Instructors

- Gail McMillan
  - Director, Digital Library and Archives, University Libraries, Virginia Tech
- Martin Halbert
  - Dean of Libraries, University of North Texas
  - President, MetaArchive Cooperative
Attendees

- Please state your name and institution.
- Does your university currently accept ETDs? Alternatively, are you considering an ETD program?
- What brings you in this morning?
- What sorts of institutional repository solutions are represented?
- What do you hope to get out of this workshop?

DDP Workshop for ETDs
Pre-Registered Attendees

- 15 Universities
- 2 National libraries
- 5 Organizations
- ? Others

- 19 Africa
  - Botswana, Ethiopia, Ghana, South Africa, Uganda
- 1 Europe: Germany
- 1 South America: Peru
- 3 USA: Nebraska, Texas, Virginia
# Agenda

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<th>Time</th>
<th>Session</th>
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<tr>
<td>1:30 – 1:45</td>
<td>Welcome, Introductions, Overview of Workshop</td>
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<tr>
<td>1:45 – 2:00</td>
<td>ETDs and Preservation Needs</td>
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<td>2:00 – 2:30</td>
<td>MetaArchive and Distributed Preservation</td>
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<td>2:30 – 2:45</td>
<td>NDLTD/MetaArchive ETD DDPN Archive</td>
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<td>2:45 – 3:00</td>
<td>Break</td>
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<td>3:00 – 3:30</td>
<td>Collections Management for Preservation</td>
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<td>3:30 – 4:00</td>
<td>MetaArchive and its Member Roles and</td>
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<td>Responsibilities</td>
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<td>4:00 – 4:30</td>
<td>ETD Lifecycle Management Project</td>
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<td>4:30 – 5:00</td>
<td>Questions and Answers</td>
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9/16/2011  DDP Workshop for ETDs
ETDs and Preservation Needs

Prof. Gail McMillan
Director, Digital Library and Archives, Virginia Tech
Distributed Digital Preservation for ETDs Workshop
Cape Town, South Africa
Friday, September 16, 2011
What is Digital Preservation?

- Systematic management of digital works over an indefinite period of time
  - Processes and activities ensure continued access to works in digital formats
  - Ongoing attention—constant resources: effort, time, money
  - Technological and organizational change are obstacles for preserving beyond a few years.
Preservation is more than Back-ups

- Back-ups address short-term problems with minimal investment
  - Copies for restoration after data loss event
  - Stored nearby in a single location
- Long-term, error-free storage
  - Ongoing investment
  - Dispersed secure caches = DDPN
  - Distributed Digital Preservation Network
NDLTD Preservation Strategy: MetaArchive Cooperative

- MetaArchive is a Private LOCKSS Network (PLN)
- Programmatically and securely
  - Harvests ETDs from partner repositories
  - Distributes ETDs to only partners’ servers
  - Regularly audits and repairs files as needed
- ETD Preservation Network is a Dark Archive.
NDLTD/MetaArchive ETD Participants

1. Auburn University
2. Boston College
3. Consorci de Biblioteques Universitariesties de Catalunya
4. Florida State University
5. Georgia Tech
6. Indiana State University
7. Poltífícia Universidade Católica Rio de Janerio
8. Rice University
9. University of Louisville
10. Virginia Tech

9/16/2011
ETD Preservation Survey

- **Purpose:** Gauge academic community’s interest in an ETD-specific archive
- **6 academic listservs**
- **14 multiple-choice, short answer questions**
- **Dec. 13, 2007 - April 10, 2008**
- **96 institutions responded**
1. Does your institution accept electronic theses and dissertations (ETDs)?
   If not, please go to no. 9 below.

   96% of the people who took this survey (96 / 100) answered this question.

1a. If so, does your institution accept only electronic versions?

   77% of the people who took this survey (77 / 100) answered this question.

1b. If so, does your institution also maintain print copies?

   75% of the people who took this survey (75 / 100) answered this question.
MetaArchive’s file formats

- 85% PDF
- 30% JPG
- 27% WAV
- 24% GIF
- 23% HTML, MOV
- 21% AVI, MP3
ETD Collections are hosted by

- 26% DSpace
- 13% ETD_db
- 3% Fedora
- 1% Eprints
- 29% Locally developed systems
- 29% Others
Structure of ETD Collections

- 25% Subject-like categories
- 21% Everything-in-one
- 21% Year
- 9% Accessibility
- 7% Degree

It’s best to group ETDs into discrete and finite units such as annual cumulations.
8. Does your institution have a formalized preservation plan for its ETDs?
If so, and you are willing to share, please send it to gailmac@vt.edu.

96% of the people who took this survey (96 / 100) answered this question.

<table>
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<th>Yes</th>
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<tr>
<td>28.13%</td>
<td>71.88%</td>
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27/96 responses 69/96 responses

9. Do you have experience with or knowledge of LOCKSS-based preservation networks?

94% of the people who took this survey (94 / 100) answered this question.

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<th>Yes</th>
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<tr>
<td>78.21%</td>
<td>29.79%</td>
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66/94 responses 28/94 responses

10. Would your institution be interested in participating in an ETD-specific LOCKSS-based collaborative distributed digital archive sponsored by the NDLTD?
If not, please go to no. 11 next.

96% of the people who took this survey (96 / 100) answered this question.

<table>
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<th>Yes</th>
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<td>41.67%</td>
<td>8.33%</td>
<td>56%</td>
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40/96 responses 8/96 responses 48/96 responses
DDPN: 2004 –
- Separate preservation from access
- LOCKSS w/out public access
- Bit-level

Sustained by fees (membership, consulting), grants
- Library of Congress (NDIIPP) awards, 2003-2011
- NHPRC, NEH, IMLS
- Nonprofit corporation: charter, membership agreement
- Cooperative, not a vendor
- Training and model for others
NDLTD Preservation Strategy

NDLTD and MetaArchive Cooperative
- Help higher education institutions provide long-term access to ETDs
- Institutions can achieve this goal by becoming part of the ETD Preservation Network.

Participate in an NDLTD MetaArchive Preservation Network Workshop

Join: NDLTD and MetaArchive
**NDLTD/MetaArchive Preservation Strategy**

**Table of Contents**

1. Why adopt the NDLTD/MetaArchive preservation strategy?
2. MetaArchive Preservation Strategy
   a. How the ETD preservation Network Works
   b. Access Issues
   c. Intellectual Property Issues
   d. Retrieving ETDs from the Preservation Network
3. Organizing ETDs for Collection Management/Preservation Readiness
4. Standards
   a. File Formats
   b. Metadata
5. Authors’ Responsibilities
6. Institutional Workflow
7. Harvesting Frequency
8. How to Join the ETD Preservation Network
9. Documentation
10. Training
11. Staff
12. Hardware
13. Software
14. Reports

Appendix A: Recommendations and Best Practices
Appendix B: ETD Collection Description for the MetaArchive Conspectus Database
ETD Preservation in the MetaArchive Cooperative

**MetaArchive**
- Conspectus Database:
  - Collection descriptions
  - Harvest location
  - Accrual rules
- Plugin Repository:
  - Plugin rules for locating, harvesting, and verifying content

**Content Owner**
- Restricted Access:
  - ETDs
- Public Access:
  - ETDs

**Ingest Content**
- At least 6 caches replicate content.
- LOCKSS Software running on each cache ingests content based on crawl rules.

**Cache**
- Virginia Tech: ETD Dark Archive
- Emory University: ETD Dark Archive
- Florida State: ETD Dark Archive
- Rice University: ETD Dark Archive
- Boston College: ETD Dark Archive
- Georgia Tech: ETD Dark Archive

**Content Monitoring and Recovery**
- LOCKSS daemons on all caches periodically update content from the web, validate content via polls and votes, and repair content when necessary.
- The cache manager monitors all LOCKSS caches for uptime, availability of disk space, and sufficient replication of content.
MetaArchive and Distributed Digital Preservation

Dr. Martin Halbert
Dean, UNT Libraries & President, MetaArchive Cooperative
Distributed Digital Preservation for ETDs Workshop
Cape Town, South Africa
Friday, September 16, 2011
Session Questions

- What is the MetaArchive Cooperative? Why did we form it?
- What is distributed digital preservation? Why is it important for ETD preservation?
- What is LOCKSS? How does MetaArchive use the LOCKSS software?
Planning meetings by librarians and archivists in 2002-2003 on concerns about preserving digital archives

Sense that we needed to do something practical to help each other preserve our data

Not based on studies, just the observation of our anxieties about keeping our (expensive) digital materials preserved and viable.
The Data Loss Problem

From NDIIPP Website on the Importance of Digital preservation (http://www.digitalpreservation.gov/importance/):

44% of the sites available on the internet in 1998 had vanished one year later.
66% of cultural heritage institutions (academic libraries, archives, art museums, public libraries, and other similar kinds of institutions) report that no one is responsible for digital preservation activities.

30% of all archives have been backed up one time or not at all.

Source: 2005 NEDCC Survey by Bishoff and Clareson
“The increased number and diversity of those concerned with digital preservation—coupled with the current general scarcity of resources for preservation infrastructure—suggests that new collaborative relationships that cross institutional and sector boundaries could provide important and promising ways to deal with the data preservation challenge. These collaborations could potentially help spread the burden of preservation, create economies of scale needed to support it, and mitigate the risks of data loss.”

- The Need for Formalized Trust in Digital Repository Collaborative Infrastructure

NSF/JISC Repositories Workshop (April 16, 2007)
What differentiates a schedule for data backups from a digital preservation program?

- **Backups are tactical measures.** Backups are typically stored in a single location (often nearby or collocated with the servers backed up) and are performed only periodically. Backups are designed to address short-term data loss via minimal investment of money and staff time resources. Backups are better than nothing, but not a comprehensive solution to the problem of preserving information over time.

- **Digital preservation is strategic.** Preserving information over long periods requires systematic attention rather than benign neglect or unthinking actions.
Institutional Repositories versus Digital Preservation

What differentiates an IR program from a distributed digital preservation program?

- **The IR is not distributed.** The IR is a centralized approach aimed at managing information flow within the institution. It typically does not attempt to securely cache prioritized content at multiple geographically dispersed sites.

- **DDP mobilizes efforts of multiple institutions.** A digital preservation program entails a geographically dispersed set of secure caches of critical information. A true digital preservation program will require multi-institutional collaboration and at least some ongoing investment to realistically address the issues involved in preserving information over time.
Secure and Distributed Cache Networks

Why are the characteristics of geographically distribution and security so important? This strategy maximizes survivability of content in both individual and collective terms:

- **Security** reduces the likelihood that any single cache will be compromised.
- **Distribution** reduces the likelihood that the loss of any single cache will lead to a loss of the preserved content.

By creating a collaborative network for secure and distributed preservation, a group can also work together on more complex issues such as format migration.
Both Technical and Organizational Networking are Required

- A single cultural heritage organization is unlikely to have the capability to operate several geographically dispersed and securely maintained servers
- Collaboration between institutions on technological solutions is essential
- Similarly, inter-institutional agreements must be put in place or there will be no commitment to act in concert over time
Lessons from the NDIIPP Archive Ingest and Handling Test (AIHT) and other shared archiving experiments:

- Encounter many unexpected incompatibilities because of different systems and data packaging
- Realization that much of the cost in preserving digital material is in coordinating the organizational and institutional imperatives of preservation, and not the technological costs of storage space
A distributed digital preservation cooperative for digital archives

- Established under the auspices of and with funding from the National Digital Information and Infrastructure Preservation Program (NDIIPP) of the Library of Congress
- A functioning DDP network and cooperative for libraries and other cultural memory organizations
- Sustained by cooperative fee memberships, LC contracts, and other sponsored funding
- Provides training and models for other groups to establish similar distributed digital preservation networks
- Fosters broader awareness of digital preservation issues
MetaArchive Cooperative

- A distributed digital preservation cooperative for digital archives, based on LOCKSS
- 286 TB network with 24 secure caches
- Preserving collections for/with 18 members and 46 institutions in 4 countries
- Actively growing (outreach campaign in progress, aim to double membership)
- Provide preservation consulting and training
LOCKSS E-Journal Preservation Network Software

- Developed at Stanford University by Vicky Reich and David Rosenthal
- Enables libraries to preserve subscribed electronic journal content
- Used by hundreds of libraries worldwide
- MetaArchive adapted this software for preserving digital archives
Collection Variety

- Format agnostic
- Collections include:
  - Images
  - Text files
  - Multimedia files
  - Datasets
  - Program executables
Membership Distribution

MetaArchive

46 institutions
12 states/districts
4 countries
Catalytic Efforts

- Began hosting workshops in distributed digital preservation strategies in 2007
  - Instruct new MetaArchive members in processes
  - Advise other groups considering DDP approaches
- Assisted in creation of two additional DDPNs
  - Alabama – state digitization projects
  - Arizona – state government records
Technology: Building on Top of LOCKSS as a Solution for Preserving Digital Archives

- Conspectus Database (Original)
  - Curators enter collection level entries for collections
  - Meant to be used for cooperative prioritization in DDP selection and decision-making activities
  - Not interactive with some key MetaArchive systems (Cache Manager, Ingest Plugins)

- Second Generation Conspectus Database
  - Integrates operation of all network functions
  - Designed in concert with guidance from other private LOCKSS networks (PLNs) in ways that enable re-use
Organizational Agreements & Models

- Developed a new cooperative with guidance from both legal team, librarians, and intellectual property specialists
- Created core organizational documents in 2006: charter, membership agreement, papers of incorporation, business plans, etc.
- Allows members to understand their commitment and liability clearly
Examples of Archives in Subject and Genre Domains

- **Southern Digital Culture** (initial collecting area, founding members were Southeastern)
- **Transatlantic Slave Trade Historical Data** (made cooperative international)
- **Electronic Theses and Dissertations** (inter-consortia strategic alliance with NDLTD)
- **Early Modern Literature** (broad area, with Folger Shakespeare Library as cornerstone)
- Additional archives regularly added
Active Collaborations with Other Efforts

- **LOCKSS** (collaborative development of LOCKSS Cache Manager)
- **Data-PASS Alliance** (developing in-common standard and tools for Private LOCKSS Network (PLN) interoperation)
- **ECHO DEPository Project** (PLN interoperation standard using HandS)
- **SDSC Chronopolis** (PLN/ SRB interoperation testing and bridges)
Different Membership Roles

- **Preservation Members** are organizations responsible for the ongoing activity of preserving digital content. At a minimum, every preservation site must include responsible staff and a node server of the relevant preservation network. Preservation sites collectively comprise a preservation network.

- **Sustaining Members** are preservation sites that wish to participate as leaders of the cooperative, and serve on the Steering Committee.

- **Collaborative Members** act as preservation sites for groups of institutions.
Welcome

MetaArchive Cooperative is a digital preservation network created and hosted by and for cultural memory organizations.

To learn more about joining MetaArchive, please contact our Program Manager.
The NDLTD/MetaArchive ETD Dark Archive

Dr. Martin Halbert
Dean, UNT Libraries & President, MetaArchive Cooperative
Distributed Digital Preservation for ETDs Workshop
Cape Town, South Africa
Friday, September 16, 2011
Session Overview

- Overview of the NDLTD/MetaArchive ETD Program
- MetaArchive Member Strategies for Preserving ETDs
- Considerations for Prospective ETD Preservation Sites
Overview of the NDLTD/MetaArchive ETD Program

- Started in 2008 with the establishment of a partnership between MetaArchive and NDLTD
- Project allowed us to begin studying the genre-specific preservation issues that arise with ETD collections
- Initial partners: Virginia Tech, Boston College, Georgia Tech, Rice U, Emory U, and Auburn U.
- Highly successful--preserving ETDs for most of our members, including a consortia of 20 members in Barcelona, Spain.
MetaArchive Member Work on ETD Preservation

- Studied the "calf path" issues that arise in ETD programs
- Analyzed a range of ETD repository structures and developed exchange mechanisms between those and LOCKSS (CONTENTdm, ETD-db, DSpace)
- Provided simple addition mechanisms so that as new and embargoed ETDs are added, members are able to easily add them to the archive
- Developed mechanisms to version content, so that if ETDs are changed/replaced, reflected in preservation copies
- Determined the need for documented best practices for ETD preservation readiness (IMLS project)
Considerations for Prospective ETD Preservation Sites

- Partnership between college and libraries has to be established with particular roles and responsibilities.
- Metadata, metadata, metadata! Many programs have their students assigning this using either DC or non-standard metadata formats due to CAS involvement and ownership.
- Folder and file structure in which ETD collections are stored matters greatly, especially since preservation will be ongoing--need to submit new files each semester for preservation, and that's easiest if the storage structure allows for this. Grouping by year may be helpful as a start.
Issues of rights management and embargo must be managed well. Dark archiving for everything? for portions? Most institutions need that dark element for their preservation work in ETD collections.

The partnership you choose matters greatly. Look at the differences between what you can do with content digitized by a vendor vs. doing it yourself.

Similar issues arise in preservation--what are your rights to your own content? Are there unnecessary charges or restrictions? What happens if you want to move to a new solution? Taking an active role (like members in MetaArchive do) helps to ensure you are driving the solution, not being driven by the vendor constraints.
ETD Collections Management for Preservation Readiness

Prof. Gail McMillan
Director, Digital Library and Archives, Virginia Tech
Distributed Digital Preservation for ETDs Workshop
Cape Town, South Africa
Friday, September 16, 2011
Best Practices: Directory Names

Unique, standardized, uniform, easy to decipher: Timestamp

- `etd-mmddyyyy-tttttt`
- ETD submission began on Oct. 2, 2007 at 2:48:64 pm
- Use same naming convention for scanned and born-digital TDs
Best Practices: File Names

- `etd.pdf` NOT
  - Identical file names can work when directory names are unique
  - May not be good for local management
- Lastname_initials_doctype_year.format
  - SoundararajanS_D_2010.pdf
  - SoundararajanS_D_2010_copyright.pdf
Best Practices: Archival Units

- Discreet unchanging groupings
  - Periodic ingest into preservation caches
  - etd-01012009…
- Not too big and not too small
  - >20 GB
  - Divide directories into subunits
  - etd-01012009…-etd-06302009…..
Best Practices: Triage for ETDs

- Recognize there is a problem.
- Stop poor practices.
- Isolate the problem files.
- How? Data wrangling
  - Define direct path for ingest into the network
  - Everything that does not follow definition becomes one group—an outlier Archival Unit
Best Practices: Web Accessible

- Keep ETDs on servers--live, spinning discs
- Not on CDs or other static storage devices
- Avoids problems: locating discs, loading them onto servers, rectifying errors, failed media
- Declining cost of online storage
  - $1/GB/year
Best Practices: Web Accessible

- Public
- NDLTD preservation partners only
  - Add IPs to server’s firewall to enable access
  - Restricted and Withheld/Embargoed ETDs
- Permission
  - “LOCKSS system has permission to collect, preserve, and serve this Archival Unit”
Best Practices: Metadata Discipline

- Describe institution’s *individual* ETDs
  - ETD MS: ETD Metadata Standard
    http://www.ndltd.org/standards/metadata/etd-ms-v1.00-rev2.html
  - MARC: MAchine Readable Cataloging
    http://www.worldcat.org/

- Describe institution’s ETD *collection*
  - MetaArchive Conspectus Database
MetaArchive Conspectus Database: Collection-level Metadata (1)

- Title
- Describe the collection
- Subjects, key words/phrases
- Uniform Resource Identifier: usually a locator (URL) or name (URN)
MetaArchive Conspectus Database: Collection-level Metadata (2)

- Formatting, size, language(s)
  - Formats
    - image: jpg
    - text: pdf
    - video: mpeg
  - Language(s) of the content
  - Type of content
    - Text, sound, datasets, software, animation, etc.
  - Extent: size or duration of the entire collection
Anticipate growth of the ETD collection

Accrual Periodicity
- How frequently will items will be?
- Yearly? Twice-yearly?

Accrual Policy
- How is it decided to add items to the collection?
- Every approved ETD? Except embargoed ETDs?
MetaArchive Conspectus Database: Rights and Ownership

- Institution hosting ETD collection
- Publisher: entity responsible for making the ETDs available
- Rights: statement about who owns the copyright
- Access Rights
  - Unrestricted
  - Restricted
  - Embargoed
- Custodial History: provenance
Details the web crawl to gather files into the ETD Dark Archive in the Preservation Network

- Harvest Procedure: Web crawl or OAI harvest
- Identifier: URI or URL
- Extra Parameters: Archival Units, e.g., year = 2007
- LOCKSS Manifest Page: permission to preserve
- OAI provider
ETD Management for Preservation

1. Live storage media
2. Standardize file, directory structures
3. Metadata discipline
4. Preservation viability, recovery program
MetaArchive and its Members: Roles and Responsibilities

Dr. Martin Halbert
Dean, UNT Libraries & President, MetaArchive Cooperative
Distributed Digital Preservation for ETDs Workshop
Cape Town, South Africa
Friday, September 16, 2011
 Session Questions

- MetaArchive Charter and Membership Agreement
- Three types of membership that are available
- Associated fees and responsibilities
MetaArchive Charter, Membership Agreement, & Host Nonprofit

- Charter is a formative agreement that lays out the conceptual roles and responsibilities of participants
- Membership agreement is between new members and MetaArchive’s administrative nonprofit corporation
  - Agreement to preserve content for specified period
  - Pledge to not intentionally harm the network
Individual Roles

- **Program Managers** are leaders that accept responsibility for coordinating the activities of a digital preservation network.
- **Data Wranglers** are programmers and other technically adept workers that prepare local digital archives for ingestion into a preservation network.
- **System Administrators** are staff members that maintain individual preservation node servers of the relevant preservation network.
- **IR/ETD Program Managers** are staff that are knowledgeable about ETD collection structure.
Archive Ingest Process

- A “Plugin” is written for collections selected for preservation
- Plugins are programs describing rules and structure for the “archival unit”
- Either local staff or MetaArchive staff write these plugins and install them in the network
- At least 6 dispersed sites are selected for repositing the archival unit
- Caching process begins, with updates following if necessary
Requirements for Operating a Node

- Be able to bring up and maintain a Linux server over time
- Task local staff with both program management and systems administration duties, and preferably data wrangling as well
- Contribute content and monitor system functioning occasionally
- Sign membership agreement and pay membership dues
Three Membership Levels

- **Sustaining Members:** contribute the most and receive the most in terms of control and leadership (Steering Committee is comprised of representatives from Sustaining Members)
- **Preservation Members:** participants and beneficiaries, rather than leaders of the Cooperative
- **Collaborative Members:** groups of institutions that act as one unified member because they share a central server, allowing existing digital collaboratives to preserve their co-hosted content for a fraction of what it would cost to do so as individual members
Three Membership Levels:

1. Preservation Members ($3,000/year): Ability to reposit content in the shared network infrastructure
2. Sustaining Site Members ($5500/year): Above, plus seat on the Steering Committee and participation in directing the cooperative
3. Collaborative Members (contact MetaArchive): Requires group negotiated membership

- All members are obligated to provide and operate a minimal server on the network and accept at least as much content from others as they themselves reposit into the network
- Membership commitment is in three year increments
- Membership fees are reduced for members joining both NDLTD and MetaArchive simultaneously
IMLS ETD Lifecycle Management Project

Dr. Martin Halbert
Dean, UNT Libraries & President, MetaArchive Cooperative
Distributed Digital Preservation for ETDs Workshop
Cape Town, South Africa
Friday, September 16, 2011
Reasons for this project

- Universities have been steadily transitioning from traditional paper/microfilm to digital ETD submission, dissemination, and preservation processes.
- While this move from print-based to digital-based theses and dissertations greatly enhances the accessibility and sharing of graduate student research, it also raises grave concerns about the potential ephemerality of these digital resources.
The intended audience for this project includes academic libraries currently managing or prospectively considering programs for ETD preservation.

How will institutions ensure that the electronic theses and dissertations they acquire from students today will be available to future researchers?

We need to better understand, document, and address the preservation challenges presented by ETDs to ensure that colleges and universities have the requisite knowledge to properly curate these new collections.
ETD Lifecycle Management Project

Goals and Products

- **Dissemination of Guidance Documents for Lifecycle Management of ETDs:** Based on collaborative research between NDLTD and MetaArchive on how to best manage the lifecycle of ETDs

- **Production of ETD Lifecycle Management Tools:** modular micro-services that can be used alone or incorporated into larger repository systems to address targeted needs in managing ETDs throughout their lifecycle

- **Creation of Educational Materials and Associated Workshop:** will be made freely available and utilized in a workshop that will be offered in the second year of the project. Materials will include curriculum syllabi, training handouts, PowerPoint presentations, exercises, and other relevant items
Project Partners

1. University of North Texas Libraries
2. Networked Digital Library of Theses and Dissertations (NDLTD)
3. Educopia Institute and MetaArchive Cooperative
4. Virginia Tech Library
5. Rice University Library
6. Boston College Library
7. Indiana State University Library
8. Pennsylvania State University Library
9. University of Arizona Library
Project Timeline

- Project will take place over a two year period from October 2011 to September 2013
- Workshop will be held in February 2013 at the Texas ETD Association conference
- Project will create two public websites (maintained by MetaArchive and NDLTD) to disseminate the documents and micro-services produced
Questions and Answers

Contact information:

- Gail McMillan (gailmac@vt.edu)
- Martin Halbert (+1-404-727-2204)
- Katherine Skinner
  (katherine.skinner@metaarchive.org)