

# Globus Research Data Management: Introduction and Service Overview

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Presentations and other useful  
information available at

[globusworld.org/tutorial](http://globusworld.org/tutorial)



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# Agenda

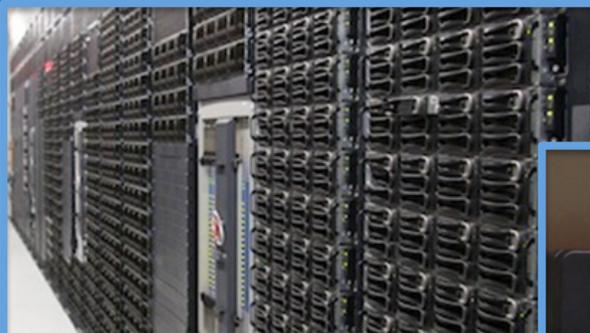
- **Research data management scenarios and challenges**
- **Introduction to Globus**
- **Demonstrations and Exercises**
  - Accessing Globus and Transferring Files
  - File sharing and Group Management
  - Globus Command Line Interface
- **Globus: today and tomorrow**



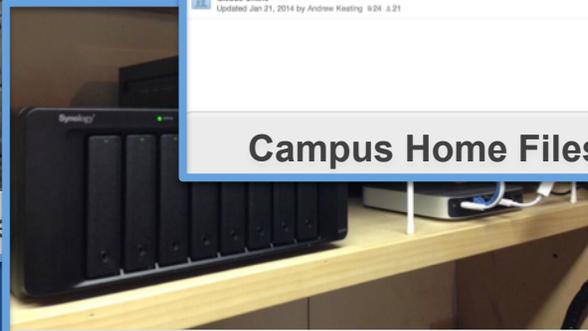
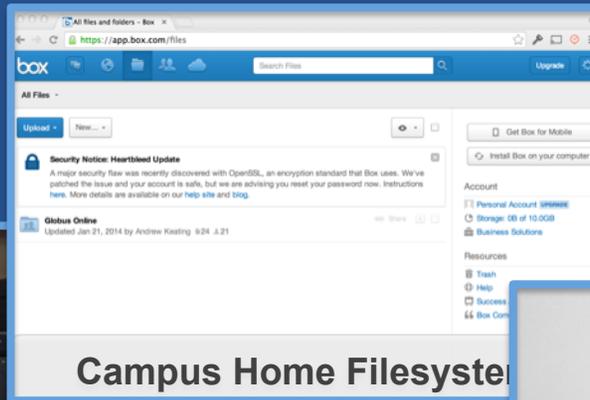
# Research data management scenarios and challenges



“I need to easily, quickly, & reliably move or mirror portions of my data to other places.”



Research Computing HPC Cluster



Lab Server



Personal Laptop



Desktop Workstation



XSEDE Resource



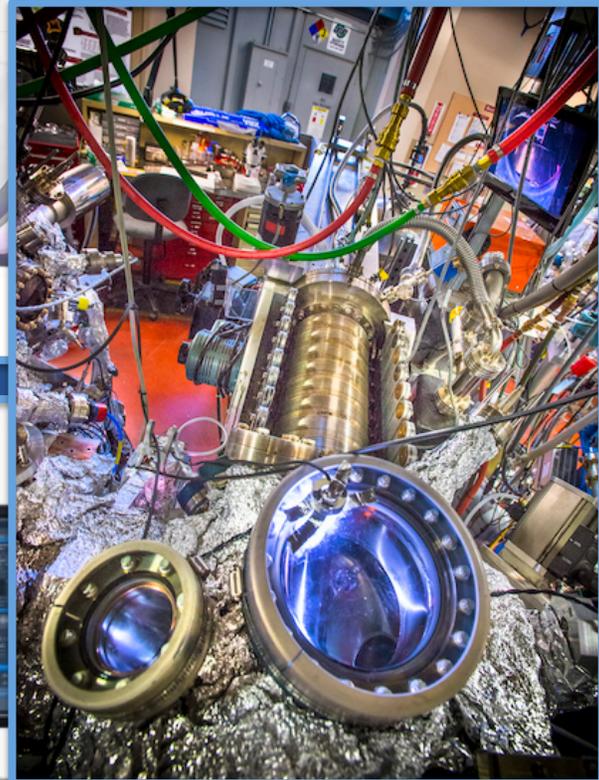


“I need to get data from a scientific instrument to my analysis server.”

MRI



Advanced Light Source



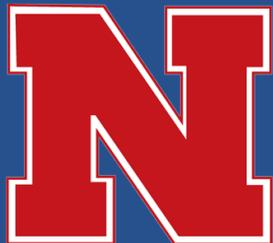
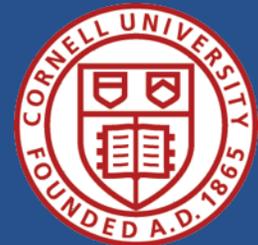
Next Gen Sequencer



Light Sheet Microscope



“I need to easily and securely share my data with my colleagues at other institutions.”





“I need a good place to store / backup / archive my (big) research data, at a reasonable price.”



Campus Store



Mass Store



Public Cloud Archive



“I need to publish my data so that others can find it and use it.”

Reference Dataset



Scholarly Publication



Active Research Collaboration



# Globus introduction and demonstration



Globus is...

Research data management...

...delivered via SaaS



Globus delivers...

Big data transfer, sharing,  
publication, and discovery...

...directly from your own  
storage systems



It's about the user experience...

**flickr** ...for your photos

**Gmail** ...for your e-mail  
by Google

**NETFLIX** ...for your entertainment

 **globus** ...for your research data



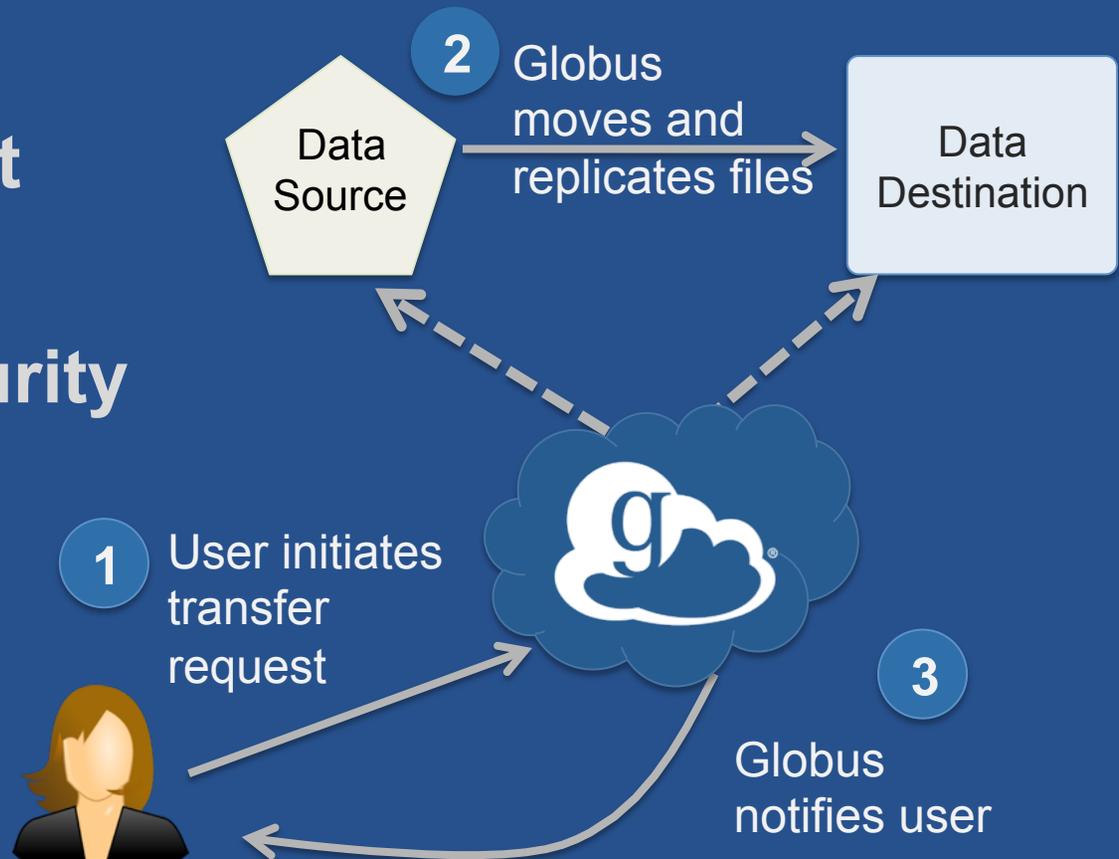
# Globus is SaaS

- **Web, command line, and REST interfaces**
- **Reduced IT operational costs**
- **New features automatically available**
- **Consolidated support & troubleshooting**
- **Easy to add your laptop, server, cluster, supercomputer, etc. with Globus Connect**



# Reliable, secure, high-performance *file transfer and replication*

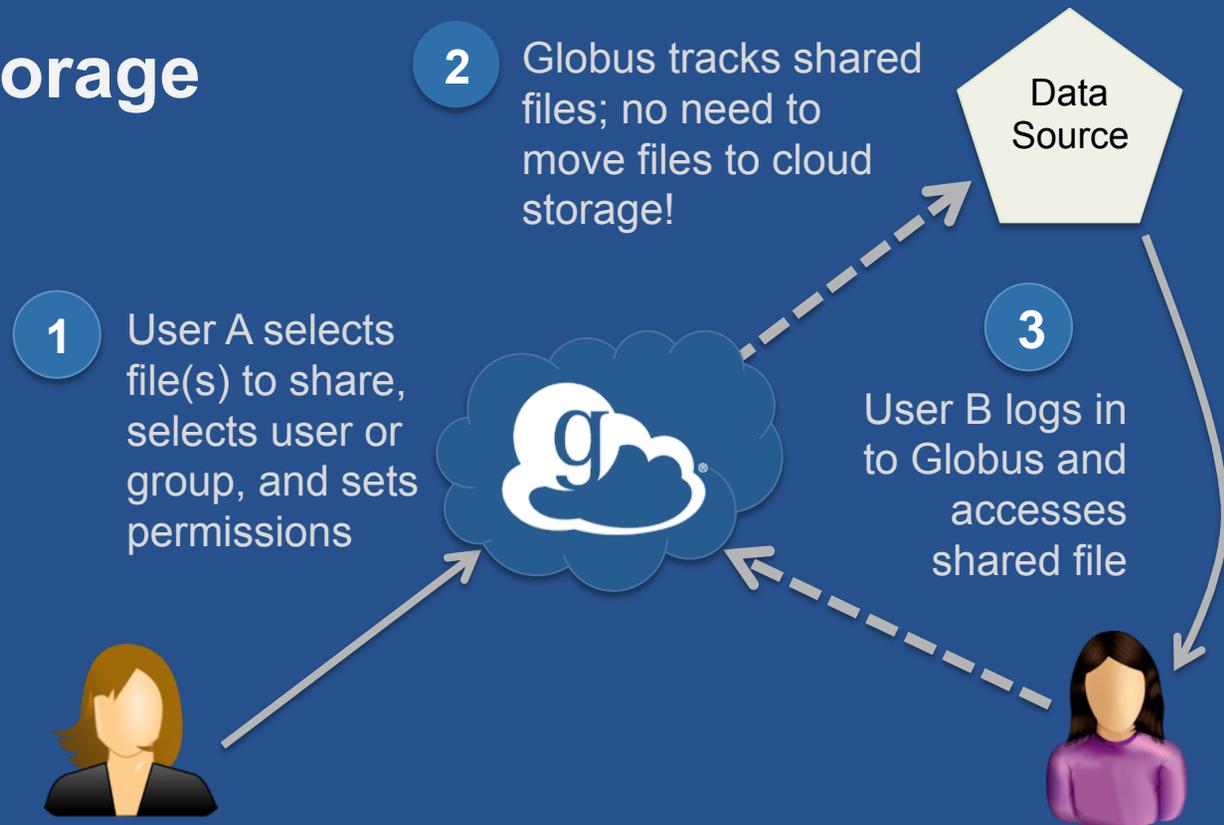
- “Fire-and-forget” transfers
- Automatic fault recovery
- Seamless security integration
- Powerful GUI and APIs





# Simple, secure *sharing* off existing storage systems

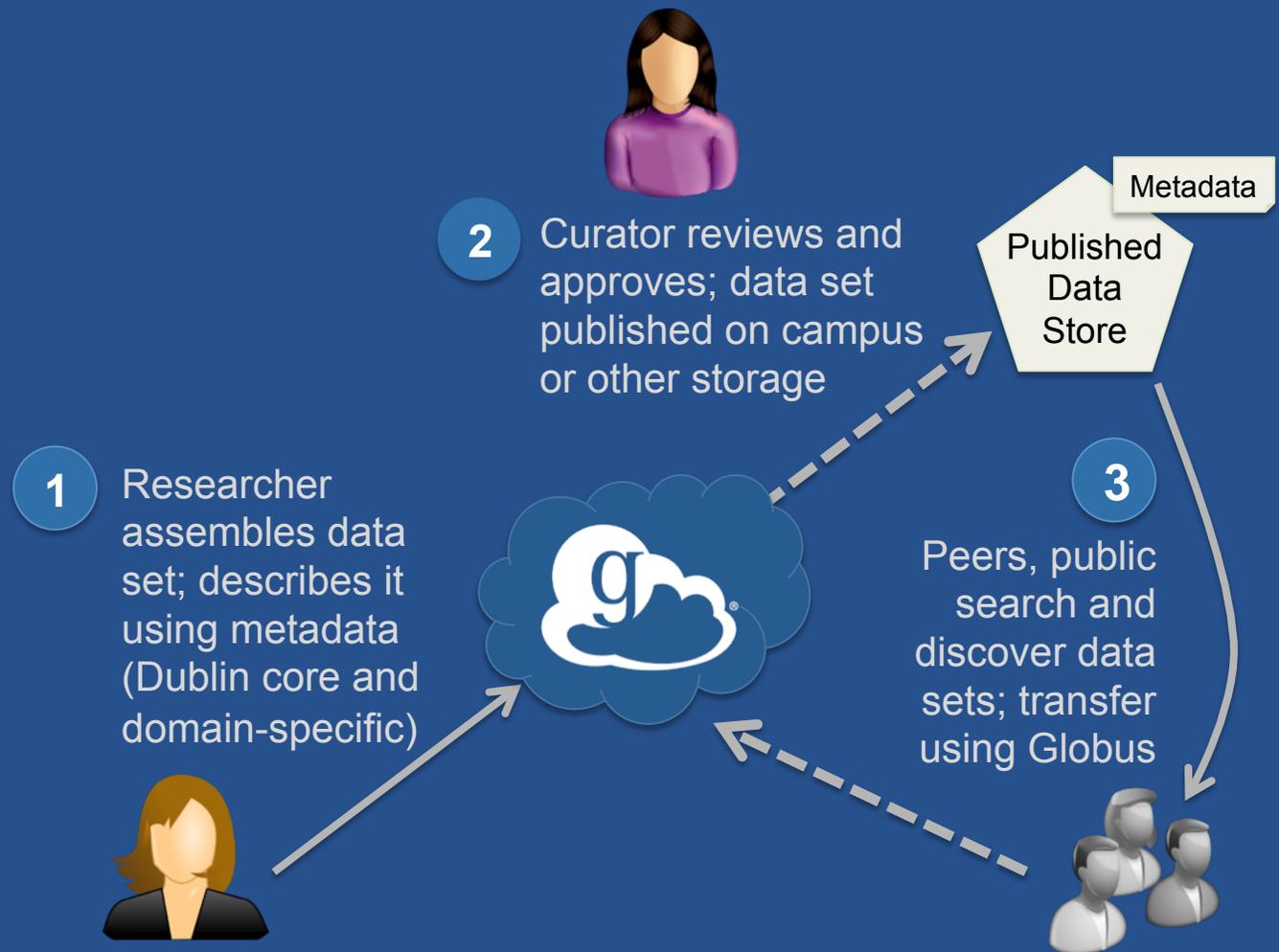
- Easily share large data with any user or group
- No cloud storage required





# Curated *publication* of data, with relevant metadata for *discovery*

- Identify
- Describe
- Curate
- Verify
- Access
- Preserve





# Demonstration:

- Accessing Globus
- File Transfer



# Exercise 1: Sign up & transfer files

1. Go to: [www.globus.org/signup](http://www.globus.org/signup)
2. Create your Globus account
3. Validate e-mail address
4. Optional: Login with your campus/  
InCommon identity
5. Install Globus Connect Personal
6. Move file(s) from `esnet#lbl-diskpt1` to your laptop



# Demonstration:

- File Sharing
- Group Management



## Exercise 2: File sharing and Group Management

- 1. Join the “Tutorial Users” group**
  - Go to “Groups” and search for “tutorial”
- 2. Create a shared endpoint on your laptop**
- 3. Grant your neighbor permissions on your shared endpoint**
- 4. Access your neighbor’s shared endpoint**
- 5. Optional: Create group, and grant share access**



# Demonstration: Globus Command Line Interface (CLI)



## Exercise 3: Globus CLI

1. Optional: Generate SSH key
2. Go to:  
[globus.org/account/ManageIdentities](https://globus.org/account/ManageIdentities)
3. Add SSH key to your Globus identity
4. `ssh <username>@cli.globusonline.org`
5. Check on status of earlier transfer(s)
6. Optional: Transfer a file using the scp command



# Some early Globus adopters

**XSEDE**

Extreme Science and Engineering  
Discovery Environment



**Carnegie  
Mellon  
University**

**MICHIGAN STATE  
UNIVERSITY**



Te Whare Wānanga o Tāmaki Makaurau



Information Sciences Institute



EMORY



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UNIVERSITY**



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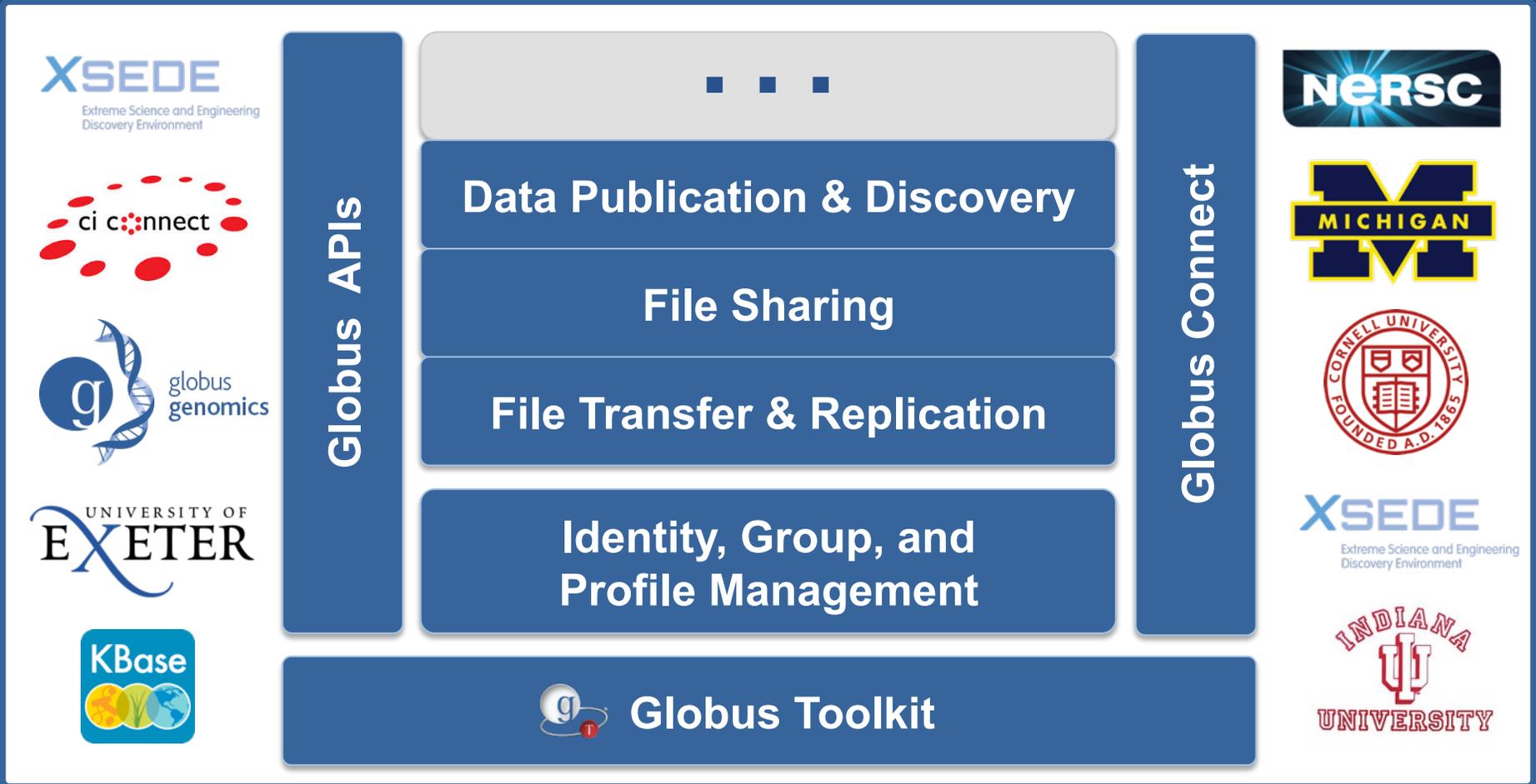


NEW YORK UNIVERSITY





# Globus Platform-as-a-Service





# End: Introduction and Service Overview