

Texas Digital Library Business Continuity Plan

Texas Digital Library is a consortial effort of academic research libraries, cultural heritage institutions and university libraries to provide preservation and access to the scholarly output, research materials, unique collections and other digital items of value in the collections of participating members.

TDL Storage and Organization

The TDL is located in the Perry Casteñeda at the University of Texas at Austin and also have remote access to all systems and operations. This core staff focuses on the development and maintenance of software and hardware systems, user support activities, coordination of member activities, and other communication with TDL membership and the general public.

Contacting TDL and Escalation

First Point of Contact – TDL Support

Members may reach all of the technical staff at TDL by contacting the Help Desk via phone call, email or by submitting a ticket at: <http://tdl.org/support/helpdesk/>

Phone calls to 855-495-4317 are transcribed and turned into *tickets*. Emailing support@tdl.org or submitting a *ticket* via the Help Desk form will also create tickets. All tickets are forwarded to the entire TDL technical staff. This includes the Director of Operations, System Administrators, Software Engineers and Help Desk staff.

Second Point of Contact – Director of Operations

If you have not received a reply from Texas Digital Library within an hour, please contact our Director of Operations.

Between the hours of 8:00 AM and 6:00 PM on standard working days, please call the desk of the Director of Operations (Ryan Steans) at 512-495-4403.

During holidays, nights and weekends, you may reach the Director of Operations at 512-608-7663.

Third Point of Contact – Office Hours

If you have not heard from the TDL Team within an hour of attempting contact with the Director of Operations, please call our Chief Technology Architect at: 1-512-495-4101

Third Point of Contact – Nights, Holidays and Weekends

During Nights, Holidays and Weekends, if you have not heard from the TDL team within an hour of contacting the Director of Operations, please call the Executive Director at: 919-604-2100

Fourth Point of Contact – Marketing Manager

During standard office hours, please contact our Marketing Manager at: 512-495-4417

During nights, holidays and weekends, please contact our Marketing Manager at: 512-797-2925

Business Impact Analysis

- Insert results of Business Impact Analysis

Disruption Impact

Resource	Outage Impact	Allowable Outage
Resource Name	Description of Outage Impact	Description of allowable outage time
AWS	AWS goes offline	In the unlikely event of an AWS zone going offline, AWS does keep redundant copies of data in multiple locations within the US. Service would be restarted within 12 hours.
AWS for DSpace	A DSpace instance is lost and must be restored	Restoration from time of discovery would depend upon size of the DSpace instance. 2- 8 hours.
AWS for Preservation	DuraCloud goes offline	Restoring the DuraCloud software would take 4-5 hours. Reconnecting assets would take about 2-3 hours.
AWS for Vireo and other services	A Vireo/ OJS/ OCS installation must be restored	Restoration from time of discovery would take 2-4 hours

Resolve Recovery Priority

Priority	Resource	Comments
	Resource Name	
1	Nagios Monitoring	Ensure systems are online and uncover central issues
2	DSpace	Repository data is our key service
3	Vireo	Likely only TDL has these resources
4	DuraCloud	Begin with service, then recover assets

5	OJS	
6	OCS	
7	WordPress	

TDL Storage and Infrastructure

All systems and services of the Texas Digital Library are hosted with Amazon Web Service under a state-mandated arrangement via DLT Solutions.

Amazon Web Services provide the Texas Digital Library with infrastructure as well as support and security. TDL utilizes a mix of Amazon S3, Glacier and EC2 services.

EC2 Cloud Computing provides users with a scalable, cloud-based service with a commitment to 99.95% availability for each EC2 Region. Availability for Amazon EC2 is committed at 99.95% availability with rapid and predictable replacement of instances with issues.

For More information: <http://aws.amazon.com/ec2/>

Amazon S3 is designed for greater than 99.99% availability. This system performs regular, systematic data integrity checks and is built to utilize checksum and fixity in order to maintain data integrity. S3 stores copies of data placed within the system at multiple, redundant locations in order to preserve the integrity of the checksum and fixity.

Amazon Glacier is designed for deep storage and dark archiving of materials and similarly provides checksums and fixity across multiple redundant locations.

Amazon automatically migrates data to new drives, providing a seamless upgrade in hardware for TDL users.

For more information: <http://aws.amazon.com/s3/details/#durability>

Back-Ups and Redundancy

Texas Digital Library also creates a series of back-ups.

S3 back-ups: TDL backs up application files to S3 across multiple redundant copies

Snapshots – snapshots are placed on external drive with the application. TDL keeps:

- 30 days of daily backups
- 1 monthly backup for every 6 months
- an annual back up

TDL's system has been tested and has been utilized during occasional mishaps, replacing systems with no loss of data and the ability for members to return to normal operations same day.

Incident Management

Define procedures:

- TDL has Nagios in place to provide TDL staff with warnings if systems are not behaving as expected.
- In case of an error, TDL receives email notification from Nagios to alert us to the location of the issue. In the unlikely case we are unaware of a Nagios error, we may also receive word from users via HelpDesk and our escalation contact list.
- In the event TDL experiences system failure, TDL will utilize email to alert the affected member institution. We will describe the problem as it is currently understood, and provide next steps for resolving the issue. If we are unsure of the source of the error, we will report this as well. These emails will be sent by (1) The Director of Operations or the (2) Chief Technology Architect. Should the situation require drastic action, the Director of Operations or Chief Technology Architect will call affected parties.
- In the case we discover that a resource is unrecoverable from production, we will alert the member as to our plan to utilize back-up versions of resources and our time line for restoring the service.
- Upon restoration of the service, TDL will check service against Nagios. In addition, Help Desk staff will review service for functionality and data loss. We will also request owner of service review and inspect service and data integrity.
- TDL will continue to develop and review our Incident management plan annually (April each calendar year), with changes implemented as new information comes to light.

Program Maintenance and Improvement

- Every April, TDL will review the business continuity/ disaster recovery plans and procedures
- Review of the plan will be conducted by the Technical Team and will be led by the Director of Operations. Final review of the plan will be the responsibility of the Executive Director.
- The Director of Operations and Chief technology Architect will review and evaluate the integrity of the business continuity plan following each restoration of service and evaluate for change
- Should the current business continuity plan fail to address any issues during a disaster or loss of service, TDL will revisit and revise the plan

Appendix A: Business Impact Analysis Approval

The undersigned acknowledge they have reviewed the *Texas Digital Library Business Impact Analysis* and agree with the approach it presents. Changes to this **Business Impact Analysis** will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____ Date: _____
Print Name: Ryan Steans
Title: Director of Operations, TDL
Role: _____

Signature: _____ Date: _____
Print Name: Kristi Park
Title: Executive Director, TDL
Role: _____

Signature: _____ Date: _____
Print Name: Member School Rep
Title: _____
Role: _____