

# The Texas Digital Library Preservation Network

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# Texas Digital Library



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**Access**  
layer



[www.tdl.org](http://www.tdl.org), Google, etc...

**Service**  
layer



Institutional  
Repositories

Scholarly  
Publishing

Learning  
Object  
Repositories

**Systems**  
layer



Storage & Preservation Network

# Service Layers

# Architecture Layers



## Services

Institutional Repositories  
Learning Object Repositories  
Scholarly publishing  
Collection management  
Preservation



## Enablers

DSpace  
Fedora  
ADORE  
SAKAI  
Open Journal System  
Eprints  
Dpubs



## Middleware

Shibboleth  
OAI-PMH  
Storage Resource Broker (SRB)  
Preservation Software  
Workflow  
Directory Services



## Network & Computing

Internet / Internet 2  
Tigre / Learn  
Storage / Server Systems

# Preservation need

- ▶ TDL involves ingestion, storage and access to digital materials
- ▶ Preservation of those materials needs to be ensured

# The TDL preservation network

The solution is to create a state-wide preservation system

# Requirements

- ▶ Integration
- ▶ Selection model
- ▶ Resilience
- ▶ Flexibility

# Integration

- ▶ Existing services
- ▶ Established user base



# Selection model

- ▶ Varied content
- ▶ Selection criteria
- ▶ Preservation levels

# Resilience

- ▶ Multiple copies
- ▶ Geographic distribution
- ▶ Organizational changes

# Flexibility

- ▶ Structural
- ▶ Contribution
- ▶ Allocation

# The Architecture

# Preservation Stack

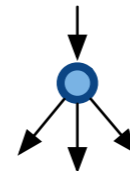
- ▶ User layer
- ▶ Service layer
- ▶ Preservation layer
- ▶ Storage layer



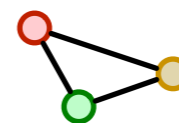
Producers and Consumers



Services offered by TDL:  
Repository, Journals,  
Faculty Archives, etc.



Management of preserved  
storage, handling of  
containers and policies



Federated storage nodes,  
geographical replication of  
data

User layer



Service layer



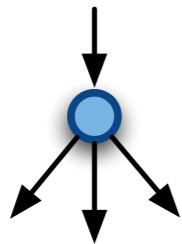
Institutional Repositories

Journals and Periodicals

Faculty Archives



Preservation layer

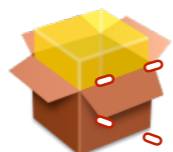


Collection Curator / Preservation Librarian



Registry

Containers



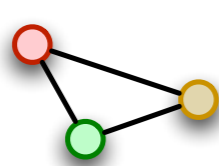
Preservation Package Metadata

Descriptive Metadata

Presevation Metadata

Access Control Metadata

Storage layer



Federated Storage Nodes



Network Replication

Member A Contents

Member B Contents

Member C Contents

...

Member A Content
Member B Content
...

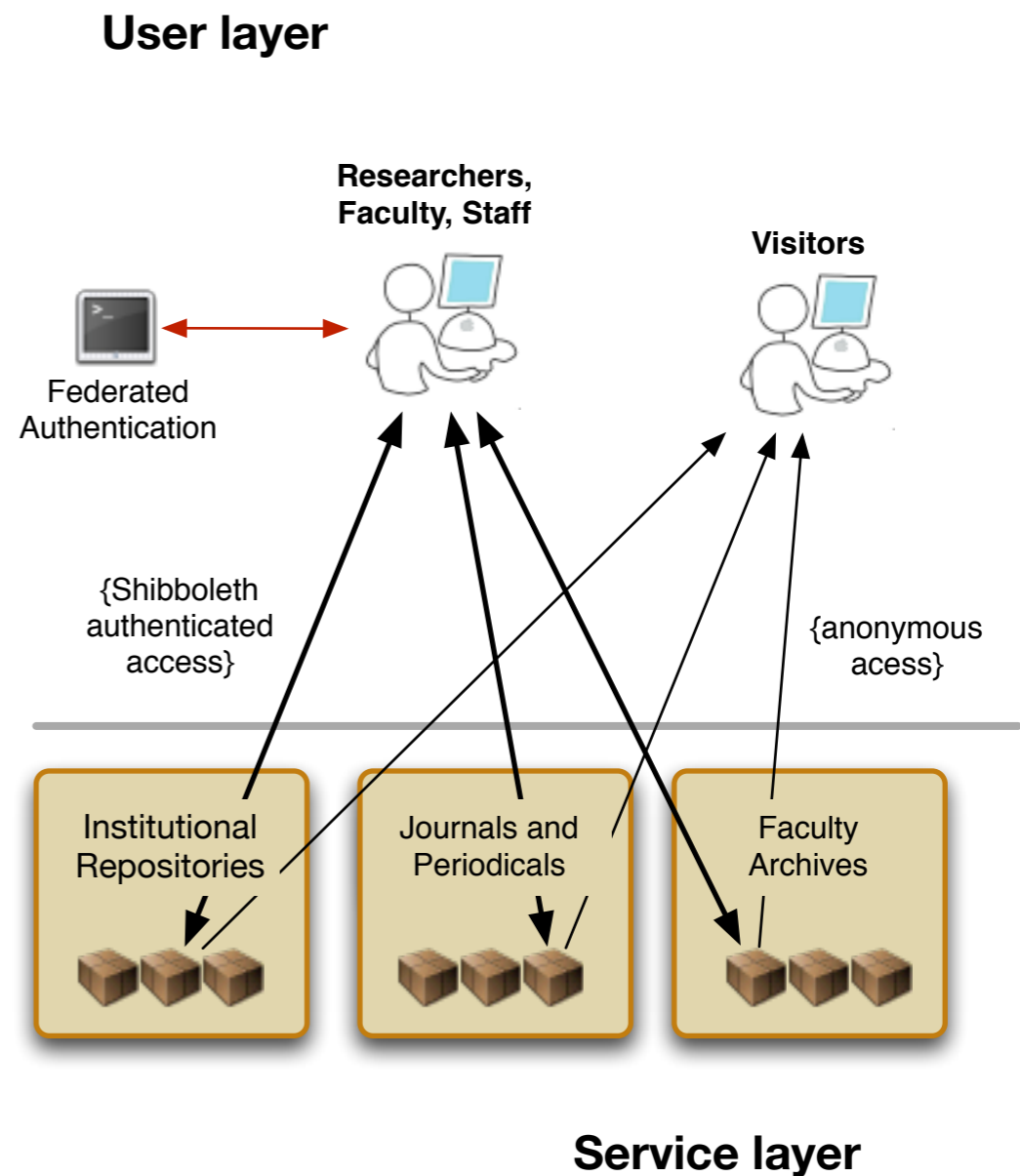
Member B Content
Member C Content
...

Member C Content
Member A Content
...

...
...
...
...
...
...

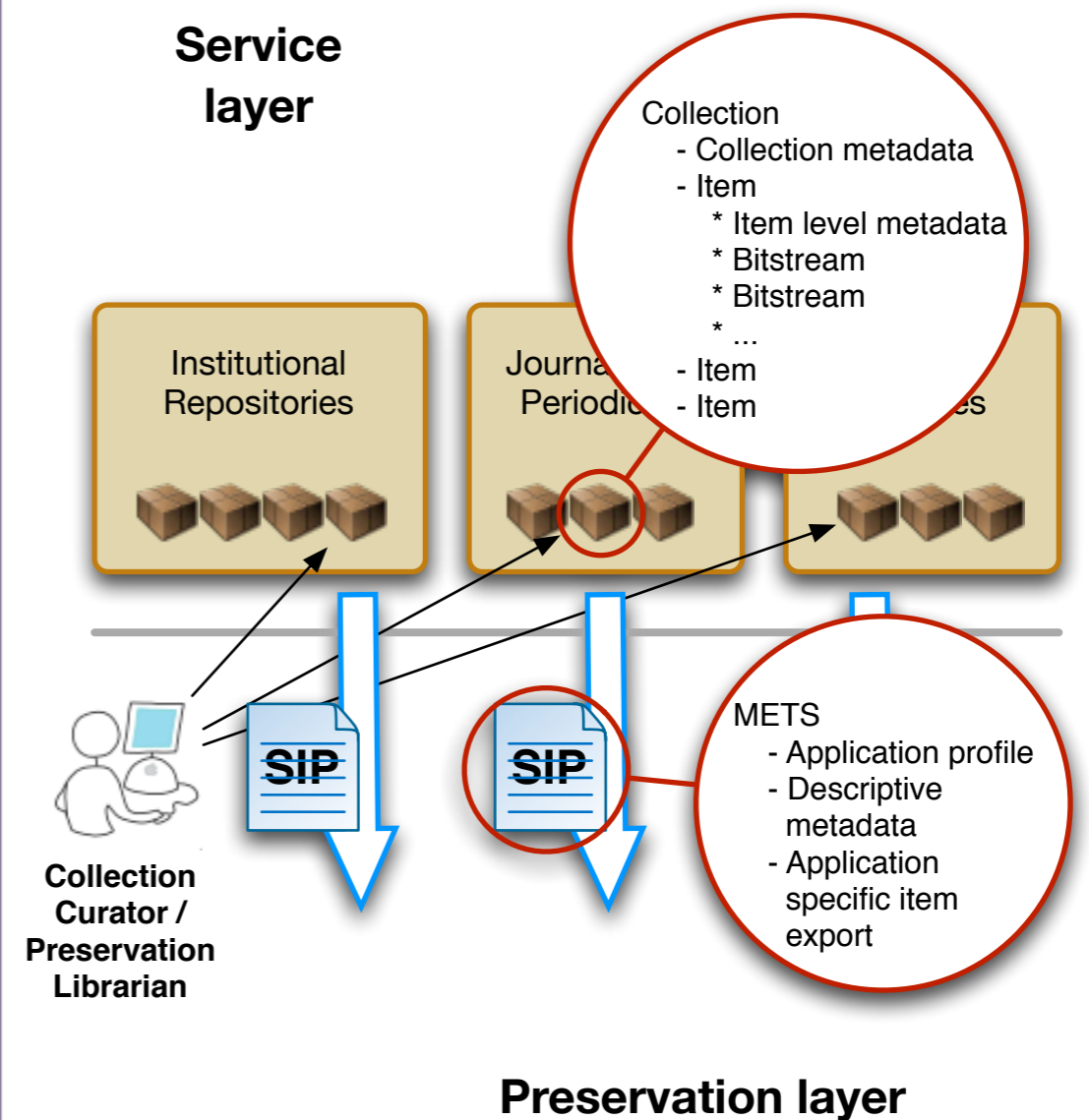
# User Layer

- ▶ Consumers and Producers
  - Researchers
  - Faculty and staff
  - Students and visitors
- ▶ Shibboleth authenticated or anonymous access



# Service Layer

- ▶ Users select collections
- ▶ Add SIP-level descriptive metadata
- ▶ Generate the SIP
- ▶ SIP is preserved

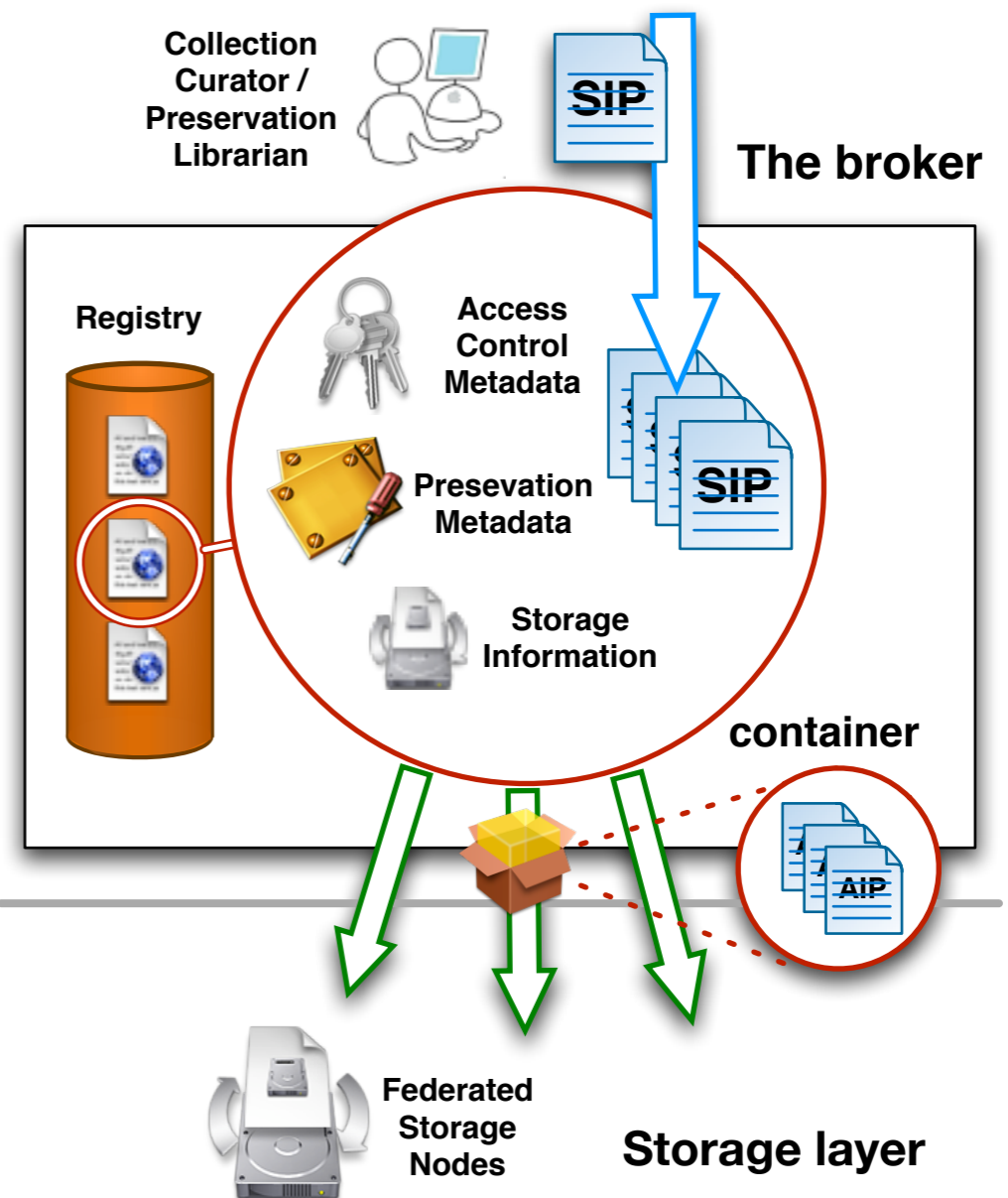




# Preservation Layer

- ▶ The user's container is accessed
- ▶ AIP created
  - Preservation metadata
  - Access control
- ▶ Registry updated
- ▶ Container is distributed

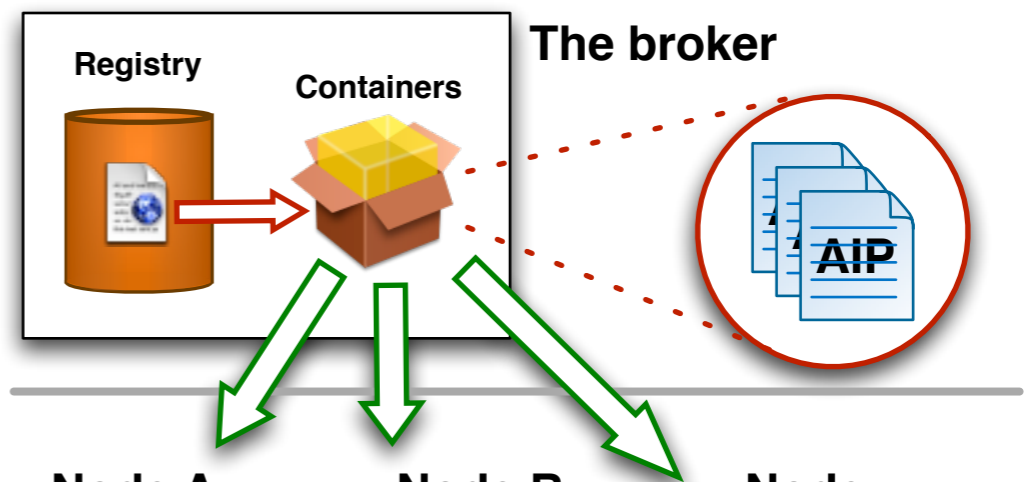
## Preservation layer



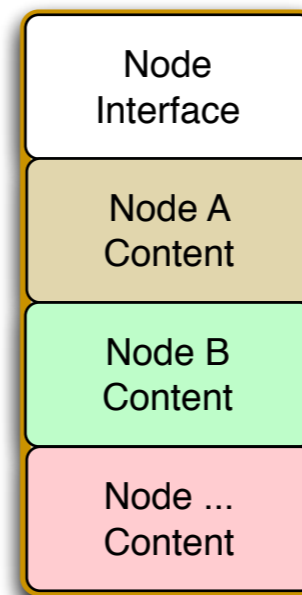
# Storage Layer

- ▶ Interface:
  - accepts container
  - adapts to the implementation
- ▶ Implementation:
  - physical media

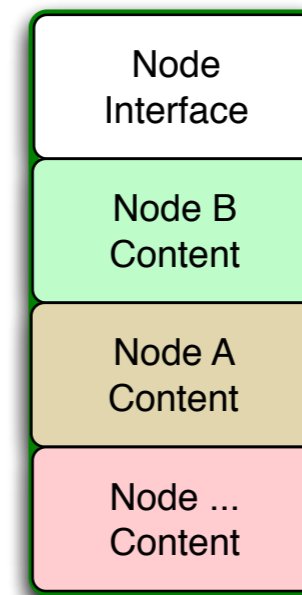
## Preservation layer



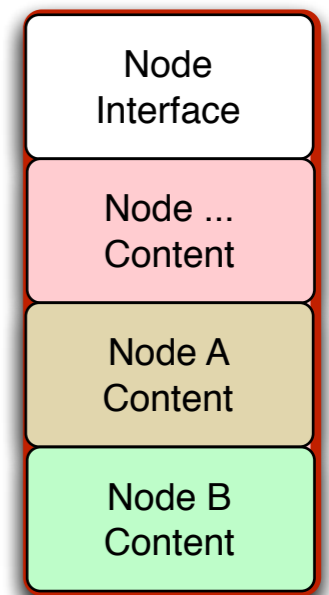
### Node A



### Node B

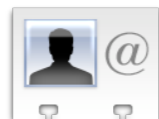


### Node ...



## Storage layer

User layer



Users

Service layer



Institutional Repositories



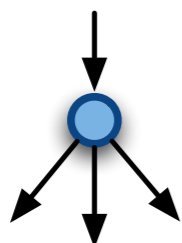
Journals and Periodicals



Faculty Archives



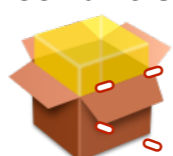
Preservation layer



Registry



Containers



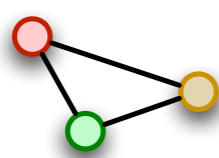
Preservation Package Metadata

Descriptive Metadata

Presevation Metadata

Access Control Metadata

Storage layer

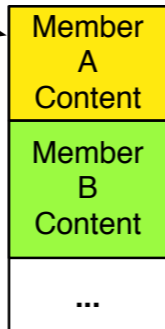


Federated Storage Nodes

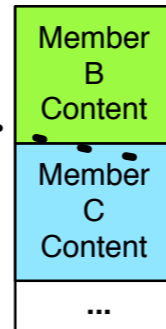


Network Replication

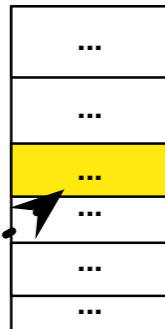
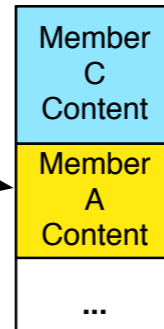
Member A Contents



Member B Contents



Member C Contents



Questions?