinal.pdf

The report analyzes results of a baseline survey of DLF libraries to learn what is known about digital collection use. Findings from the survey are informing DLF Aquifer development priorities and identifying gaps in the user services assessment area. Survey findings indicate that: little assessment is made of collection use over time; the most significant obstacles to digital library service development are lack of resources, time, trained staff, and budget support; and addressing issues created by inconsistent metadata is seen as the basis for providing integrated access to distributed digital collections. The survey confirms that investments made in digital collections need to be better leveraged by increasing the utility of these collections for users, and that the perceived insufficient investments in digital library services need to be leveraged through collaboration.

- DLF Aquifer OAI portal http://www.hti.umich.edu/a/aquifer/

Intended as a metadata workspace, this interface allows examination and analysis of rich harvested MODS (Metadata Object Description Schema) descriptive metadata. The richness of the MODS records differentiates this harvesting experiment from OAI portals that harvest Dublin Core descriptive metadata. Building on its predecessor DLF MODS portal, the DLF Aquifer OAI portal harvests collections within the DLF Aquifer collection scope and gives DLF Aquifer working group members a place to explore the capacity for service development that more complete descriptive information can enable for pooled collections.

- MODS Implementation Guidelines for Cultural Heritage Materials http://www.diglib.org/aquifer/DLF_MODS_ImpGuidelines_ver4.pdf

Building on the strong DLF foundation in metadata best practices development, these guidelines are intended to address specific issues that arise when descriptive metadata for distributed collections are brought together. Understanding what happens when objects are removed from their local context and combined with objects from other collections is a fundamental prerequisite to building services for shared collections. Comments and feedback from a range of communities, institutions, and individuals indicate the guidelines fill a need. The Library of Congress has reviewed the guidelines and is incorporating some of the concepts into the MODS standard.

- Asset Action Packages http://rama.grainger.uiuc.edu/assetactions/index.asp

This experimental schema demonstrates the power that lightweight agreements bring to pooling distributed collections. The asset action implementation, hosted by University of Illinois, Urbana-Champaign, enables image thumbnails from multiple distributed collections to be displayed along with brief metadata in one view, although the images may not exist with these properties in their native environments. Applying a collector tool developed by the University of Virginia to the experiment demonstrates one way the schema enables distributed collections to be used by a separate, local application. The underlying concepts upon which asset action packages are built can be extended to mesh well with models for interoperability under discussion such as aDORe, the Pathways project, and OAI-PMH extensions. DLF Aquifer is well positioned to become a test bed for some of these ideas.

Future plans:

Building on successful collaborative processes, DLF Aquifer participants plan to extend the program with activities in the same three broad areas. Key program elements for the coming year include:

- Collecting information about and building a registry of existing tools for using digital content, both those developed by scholars for specialized collections and those developed by digital libraries that might be more generally applicable.
  - What can be adaptively re-used?
  - What is missing?
  - What can benefit from collaborative development?
  - How might some of these tools be generalized and integrated into a variety of technology environments?
  - What models can be built and sustained to support these tools, over time, in a distributed environment?

- Planning workshops to engage users with DLF Aquifer content to learn how collections are used over time, in diverse, distributed settings.
    - Examining how the DLF Aquifer target audience might engage the DLF Aquifer collections in their local environments as they pursue their research, study and teaching through the duration of a course or research project.

- Defining levels of service linked to levels of compliance with metadata guidelines.

- Ingesting more collections into the DLF Aquifer pool.
    - Creating data mapping tools and services.
    - Building static repositories.

- Experimenting with tools to enhance and remediate metadata for sharing. Testing the feasibility of workflows and services to support metadata remediation and enhancement.

- Further developing technology that enables services, building and extending the asset action experiment into a robust, repository neutral middleware layer that meshes with interoperability framework development.

- Defining parameters for experimentation, deciding what to keep and how, with partners, creating capacity to maintain and sustain what is kept.

Conclusion:

The work products created by DLF Aquifer participant library staff by engaging in working groups, attending meetings participating in panel presentations, hosting experiments, creating surveys, writing reports, and documenting guidelines, policies, and schemas demonstrates the value of a defined collaborative process. Continued support from the Digital Library Federation at similar levels to the past year's support would allow the working groups to continue with standards and best practices development. Small software development experiments and encouraging libraries to submit collections would also be within scope. To realize the full range of programmatic ambitions depends on both the continued support of the Digital Library Federation and on an infusion of funding from other sources, which would allow the existing infrastructure for collaboration to be expanded and would provide additional technical resources.

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Appendix: DLF Aquifer Participant Libraries and Working Group Rosters

Participant Libraries:
California Digital Library
Cornell University (January 2006)
Emory University
Indiana University
Johns Hopkins University
Library of Congress
New York University
Stanford University
University of Illinois, Urbana-Champaign
University of Michigan
University of Minnesota
University of Southern California (March 2006)
University of Tennessee
University of Virginia

2005 Working Group Rosters

Aquifer Implementation Group:
Katherine Kott, Digital Library Federation, Chair
At large members:
Dan Greenstein, California Digital Library
Michael Keller, Stanford University
Martha Sites, University of Virginia
ex officio
David Seaman, Digital Library Federation
Note: Working group chairs also serve on the AIG.

Metadata Working Group:
Sarah Shreeves, University of Illinois, Urbana-Champaign, Chair
John Chapman, University of Minnesota
Bill Landis, California Digital Library
Liz Milewicz, Emory University
David Reynolds, Johns Hopkins University
Jenn Riley, Indiana University
Gary Shawver, New York University

Technology Working Group:
Jon Dunn, Indiana University, Chair
Eric Celeste, University of Minnesota
Tim Cole, University of Illinois, Urbana-Champaign
Chih-Mei Lin, New York University
Jerry Persons, Stanford University
Anthony Smith, University of Tennessee

Cory Snavely, University of Michigan
Thornton Staples, University of Virginia

Services Working Group:
Martin Halbert, Emory University, Chair
John Butler, University of Minnesota
Laine Farley, California Digital Library
Michael Furlough, University of Virginia
Beth Sandore, University of Illinois, Urbana-Champaign
John Walsh, Indiana University

Collections Working Group:
Winston Tabb, Johns Hopkins University, Chair
Robin Chandler, California Digital Library
Mark Dimunation, Library of Congress
Leslie Johnston, University of Virginia
Linda Matthews, Emory University
Linda Phillips, University of Tennessee
Ben Stone, Stanford University
Perry Willett, University of Michigan

2006 Working Group Rosters

Aquifer Implementation Group:
Katherine Kott, Digital Library Federation, Chair
At large members:
Michael Keller, Stanford University
Martha Sites, University of Virginia
Winston Tabb, Johns Hopkins University
ex officio
David Seaman, Digital Library Federation
Note: Working group chairs also serve on the AIG.

Metadata Working Group:
Sarah Shreeves, University of Illinois, Urbana-Champaign, Chair
Laura Akerman, Emory University
John Chapman, University of Minnesota
Melanie Feltner-Reichert, University of Tennessee
David Reynolds, Johns Hopkins University
Jenn Riley, Indiana University
Gary Shawver, New York University

Technology Working Group:
Jon Dunn, Indiana University, Chair
James Bullen, New York University
Eric Celeste, University of Minnesota

Tim Cole, University of Illinois, Urbana-Champaign
Jody DiRidder, University of Tennessee
Chih-Mei Lin, New York University
Jerry Persons, Stanford University
Cory Snavely, University of Michigan
Thornton Staples, University of Virginia

Services Working Group:
Bill Landis, California Digital Library
Chris Bourg, Stanford University
John Butler, University of Minnesota
Michael Furlough, University of Virginia
Kat Hagedorn, University of Michigan
Deborah Holmes-Wong, University of Southern California
Martin Halbert, Emory University
Oya Rieger, Cornell University
Jennifer Vinopal, New York University
John Walsh, Indiana University

Collections Working Group:
Leslie Johnston, University of Virginia, Chair
Robin Chandler, California Digital Library
Mark Dimunation, Library of Congress
Naomi Nelson, Emory University
Linda Phillips, University of Tennessee
Ben Stone, Stanford University
Perry Willett, University of Michigan