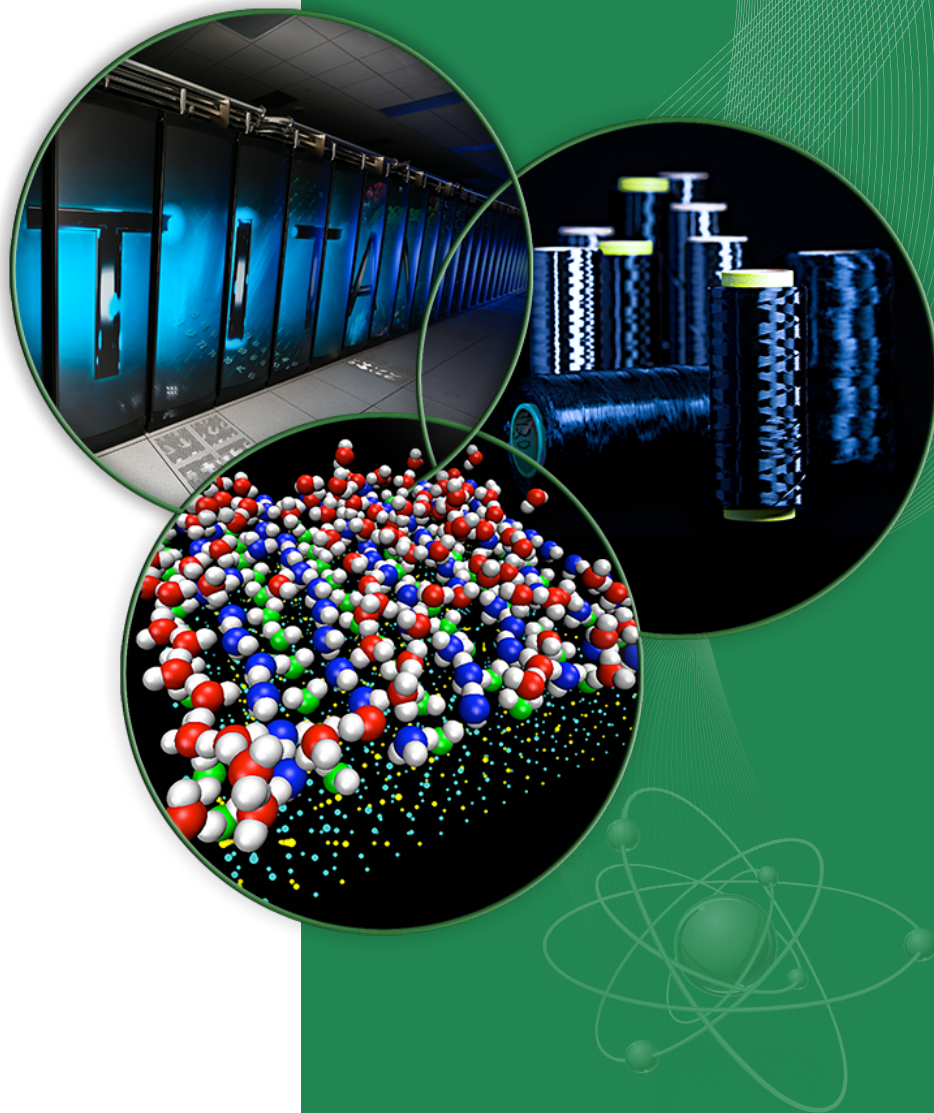


# Globus File Transfers without Personal Grid Certificates

New OLCF OAuth delegation  
allows gridftp transfers without  
OSG personal x509  
certificates



# File transfer with traditional GridFTP

## Globus GridFTP is useful...

- Fast, parallel transfers
- Robust data integrity
- Simple UI vs some alternatives (eg. BBGP)

## ...but grid certificates are inconvenient

- Long issuance process
- Confusing to new users
- Tedious per-use initialization
- Repeated per re-auth
- Annual certificate renewals

There's got to be a better way!

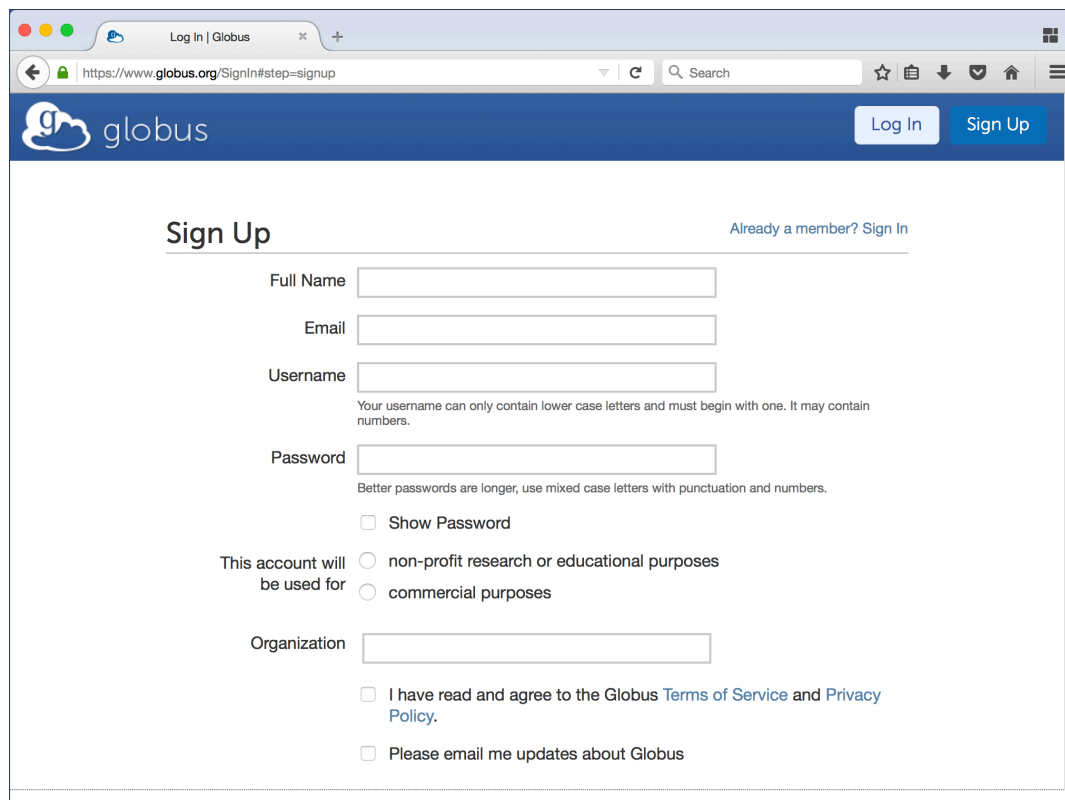
# Our Globus service no longer requires personal grid certificates

- Your existing OLCF credentials used over OAuth to generate temporary certificates for Globus GridFTP
- New users can get started immediately
- Easy to re-authenticate
- Convenient Web and command-line UIs
- All you need is a web browser to get started

# Create a Personal Globus Account

Sign-up or login at [www.globus.org](https://www.globus.org)

- Free registration takes only a few minutes
- This is your own account: enter any values you wish



The screenshot shows a web browser window with the URL <https://www.globus.org/SignIn#step=signup>. The page features the Globus logo and navigation buttons for 'Log In' and 'Sign Up'. The main heading is 'Sign Up', with a link 'Already a member? Sign In' to the right. The form includes input fields for 'Full Name', 'Email', 'Username', and 'Password'. Below the 'Username' field, a note states: 'Your username can only contain lower case letters and must begin with one. It may contain numbers.' Below the 'Password' field, a note states: 'Better passwords are longer, use mixed case letters with punctuation and numbers.' There is a checkbox for 'Show Password'. Below these fields, a section titled 'This account will be used for' contains two radio button options: 'non-profit research or educational purposes' and 'commercial purposes'. An 'Organization' input field follows. At the bottom, there are two checkboxes: 'I have read and agree to the Globus Terms of Service and Privacy Policy.' and 'Please email me updates about Globus'.

# Setup a Transfer

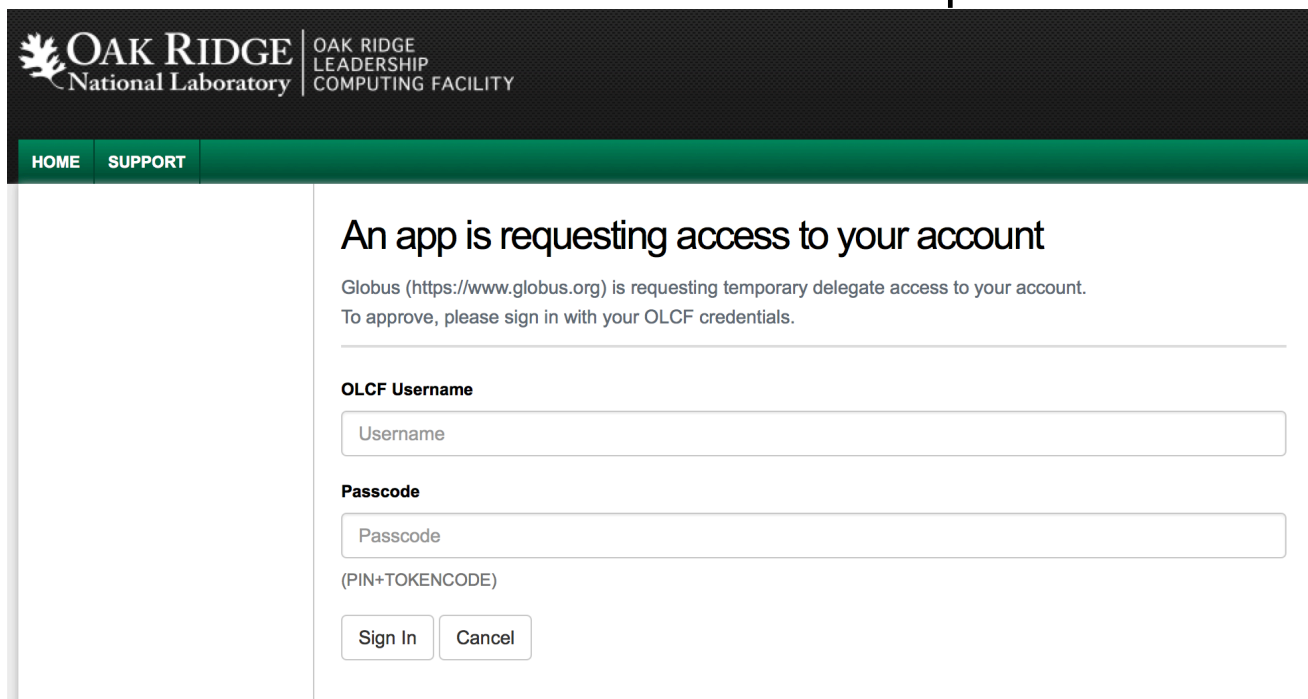
- Follow toolbar links: Manage Data → Transfer Files
- Choose “OLCF Atlas”<sup>[1]</sup> as one endpoint
- Click “continue” to activate endpoint

The screenshot shows the Globus web interface. At the top is a blue navigation bar with the Globus logo, a 'Manage Data' button, and links for 'Publish', 'Groups', 'Support', and a user profile 'belhorn'. Below this is a secondary bar with links for 'Transfer Files', 'Activity', 'Endpoints', 'Bookmarks', and 'Console'. The main section is titled 'Transfer Files' and includes a 'RECENT ACTIVITY' section with three icons and the number '0'. Below this are two panels. The left panel has an 'Endpoint' dropdown menu with 'OLCF Atlas' selected, a star icon, and a 'Go' button. A blue arrow points to the 'OLCF Atlas' text. Below the dropdown is a message: 'Please authenticate to access this endpoint' followed by a smaller line of text: 'When you click continue you will be redirected to the endpoint's login page (you will be returned here once you have authenticated)'. A red arrow points to a blue 'Continue' button. The right panel has an empty 'Endpoint' dropdown, a star icon, a 'Path' input field, and a 'Go' button. Below the input fields is the text 'Start by selecting an endpoint.'

[1]: Legacy name “`olcf#dtn_atlas`” also acceptable

# Activate the OLCF Endpoint

- Browser should redirect to **https://myproxy1.cc.ornl.gov/oauth/...**
- Browser needs to accept our SSL/TLS DigiCert Grid certificate (sha1 fingerprint 00:25:16:62:4C:CB:FE:20:F2:FD:EF:D8:C8:4C:36:6A:93:89:3C:87)
- Use your OLCF credentials to activate the endpoint



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HOME SUPPORT

### An app is requesting access to your account

Globus (<https://www.globus.org>) is requesting temporary delegate access to your account.  
To approve, please sign in with your OLCF credentials.

**OLCF Username**

**Passcode**

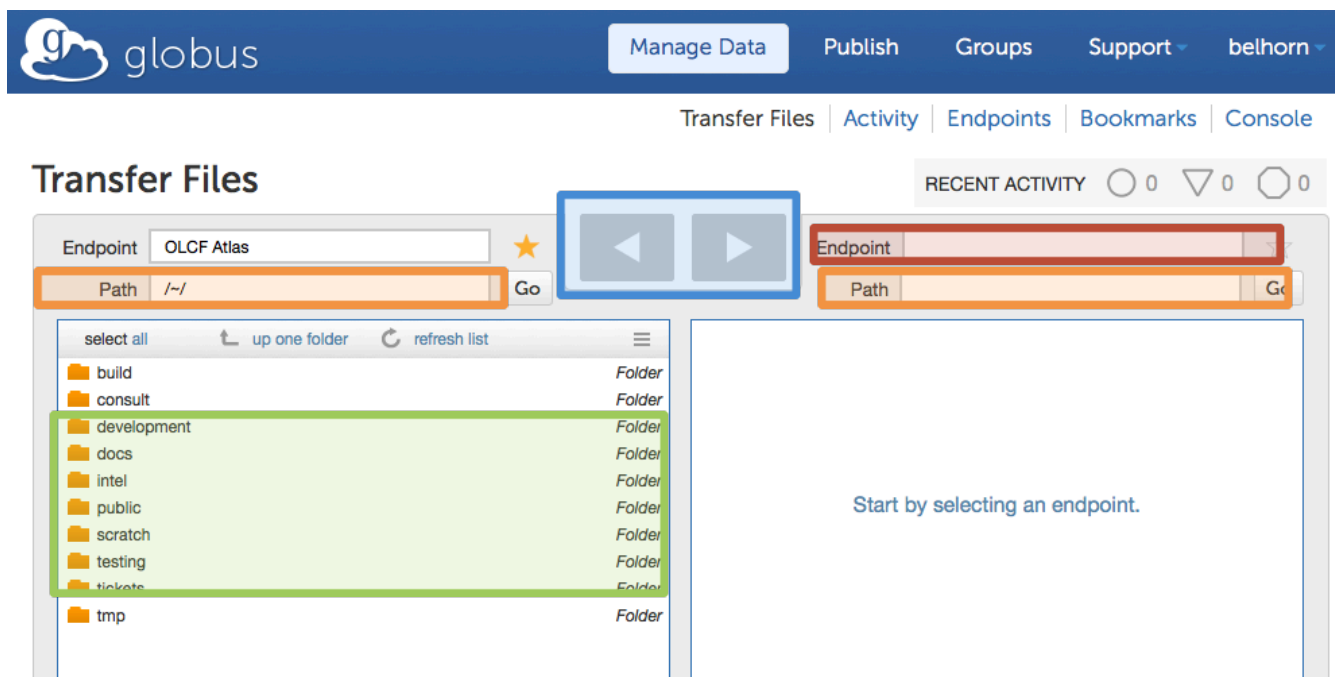
(PIN+TOKENCODE)

Sign In Cancel

The OLCF endpoint will remain activated for 72 hours.  
Activation can be renewed at any time at [www.globus.org](https://www.globus.org).

# Setup Remaining Transfer Details

- **Select** and activate second endpoint
  - Many sites already available but possible to setup your own with Globus Connect Personal
- **Select files**, **paths** and click **arrows** to start transfer





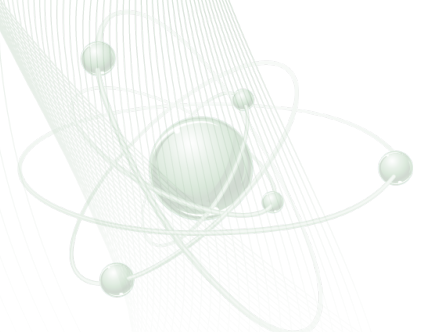
# Summary

- Create an account at [www.globus.org](http://www.globus.org) (fast, free)
- Use endpoint “**OLCF Atlas**” or “**olcf#dtn\_atlas**”
- Activate over OAuth using OLCF credentials
- Manage your transfers with the Web UI


Further documentation can be found at  
[https://www.olcf.ornl.gov/kb\\_articles/gridftp-with-globus-online/](https://www.olcf.ornl.gov/kb_articles/gridftp-with-globus-online/)  
and  
<https://support.globus.org/home>



# Backup Material



# Monitoring Transfers

 globus

Manage Data

Publish

Groups

Support ▾

belhorn ▾

Transfer Files | Activity | Endpoints | Bookmarks | Console

 **Globus Tutorial Endpoint 2 to OLCF Atlas**  
transfer completed a few seconds ago

 Overview

☰ Event Log

Task ID 920278d6-a409-11e5-99bb-22000b96db58

Source Globus Tutorial Endpoint 2 

Destination OLCF Atlas 

Condition SUCCEEDED

User belhorn

Requested 2015-12-16 10:27 am

Completed 2015-12-16 10:27 am

Transfer Settings

- verify file integrity after transfer
- transfer is not encrypted
- overwriting all files on destination

Files 1

Directories 0

Bytes Transferred 4 B

Effective Speed 2 B/s

Pending 0

Succeeded 1

Cancelled 0

Expired 0

Failed 0

Retrying 0

Skipped 0

[view debug data](#)

# Transfer Specifications

## Details

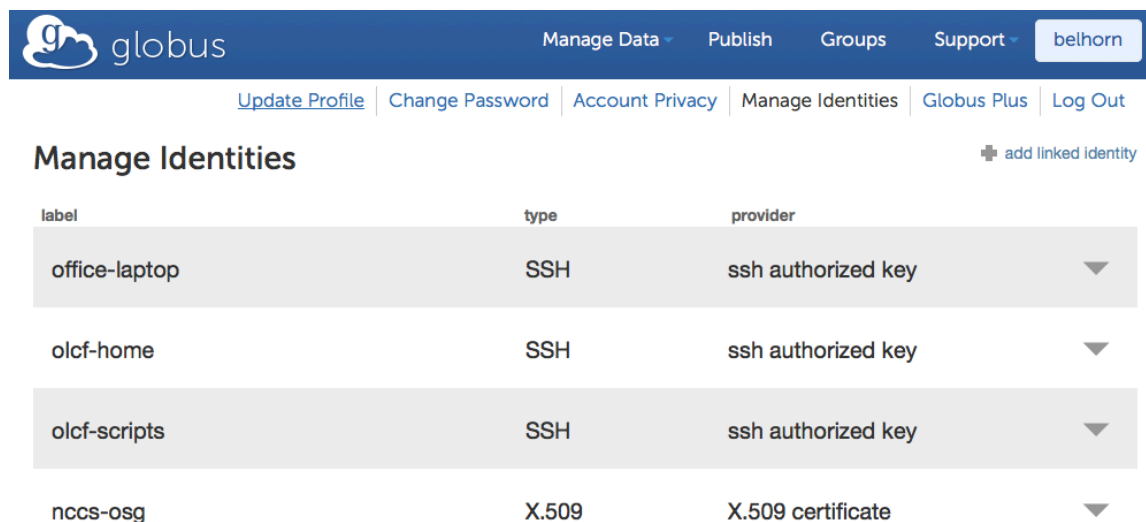
- 8 max login concurrency
- 16 max parallel streams (default: 4)
- Endpoint expiration pauses active transfers
- Paused transfers resume where left-off

## Limitations

- No GridFTP striping
- No direct access to HPSS
- Not compatible with `globus_url_copy` workflows (see CLI in backup slides)
- Remote endpoints may still require OSG certificates

# Command Line Interface

- Globus terminal interface at [cli.globusonline.org](http://cli.globusonline.org)
- Two modes of use via ssh:
  - Interactive shell: ``ssh $GLOBUS_USER@cli.globusonline.org``
  - Remote commands ``ssh $GLOBUS_USER@cli.globusonline.org COMMAND``
- Requires SSH publickey linked to globus account



The screenshot shows the 'Manage Identities' page in the Globus web interface. The page has a dark blue header with the Globus logo and navigation links: 'Manage Data', 'Publish', 'Groups', 'Support', and a user profile 'belhorn'. Below the header, there are links for 'Update Profile', 'Change Password', 'Account Privacy', 'Manage Identities', 'Globus Plus', and 'Log Out'. The main content area is titled 'Manage Identities' and includes a '+ add linked identity' button. A table lists the user's linked identities with columns for 'label', 'type', and 'provider'. The table contains four entries: 'office-laptop' (SSH, ssh authorized key), 'olcf-home' (SSH, ssh authorized key), 'olcf-scripts' (SSH, ssh authorized key), and 'nccs-osg' (X.509, X.509 certificate). Each entry has a dropdown arrow on the right.

label	type	provider
office-laptop	SSH	ssh authorized key
olcf-home	SSH	ssh authorized key
olcf-scripts	SSH	ssh authorized key
nccs-osg	X.509	X.509 certificate

# SSH Public Key for CLI

- Generate SSH key for Globus
  - `$ ssh-keygen -t rsa -b 4096 -C "${USER}@${HOST} for globus cli"`
  - Passphrase-less keys permit non-interactive scripted globus cli commands
  - Compromised passphrase-less keys **allow read-write access to your activated endpoints!**
  - Prefer passphrase protected keys + ssh-agent
- Add public key to Globus linked identities
- Optional: Set convenience aliases:

```
$cat ~/.ssh/config
Host gocli
  User belhorn
  Hostname cli.globusonline.org
  IdentityFile ~/.ssh/id_rsa.globus
```

```
$ cat ~/.bashrc
Alias gocli='ssh gocli'
```

# CLI – Basic Commands

```
$ alias gocli="ssh -I ~/.ssh/id_rsa.globus USER@cli.globusonline.org"
$ gocli help
$ gocli endpoint-search --scope=recently-used
$ gocli ls "go#ep1/share/godata"
$ gocli endpoint-activate "olcf#dtn_atlas"
$ gocli transfer -- "go#ep1/share/godata/file1.txt" "olcf#dtn_atlas/~ /copy.txt"
```

NB:

- Use “double quotes” to protect special characters
- Still need a browser for OAuth to activate endpoint
- Don’t forget “--” in transfer command

# Globus Connect Personal Endpoint

- Available for Linux, OSX, and Windows
- Turn any machine into an endpoint if institution does not host their own.
- Network must allow **outbound** traffic on ports 2223 and 50000-51000

Download at

<https://www.globus.org/globus-connect-personal>

Additional support available at

<https://support.globus.org/forums/22130516-Globus-Connect-Personal>