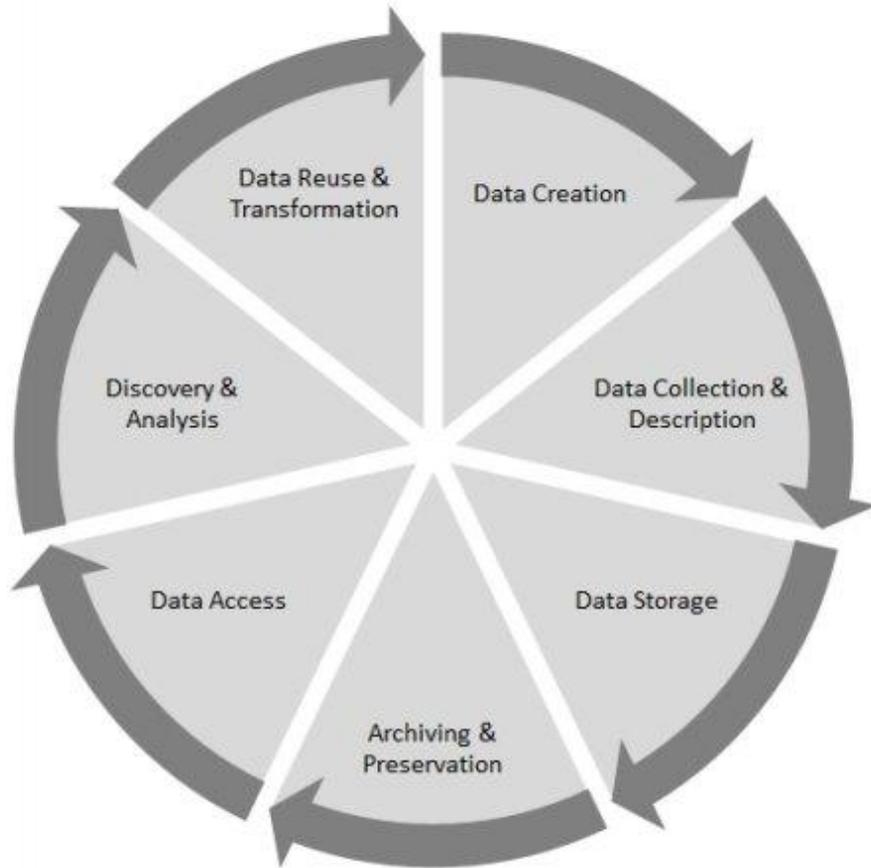# Introduction to Tiger Den

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Research Data Lifecycle

- In order to sustain research at all levels, it is vital to provide support for research data management that is attentive to the entire research data cycle

Research Data Storage at LSU

DATA STORAGE OPTIONS

	Scholarly Repository	Tiger Den	Wasabi	OneDrive	Box	Network Attached (Bulk) Storage	Block (Performance) Storage
Sharing/Collaboration- -LSU faculty and staff	Yes, *read-only global access*	Yes	No	Yes	Yes	Yes	Yes
Sharing/Collaboration- -LSU students	Yes, *read-only global access*	Yes	No	Yes	Yes	Yes	Yes
Sharing/Collaboration- -non-LSU affiliates	Yes, *read-only global access*	Yes, *via Globus*	No	Yes	Yes	No	No
Cost	Free	$50 per TB per year, *first TB is free, paid yearly*	$80 per TB per year, *paid yearly*	Free	Free	$480 per TB per year, *paid monthly*	$960 per TB per year, *paid monthly*
Web-based access	Yes	Yes, *via Globus*	Yes, *Wasabi console*	Yes, *OneDrive Sharepoint web console*	Yes, *Box web interface*	No	No
File-level access	Yes	Yes, *NFS & SMB*	No	Yes, *OneDrive Desktop Sync*	Yes, *Box drive and Box tools*	Yes, *NFS & SMB*	Yes, *attached to compute node*
POSIX compliance	No	Partial	No	Partial	No	Yes	Yes
Performance	Low	Moderate	Low	Low	Low	Moderate	High
Meets Common Federal Data Protection and Security Regulations	No	No	No	No	No	No	No
Capacity	Unlimited	100 TB, *can request an increase*	Unlimited	5TB	Unlimited	50TB, *can request an increase*	50TB, *can request an increase*
Maximum Individual File Size Limitation	1GB	4TB	1TB	250GB	150GB	50TB, *can request for larger files*	50TB, *can request for larger files*

DATA STORAGE FINDER

All services presented on this finder tool are vetted and supported by Louisiana State University.

Narrow choices by answering questions. [CLEAR]

- What type(s) of file access will you need for your data? +
- What type(s) of file sharing permissions will you require? +
- What is your estimated total storage requirement (including growth needs)? +
- What is your file size requirement? +
- What level of file access performance do you require? +
- What functional requirements for file system and data management do you need? +
- What is your acceptable cost range for storage? +
- What security compliance requirements must your storage meet? +
- What type(s) of data will be stored? +

Select data storage services you would like to compare. [SELECT ALL] [CLEAR]

Block Storage
High-speed departmental storage (>1 TB) connected to Compute in Frey.

Box
Cloud storage for backing up, sharing, and accessing documents

Network Attached Storage
For large storage requirements (> 1 TB) and hosting departmental application storage.

OneDrive
File sharing and storage service that is included with LSUMail

Scholarly Repository
The LSU Scholarly Repository collects, preserves, publishes, and makes openly accessible the research and scholarship contributed by LSU faculty, staff, students, and units.

Tiger Den
LSU's on-campus research data storage solution, available to LSU-affiliated researchers

Wasabi
Cloud storage service offered through ITS

https://lib.lsu.edu/researchdatastorage

Demo

Why Tiger Den

- Many LSU researchers have research data needs such as
  - Data storage in a secure and resilient environment
  - Bulky data transfer between storage systems
  - Data sharing and publication with rich metadata
  - Data Management Plan (DMP) development
- Very limited institutional infrastructure and services
- As a result, researchers have to settle with sub-optimal practices

Why Tiger Den

- Data and continuity of knowledge
  - Example – loss of raw data and metadata
- Research productivity
  - Example – time spent on managing Network Attached Storage (NAS) systems
- Funding opportunities
  - Example – DMPs of poor quality
- Compliance requirements
  - Example – both for funding agencies and for sensitive data
- Financial investment
  - Example – failure to achieve economy of size with individual NASs

Features of Tiger Den

- On-premise research data storage system
  - Centralized Management: Hardware and software are securely managed by professional IT staff.
- 3 PB Capacity
- Access options
  - Mount/map on your own computer
  - Both on-campus and off-campus (via VPN)
  - Integrated with LSU HPC clusters
- Limitations
  - Tiger Den is not a high throughput/performant storage system.
  - Data is not encrypted at rest, so private or confidential data should not be stored on Tiger Den.
  - Must comply with LSU data management and acceptable use policies (PS-124 and PS-121).

https://tigerden.lsu.edu

Architecture Overview
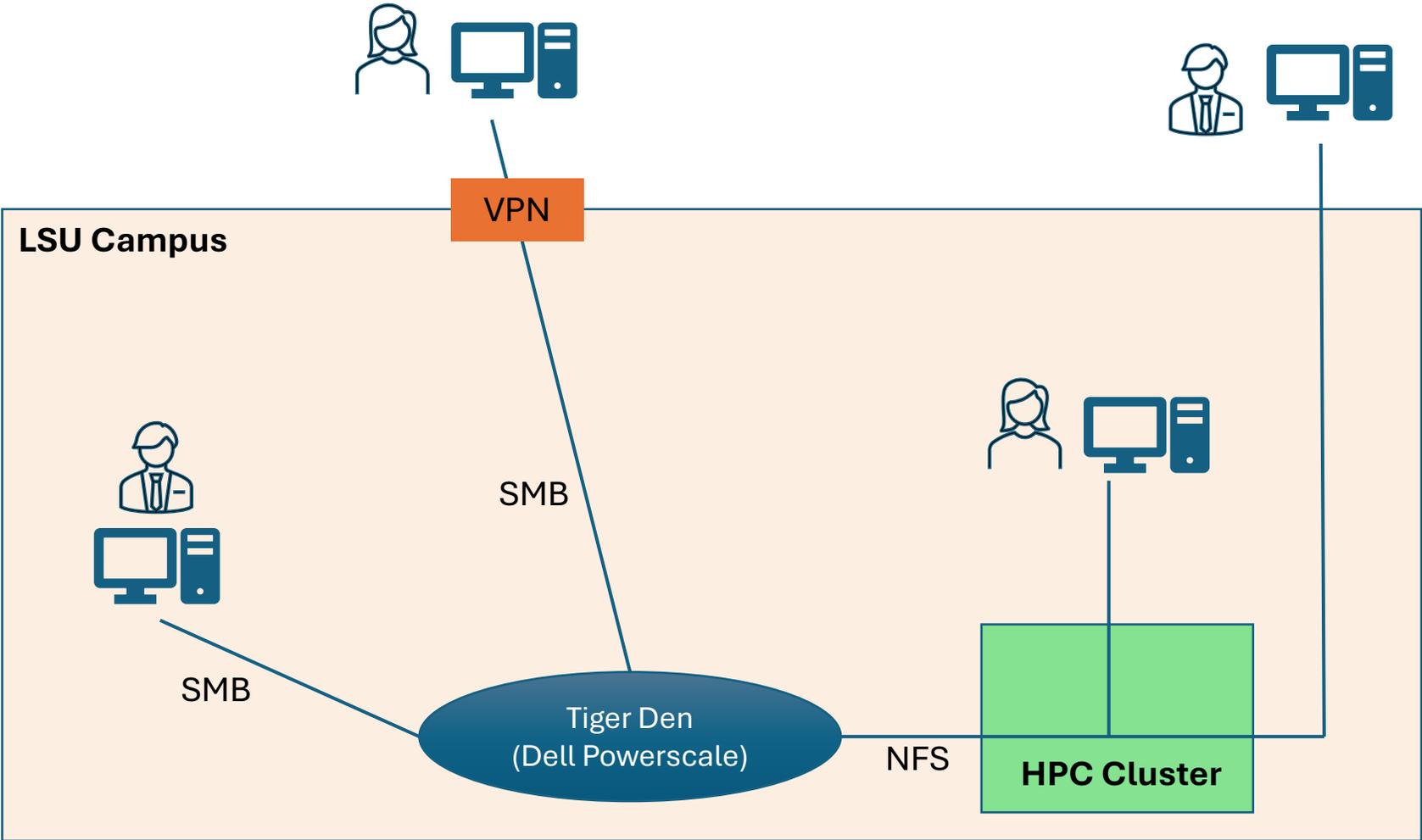
User Benefits

- Cost Efficiency
  - Complimentary storage for faculty members up to 1 TB.
  - Additional storage at $49.03 per TB per year.
  - No ingress or egress charges.
  - Backup available through Wasabi (with extra charge).
- Scalability
  - Users can reserve large amounts of storage (20 TB or more with admin approval).
- Ease of Use
  - Account management via Tiger Den Management Portal.
  - Storage accessible on personal computers or HPC clusters.
  - Shared group space.
- Professional Support
  - Operated and supported by LSU ITS and LSU Libraries.
  - Support services:
    https://itservice.lsu.edu/TDClient/30/Portal/Requests/ServiceCatalog?CategoryID=14

Access & Onboarding

- **Eligibility**: only faculty members and permanent research staff members can apply for space
  - Other users can join a group share
- Go to the Tiger Den Management Portal: https://tdcfg.hpc.lsu.edu/
  - Click on "Request an account" and log in with your LSU credentials
  - Verify your email address
  - Submit a request for storage space
    - Select personal share or group share
    - Specify the size of your share
    - Enable backup (optional)
    - Provide your HPC username (optional)

- Additional information may be needed.
  - Budget code
- Access your Tiger Den storage

Future Enhancements

- Globus
  - Data sharing
  - Off campus access
- Institutional data repository
- Additional backup options