



globus online

Software-as-a-Service for Research Data Management

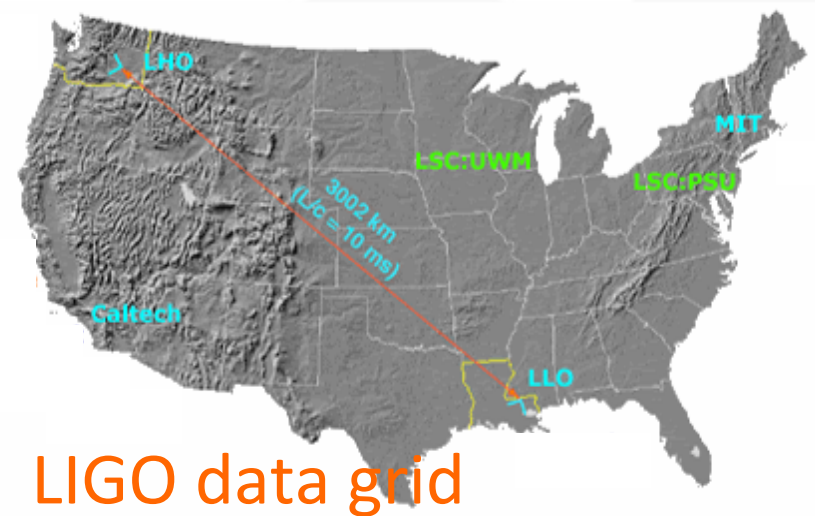
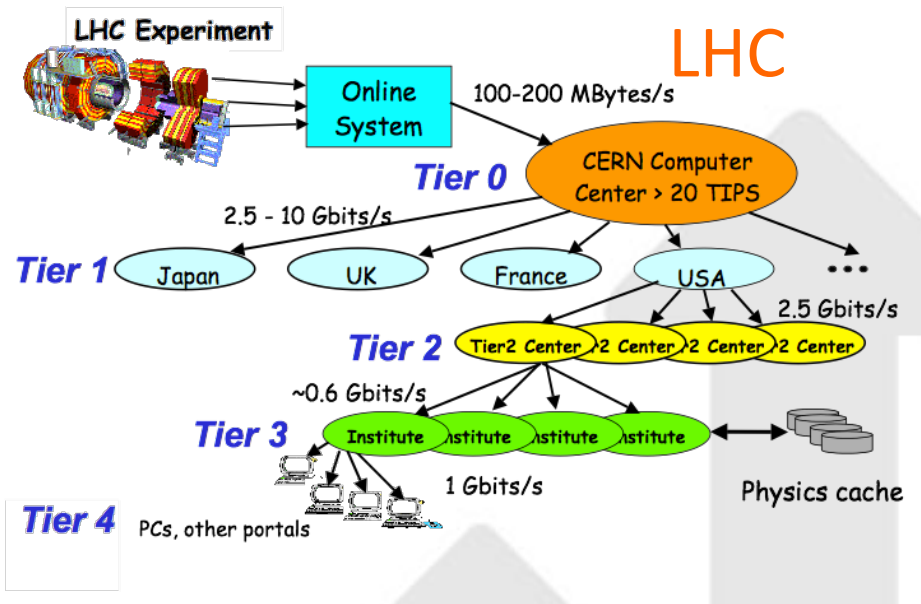
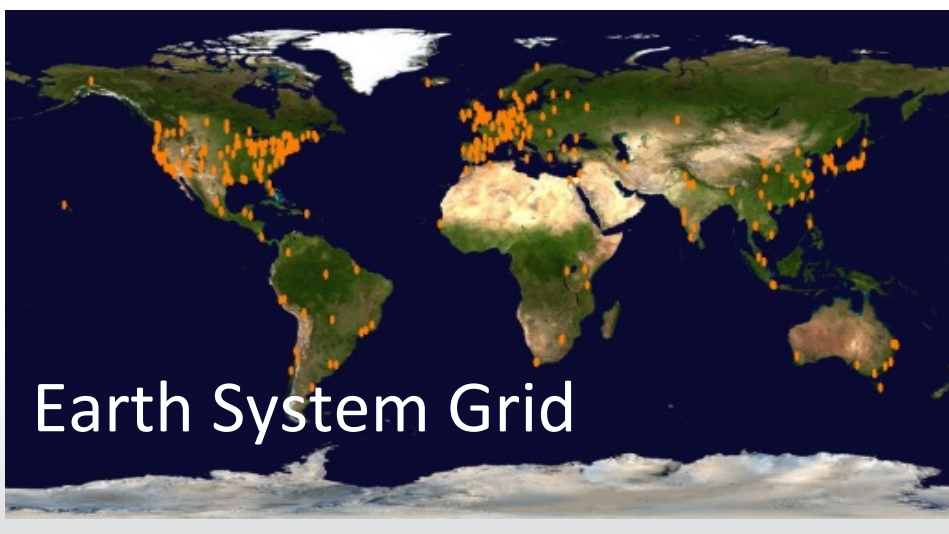
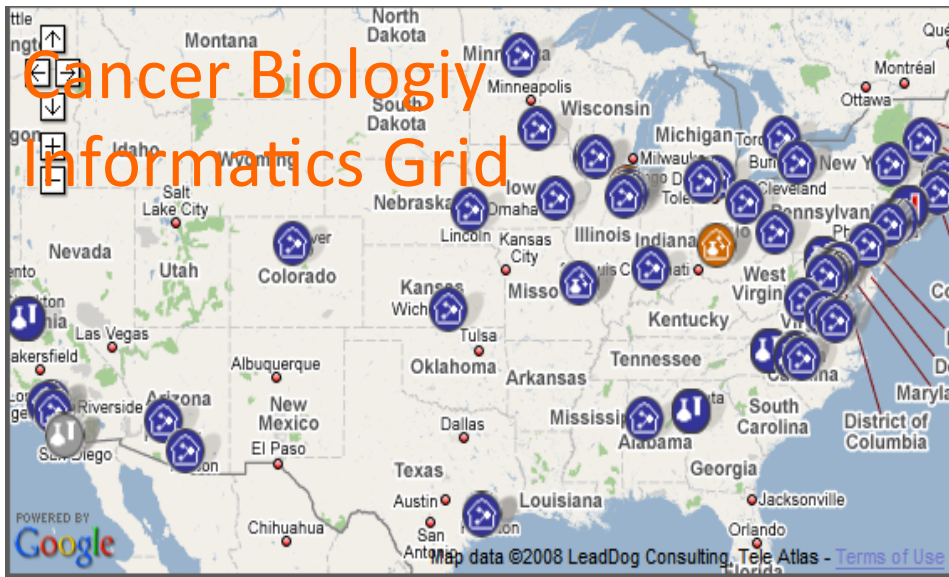
Steve Tuecke

Deputy Director, Computation Institute

University of Chicago & Argonne National Laboratory



Big Science built on Globus Toolkit





Thinking about “small and medium labs”

- Big projects like LHC, LIGO, ESG, etc., can run **resource-level** services reliably—and build and operate effective **collective** services
- Small labs and collaborations have problems with both
- They need **solutions**, not toolkits—ideally **outsourced solutions**



Can we harness the power of the cloud to scale access to the grid?



Time-consuming tasks in science

- Run experiments
- Collect data
- Manage data
- Move data
- Acquire computers
- Analyze data
- Run simulations
- Compare experiment with simulation
- Search the literature
- Communicate with colleagues
- Publish papers
- Find, configure, install relevant software
- Find, access, analyze relevant data
- Order supplies
- Write proposals
- Write reports
- ...



Researchers lack advanced IT infrastructure

- **Most research performed in small laboratories**
- **Researchers are trained in their field, not in IT**
 - They are not experts in collecting, moving, storing, indexing, analyzing, mining, sharing, updating, publishing, and archiving massive amounts of data
- **Only limited capital is available for them to spend on data and IT support**
- **Investment is spent on traditional research tools (e.g., microscopes)—but the world is changing**
 - Now need substantial and sophisticated IT to perform research, data manipulation, data mining, collaboration



Globus Toolkit

Build the Grid



Components for building
custom grid solutions

globustoolkit.org

Globus Online

Use the Grid



Reliable file transfer
Software-as-a-Service

globusonline.org

www.globusonline.org



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Starting with data movement

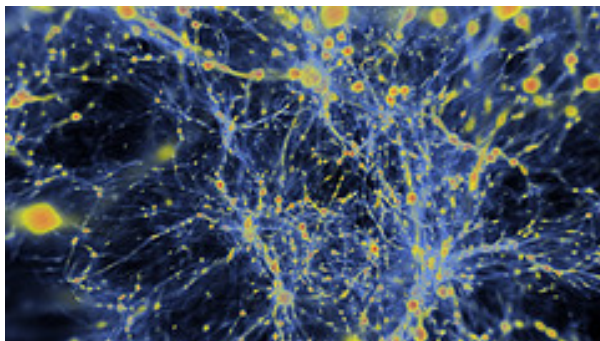


Discover endpoints, determine available protocols, negotiate firewalls, configure software, manage space, determine required credentials, configure protocols, detect and respond to failures, determine expected performance, determine actual performance, identify diagnose and correct network misconfigurations, integrate with file systems, ...

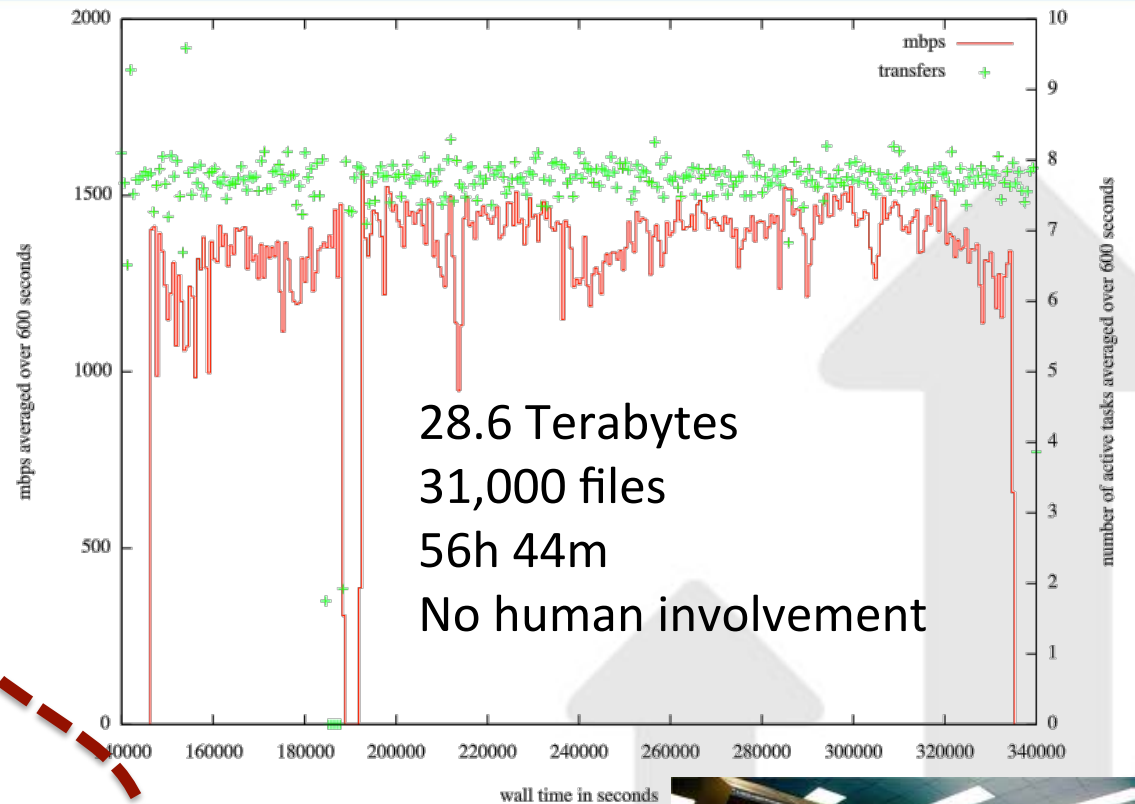




Globus Online In Action



Astrophysics simulation data generated in Tennessee, moved to Illinois for visualization (Enzo, UCSD; Futures Lab, Argonne)





Globus Online highlights



Command line interface

```
ls alcf#dtn:~  
scp alcf#dtn:~/myfile \  
neresc#dtn:~/myfile
```

HTTP REST interface

```
POST https://transfer.api.  
globusonline.org/v0.10/  
transfer <transfer-doc>
```

Fire-and-forget data movement
Many files and lots of data
Third-party transfers
Performance optimization
Across multiple security domains
Expert operations and support



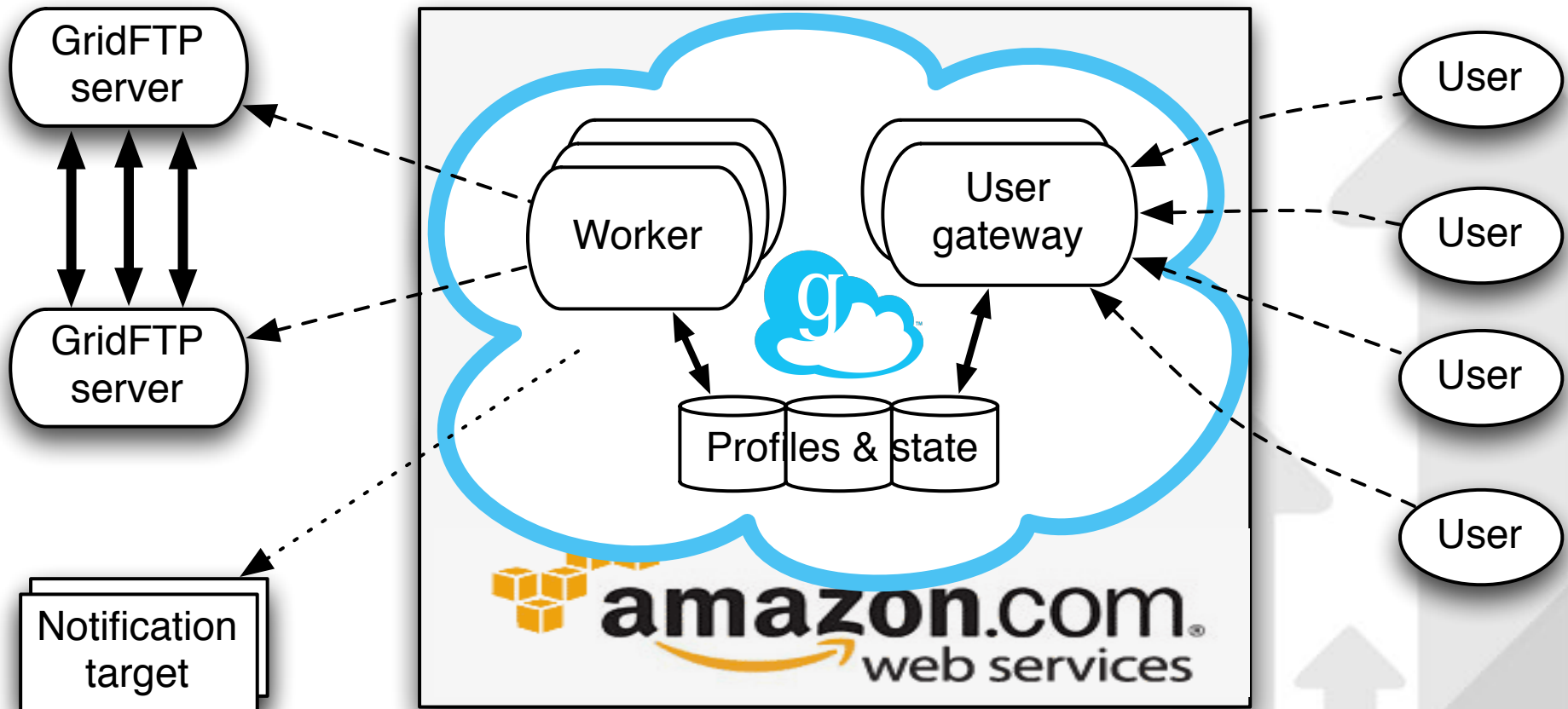
GridFTP servers
FTP servers

High-performance
data transfer nodes

Globus Connect
on local computers



Globus Online architecture





Globus Connect to/from your laptop

Globus Connect Installation

Globus Connect allows you to use Globus Online to transfer files to and from your computer. [Need Help? Click Here](#)

Step One: Choose Your Download

Globus Connect For Mac OS X Coming Soon For Linux Coming Soon For Windows

Step Two: Get Your Globus Connect Setup Key

Endpoint Name:

Description:

Setup Key: **432e8ba5-45cf-442b-a374-5a8d1cfa75cb**

Step Three: Finish Globus Connect Setup

Copy the setup key displayed above. Run Globus Connect and paste the key into the Initial Setup window when prompted. This setup key can only be used once.

Ready to use your endpoint? [Click here to start a transfer.](#)

globus online
Reliable File Transfer. No IT Required.

Globus Connect.app → Applications

Setup

Initial Setup

Please type or paste your Globus Connect setup key into the field below and click 'OK' when finished.

Setup Key:

▶ Advanced

Ok



What's next?

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Looking to the future

Our goal: To leverage software-as-a-service (SaaS) to accelerate the pace of discovery and innovation worldwide, by providing millions of researchers with unprecedented access to powerful research tools

“Civilization advances by extending the number of important operations which we can perform without thinking of them”

Alfred North Whitehead , 1911



www.globusonline.org

Reliable, high-performance, secure file transfer

Move files fast. No IT required.

+ HOW IT WORKS

Learn more about the service



> GET STARTED

Setup profile in 3 easy steps

Globus Online makes robust file transfer capabilities, traditionally available only on expensive, special-purpose software systems, accessible to everyone.

[Learn more](#)



Why Use Globus Online?

See how easy file transfer can



For HPC Resource Owners

Enable Globus Online



For Developers

Integrate with Globus Online