



Implementation of the CoreTrustSeal

The CoreTrustSeal board hereby confirms that the Trusted Digital repository LDC Catalog complies with the guidelines version 2017-2019 set by the CoreTrustSeal Board.

The afore-mentioned repository has therefore acquired the CoreTrustSeal on April 18, 2018.

The Trusted Digital repository is allowed to place an image of the CoreTrustSeal logo corresponding to the guidelines version date on their website. This image must link to this file which is hosted on the CoreTrustSeal website.

Yours sincerely,

The CoreTrustSeal Board

Assessment Information

Guidelines Version:	2017-2019 November 10, 2016
Guidelines Information Booklet:	CTS Requirements 2017-2019
All Guidelines Documentation:	Documentation
Repository:	LDC Catalog
Seal Acquiry Date:	Apr. 18, 2018
For the latest version of the awarded CoreTrustSeal for this repository please visit:	https://www.coretrustseal.org/why-certification/certified-repositories/
Previously Acquired Seals:	None
This repository is owned by:	Linguistic Data Consortium
	USA
	T 1.215.573.1275
	E ldc@ldc.upenn.edu
	W https://www.ldc.upenn.edu/

Assessment

0. Context

Applicant Entry

Self-assessment statement:

- Repository Type.
- Domain or subject-based repository
- Publication repository
- Research project repository

The Linguistic Data Consortium (LDC) is an open consortium of universities, libraries, corporations and government research laboratories hosted by the University of Pennsylvania, Philadelphia, Pennsylvania USA. It was formed in 1992 to address the critical data shortage then facing language technology research and development. The US Advanced Research Projects Agency provided seed funding for the Consortium and the US National Science Foundation provided additional support via Grant IRI-9528587 from the Information and Intelligent Systems division. The National Institute of Standards and Technology also provided early support.

Initially, LDC's primary role was as a repository and distribution point for language resources. Since that time, and with the help of its members, LDC has grown into an organization that creates and distributes a wide array of language resources. LDC also supports sponsored research programs and language-based technology evaluations by providing resources and contributing organizational expertise with support from, and in collaboration with, a wide range of international organizations in the commercial, non-profit sectors and government sectors, including sponsors within the US Departments of Commerce, Defense, Education, Homeland Security, Interior, Justice and Treasury.

LDC has distributed more than 140,000 copies of over 2,500 databases covering 90 different languages to more than 4,000 organizations in over 80 countries. Its community includes linguists, computer scientists, social scientists and others engaged in language-related research, education and technology development.

URL: <https://www ldc.upenn.edu/about> (About LDC) (07/19/2017)

- Level of Curation Performed.
- A. Content distributed as deposited
- B. Basic curation
- C. Enhanced curation
- D. Data-level curation

The level of curation provided by LDC depends on the particular circumstance, ranging from use as a technology evaluation to publication in the public catalog. As mentioned above, LDC supports common task evaluation organized by the community. Data sets it distributes to a restricted set of task participants are typically in the form of content as deposited with LDC since that data has already been prepared by task organizers for the specific task or evaluation and must remain in that format to serve as a benchmark and support subsequent comparison of new approaches and algorithms on known stable data. In this case, task organizers provide data to LDC and we, in turn, provide distribution and archival services without alteration. Distribution is limited to only those participating in the evaluation. In the event the data is released into our public catalog at a later date, it receives a higher level of curation as described below.

For data released into LDC’s public catalog, LDC applies basic, enhanced and data level curation depending on the condition of the corpus deposited. Once a publication proposal has been accepted, LDC staff works with providers to facilitate delivery of the data and performs extensive quality assurance to ensure that data is complete, error free and ready to use. Those activities include data format checks, directory structure and documentation reviews and applying descriptive metadata schema. LDC manages and monitors archived data applying updates and bug fixes as needed and coordinating migration to new formats and platforms.

URL: <https://www ldc upenn edu/data-management/providing/inquiries-delivering> (Publication Inquiries and Delivering Data) (07/19/2017)

URL: <https://www ldc upenn edu/data-management/curation-distribution> (Curation and Distribution Services) (07/19/2017)

– Outsourced Partners

LDC delivers some data from Amazon’s AWS cloud services. LDC uploads data to AWS and provides unique signed URLs for encrypted download to users. This is a closed loop between LDC and the cloud (part of the University of Pennsylvania’s Amazon tier) and complies with the University’s data security protocols. For disaster recovery purposes, LDC also backs up data to Amazon in addition to its backup on local storage.

URL: <http://www.upenn.edu/computing/group/npc/approved/20100308-computersecurity.html> (Data Security Policy) (02/15/2018)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

1. Mission/Scope

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

Our mission is as follows: The Linguistic Data Consortium supports language-related education, research and technology development by creating, sharing and archiving linguistic resources: data, tools and standards. The mission statement has been approved by the Executive Director.

URL: <https://www ldc.upenn.edu/about/mission> (Mission) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

2. Licenses

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC data may be used for language-related research, education and technology development. Data cannot be redistributed to others outside of the member/licensee organization/research group. These restrictions on data use are handled as follows:

All LDC members and licensees sign agreements limiting and acknowledging the limitations on data use before they receive data.

LDC's Membership Agreements regulate the use of data published in LDC's catalog by for-profit, not-for-profit and government entity members.

Most public data licensed by non-members is governed by the LDC User Agreement for Non-Members.

Certain LDC data sets are governed by corpus-specific license agreements which supersede the LDC Membership Agreements and the LDC User Agreement for Non-Members and must therefore be signed by all licensees (members and non-members).

Data used in common task evaluations is usually governed by an evaluation license that limits the use of the data for the purposes of, and the duration of, the task.

LDC handles legal, regulatory and contractual issues -- including intellectual property, human subjects protections and export controls -- during the publications submissions review process. It enters into distribution agreements with data providers that permit LDC to store and distribute the data under its typical model (subject to the membership agreement or non-member agreement) or under explicit use restrictions that will be communicated to users in a corpus-specific license.

CoreTrustSeal Board

W www.coretrustseal.org

E info@coretrustseal.org

LDC's External Relation groups includes a contract expert who remains in regular contact with the University of Pennsylvania's (LDC's host organization) Office of General Counsel and Institutional Review Board for the treatment of human subjects and sits on a University advisory board for export controls.

LDC maintains copies of all executed membership and license agreements.

URL: <https://www ldc.upenn.edu/members/agreements> (Membership Agreements) (07/19/2017)

URL: <https://catalog ldc.upenn.edu/license/ldc-non-members-agreement.pdf> (LDC User Agreement for Non-Members) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/curation-distribution> (Curation and Distribution Services) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/using-data/user-agreements> (User Agreements) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/providing/ilenames-metadata> (Filename Conventions & Metadata) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

3. Continuity of access

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

3. In progress: We are in the implementation phase.

Self-assessment statement:

In addition to its online Catalog, LDC deposits copies of all publications at the University of Pennsylvania's Van Pelt Library. Van Pelt creates catalog records for each publication deposited with corresponding descriptive, structural, and other appropriate metadata.

In the event that LDC terminates its operations, all Consortium property remains the property of the University of Pennsylvania. The University of Pennsylvania's Van Pelt Library maintains and provides access to LDC data as it does with respect to all of its holdings and will continue to do so in the event LDC is no longer in operation. Mechanisms for continued accessibility to users outside the University community are being considered for implementation.

LDC Catalog metadata is mirrored in the Open Language Archives Community and the Government Catalog of Language Resources (for US government use).

URL: <https://catalog ldc.upenn.edu/> (LDC Catalog) (07/19/2017)

URL: <http://www.library.upenn.edu/> (Franklin Catalog) (02/12/2018)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

CoreTrustSeal Board

W www.coretrustseal.org

E info@coretrustseal.org

4. Confidentiality/Ethics

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

During the submissions review process, corpus providers describe how they comply with any legal or ethical regulations governing a particular data collection. Data providers sign an agreement asserting that they own and/or have rights to grant LDC permission to distribute. Data received by LDC for publication is reviewed by LDC staff for compliance with any applicable laws and regulations relating to data protection. LDC sometimes refuses to publish corpora if the creator cannot provide evidence that they have complied with applicable laws and regulations governing copyright, informed consent and the ethical treatment of human subjects.

Any special conditions, such as those related to data with disclosure risk, are handled in the user license developed for the corpus. Personal identifying information is typically removed by data producers/corpus providers from any data collected from humans (unless participants otherwise consented to the release of that data). LDC staff is trained to handle the management of data with disclosure risk.

URL: <https://www ldc.upenn.edu/data-management/providing/ filenames-metadata> (Filename Conventions & Metadata) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/curation-distribution> (Curation and Distribution Services) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/providing/submission> (LDC Corpus Submission) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/curation-distribution> (Curation and Distribution Services) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

5. Organizational infrastructure

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC is hosted by the University of Pennsylvania and is a center within the University's School of Arts and Sciences. Funding for LDC's activities relating to data publication and distribution is supported by Consortium member fees and non-member data license fees.

LDC has sufficient funding and staff resources to operate in the long-term. We cannot share specific budget information. LDC employs approximately 40 full-time staff. The External Relations group is composed of five full-time staff members whose responsibilities include membership, publications, data licensing and data delivery. The Consortium is housed in an office space of approximately 11,000 square feet. LDC maintains up-to-date equipment for publication preparation and distribution. LDC staff are qualified to perform the duties of their positions and have access to ongoing training and professional development.

LDC is an active member of the global language resource community. For instance, LDC works with the European Language Resources Association, the Linguistic Data Consortium for Indian Languages, the South African Centre for Digital Language Resources, Gengo-Shigo-Kyokai and others regarding the role of data centers in language resource development and distribution.

LDC also collaborates with global networks including the British National Corpus Consortium, E-MELD, European projects such as CLARIN, ENABLER, FLReNet and META-NET, the Japan-based Language Grid and the US TalkBank project.

LDC is a member of the Open Languages Archives Community (OLAC), an international partnership to create a worldwide virtual library of language resource metadata, which includes consensus for best practices for digital archiving. LDC's Catalog (searchable through OLAC) consistently receives OLAC's five-star rating for overall metadata quality.

URLs: <https://www ldc.upenn.edu/about>, <https://www ldc.upenn.edu/about/staff> (Staff) (07/19/2017)

URL: <https://www ldc.upenn.edu/collaborations/other> (Other Collaborations) (07/19/2017)

URL: <https://www ldc.upenn.edu/about/facilities> (LDC Facilities) (02/07/2018)

URL: <https://www ldc.upenn.edu/about/facilities/publications> (Publications) 02/07/2018

CoreTrustSeal Board

W www.coretrustseal.org

E info@coretrustseal.org

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

6. Expert guidance

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC consults with the University of Pennsylvania's IT departments on policies and issues affecting data storage, security and accessibility. LDC regularly seeks the feedback of its user community about Consortium data and services through surveys. The last user survey was conducted in 2015-2016. LDC follows developments in the digital resources community on issues affecting data distribution, curation and archiving including best practices for data storage and delivery. This includes attending conferences and workshops highlighting digital repository issues, such as those hosted by the Research Data Alliance and the European CLARIN program.

As the first and most active language resource repository, LDC has been a leader in solutions for developing and maintaining digital archive collections and has developed a network of community connections with like-minded organizations. When needed, those long-time community connections can be accessed to seek additional guidance and feedback.

URL: <https://www ldc.upenn.edu/data-management/data-center-distribution> (Advantages of Data Center Distribution) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

7. Data integrity and authenticity

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC generates checksums upon receipt of data and immediately places that data into its storage workflow which provides appropriate backup, replication and disaster recovery. Volumes have ongoing, built-in integrity checks to ensure fixity. Established update procedures ensure no data is lost and provide the ability to roll back to any previous version.

Major updates to a corpus are given a new version number, indicated in the title of the corpus, and released as a new data set. Previous versions remain accessible under their existing catalog ID and URL. Minor updates are made in place and noted in an internal change log and external description; removed or altered data is archived along with checksums to ensure that any previous version can be recreated if need be. Physical backups of previous versions are also maintained.

Providers are encouraged, but not required, to deliver checksums alongside their data. LDC produces checksums when not provided. Permissions for data access are restricted to only the staff directly responsible for archival management.

URL: <https://www ldc.upenn.edu/about/facilities/it-networking> (IT Infrastructure) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/curation-distribution> (Curation and Distribution Services) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/providing/ filenames-metadata> (Filename Conventions & Metadata) (02/12/2018)

URL: <https://www ldc.upenn.edu/data-management/using> (Using Data) (02/20/2018)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

CoreTrustSeal Board

W www.coretrustseal.org

E info@coretrustseal.org

Comments:

8. Appraisal

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC provides public guidelines for data submission that include preferred filenames, standard formats and metadata preparation and instructions for preparing and submitting data for publication. Providers are required to complete LDC's online submissions form which is designed to collect basic information about the data set to trigger the submissions workflow. Further discussions about particular corpora continue with providers throughout the submissions and review process. If data is not in a preferred format, we talk to providers about the feasibility of conversion. If that is not possible, we ask the provider to submit documentation sufficient so that users across platforms and operating systems can use the data set for its intended purpose.

LDC's catalog entries provide descriptive metadata following Dublin Core and OLAC standards. Resource documentation, including the catalog description, provides structural metadata (how to process/use the data set.) License information provides administrative metadata covering intellectual property, conditions on use and so on.

URLs <https://www ldc.upenn.edu/data-management/providing/submission> (LDC Corpus Submission) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/providing/filenames-metadata> (Filename Conventions and Metadata) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

9. Documented storage procedures

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC's IT infrastructure, supported by the University's framework, provides highly available storage, backup and disaster recovery for archival data. Workflows exist for each step of the archival storage process. Data is stored on volumes only accessible within LDC and write permissions are only granted to the few staff directly involved with maintaining those volumes. The volumes undergo ongoing back-ups and integrity checks. Physical copies of each corpus produced are stored onsite and offsite. In the event of data corruption, data can be restored from backups or from those physical copies. Additional physical onsite and offsite copies of data are made when any updates are made to the in-house volumes.

URL: <https://www ldc.upenn.edu/about/facilities/it-networking> (IT Infrastructure) (07/19/2017)

<https://www ldc.upenn.edu/data-management/curation-distribution> (Curation and Distribution Services) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

10. Preservation plan

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC has the right to copy, transform, store and provide access to the data in its catalog and manages long-term preservation as a critical function. Redundant backups, multiple drives, and off-site storage of physical copies of all corpora assure long-term preservation. Additionally, LDC deposits copies of all publications at the University of Pennsylvania's Van Pelt Library.

URL: <https://www ldc.upenn.edu/about/facilities/it-networking> (IT Infrastructure) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/curation-distribution> (Curation and Distribution Services) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

The second link provided describes the LDC's approach to data preservation sufficiently, but that description is needed in the assessment itself (the hyperlink provides evidence of the policy's accessibility)

11. Data quality

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC's catalog entries provide descriptive metadata following Dublin Core and OLAC standards. Resource documentation, including the catalog description, provides structural metadata (how to process/use the data set.) License information provides administrative metadata covering intellectual property, conditions on use and so on. LDC conducts periodic user surveys that provide the community with the opportunity to comment on LDC publications. LDC provides citations to related works as appropriate.

LDC staff include leading researchers in many of the disciplines that LDC supports. These researchers rely upon LDC data and provide input into data and metadata quality and adequacy for intended purposes.

URL: <https://www ldc.upenn.edu/data-management/providing/submission> (LDC Corpus Submission) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/providing/ilenames-metadata> (Filename Conventions and Metadata) (07/19/2017)

URL: <https://www ldc.upenn.edu/about/staff> (Staff) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

12. Workflows

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC maintains workflows from submissions to publication to archiving and curation. These workflows maintain the integrity of the data and ensure proper curation practices. Backup, mirrors and snapshots begin as soon as data is received and continue even for published data which is rendered read-only. They are outlined on LDC's web site. Our workflow starts with initial contacts with providers where details of the deposit of data are discussed and resolved. Quantitative and qualitative checks are carried out on the data before and after selection. Data may not be selected due to quality or mission scope reasons, and this is communicated to the provider. Publication, archiving and curation are also handled by designated workflows.

URL: <https://www ldc.upenn.edu/data-management/curation-distribution> (Curation and Distribution Services)
(07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

13. Data discovery and identification

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC's online catalog provides search capabilities under various criteria, including language, title, author, data source and project, as well as keyword searching in the corpus description. All LDC data have three unique identifiers – ISBN, LDC identifier and ISLRN (International Standard Language Resource Number). All LDC data have permanent URLs to their individual catalog records that allow users to access public documentation and metadata, which in turn can be used to evaluate the data. In the event of migration to another system, redirects will be set up to ensure any previous URLs still direct users to the appropriate catalog record. This process has already been undertaken once in a catalog redesign in 2014. ISLRN records are also accessible from persistent URLs and LDC continues to evaluate other systems such as DOI for integration in our own catalog.

LDC's catalog metadata is automatically harvested daily by Dublin Core-compliant OLAC and displayed with other archives on OLAC's website. LDC provides citation guidelines for its data.

URL: <https://www ldc.upenn.edu/data-management/providing> (Providing Data) (07/19/2017)

URL: <https://www ldc.upenn.edu/language-resources/data> (Data) (07/19/2017)

URL: <https://catalog ldc.upenn.edu/search> (Search the LDC Catalog) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/citing> (Citing Data) (07/19/2017)

URL: <http://www.language-archives.org/> (OLAC) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

CTS encourages that the proposed evaluation of persistent identifiers, such as DataCite DOIs, be undertaken prior to renewal of the current CTS certification.

CoreTrustSeal Board

W www.coretrustseal.org

E info@coretrustseal.org

14. Data reuse

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

The catalog entry provides descriptive metadata following Dublin Core and OLAC standards. Resource documentation, including the catalog description, provides structural metadata (how to process/use the data set.) License information provides administrative metadata covering intellectual property, conditions on use and so on. Catalog descriptions and metadata are designed to provide users with sufficient information so that the data can be used for its intended purpose.

Data is provided in formats commonly used by LDC's community. LDC adapts to changing formats. For example, UTF-8 is now the standard encoding for text; it replaced earlier encoding schemes. LDC migrates data to new formats as needed, by for example, providing .flac speech files for a corpus originally released in .sph format.

URLs: <https://www ldc.upenn.edu/data-management/providing/submission> (Corpus Submission) (07/19/2017)

URL: <https://www ldc.upenn.edu/data-management/providing/ilenames-metadata> (Filename Conventions and Metadata) (07/19/2017)

URL: https://www ldc.upenn.edu/sites/www ldc.upenn.edu/files/share-data_0.pdf (Share Data through LDC) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

15. Technical infrastructure

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC's catalog is a MySQL relational database that connects data sets, their attributes and user information. It was enhanced in 2014 to include e-commerce modules that give users more control over their user accounts and the ability to join LDC and license data online. That system was built using Ruby, Ruby on Rails and Spree, the Ruby e-commerce platform. Corpora are stored on a ZFS file system with RAIDZ2 and hosted on two independent, mirrored, systems physically located in two different buildings. For disaster recovery, backups are offsite and geographically dispersed. ZFS features protection against data corruption with continuous integrity checking and automatic repair as well as flexible scaling and robust permissions restrictions over NFS.

LDC meets the OAIS reference model:

- (1) Ingest: Workflow that includes submissions form from data provider, LDC staff review, data added to holdings.
- (2) Archival Storage: Documented process for managing data storage; explicit archiving workflows across data life cycle.
- (3) Data Management: Catalog tracks descriptive, technical and structural metadata.
- (4) Administration: Staff ensures that access rights and licenses are recorded and tracked.
- (5) Preservation Planning: Workflows and procedures in place to preserve data integrity and accessibility.
- (6) Access: Data accessible through catalog interface and via communications with

LDC's Membership Office. University and LDC IT staff ensure around-the-clock connectivity for LDC infrastructure which is built upon server grade commercial hardware and standard, open source software.

URL: <https://www ldc upenn edu/data-management/curation-distribution> (Curation and Distribution Services) (07/19/2017)

URL: <https://www ldc upenn edu/about/facilities/it-networking> (IT Infrastructure) (07/19/2017)

URL: <https://www ldc upenn edu/members/manage-account> (Managing Your LDC Account) 07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

16. Security

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

LDC data is protected by real-time monitoring, alarming, redundant backups, multiple drives, and off-site storage. Storage includes frequent recurring integrity checks to guarantee fixity. Disaster recovery of data is implemented via backups, mirroring and snapshots, taken daily for data in flux or monthly for static data, stored locally and offsite at Amazon. Beyond that, backups are maintained at regular intervals to supply recovery even if data loss is not noticed immediately. In the event that LDC terminates its operations, all Consortium property remains the property of the University of Pennsylvania.

URL: <https://www ldc.upenn.edu/about/facilities/it-networking> (IT Infrastructure) (07/19/2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

17. Comments/feedback

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

0. N/A: Not Applicable.

Self-assessment statement:

No comments, thank you.

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments: