

Simplify Big Data Transfer and Sharing

www.globusonline.org

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globus online



We asked ourselves:

What if the research work flow
could be managed as easily as...

flickr

...our pictures

...our e-mail

Gmail
by Google

NETFLIX

...home entertainment



What makes these services great?

Great User Experience

+

**High performance
(but invisible) infrastructure**



We aspire (initially) to create a
great user experience for
research data management

What would a “dropbox for
science” look like?

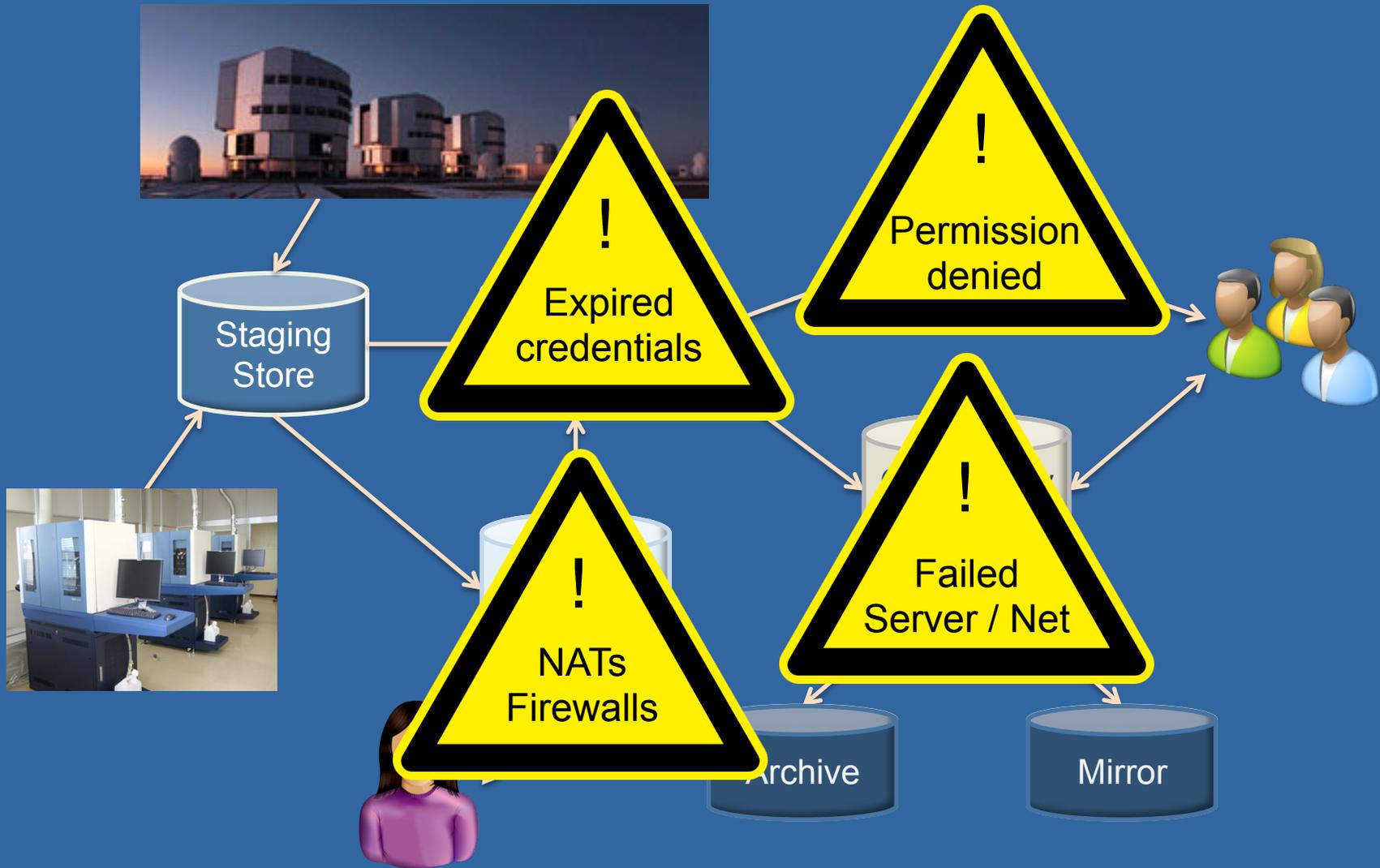


Transferring and sharing data should be easy ...





... but it's hard and frustrating!





Bandwidth Requirements

Bandwidth Requirements to move Y Bytes of data in Time X

Bits per Second Requirements

10PB	25,020.0 Gbps	3,127.5 Gbps	1,042.5 Gbps	148.9 Gbps	34.7 Gbps
1PB	2,502.0 Gbps	312.7 Gbps	104.2 Gbps	14.9 Gbps	3.5 Gbps
100TB	244.3 Gbps	30.5 Gbps	10.2 Gbps	1.5 Gbps	339.4 Mbps
10TB	24.4 Gbps	3.1 Gbps	1.0 Gbps	145.4 Mbps	33.9 Mbps
1TB	2.4 Gbps	305.4 Mbps	101.8 Mbps	14.5 Mbps	3.4 Mbps
100GB	238.6 Mbps	29.8 Mbps	9.9 Mbps	1.4 Mbps	331.4 Kbps
10GB	23.9 Mbps	3.0 Mbps	994.2 Kbps	142.0 Kbps	33.1 Kbps
1GB	2.4 Mbps	298.3 Kbps	99.4 Kbps	14.2 Kbps	3.3 Kbps
100MB	233.0 Kbps	29.1 Kbps	9.7 Kbps	1.4 Kbps	0.3 Kbps
	1H	8H	24H	7Days	30Days

Use a Science DMZ to optimize

<http://fasterdata.es.net/science-dmz/>

<http://fasterdata.es.net>



ESnet



What is Globus Online?

Big data transfer
and sharing...

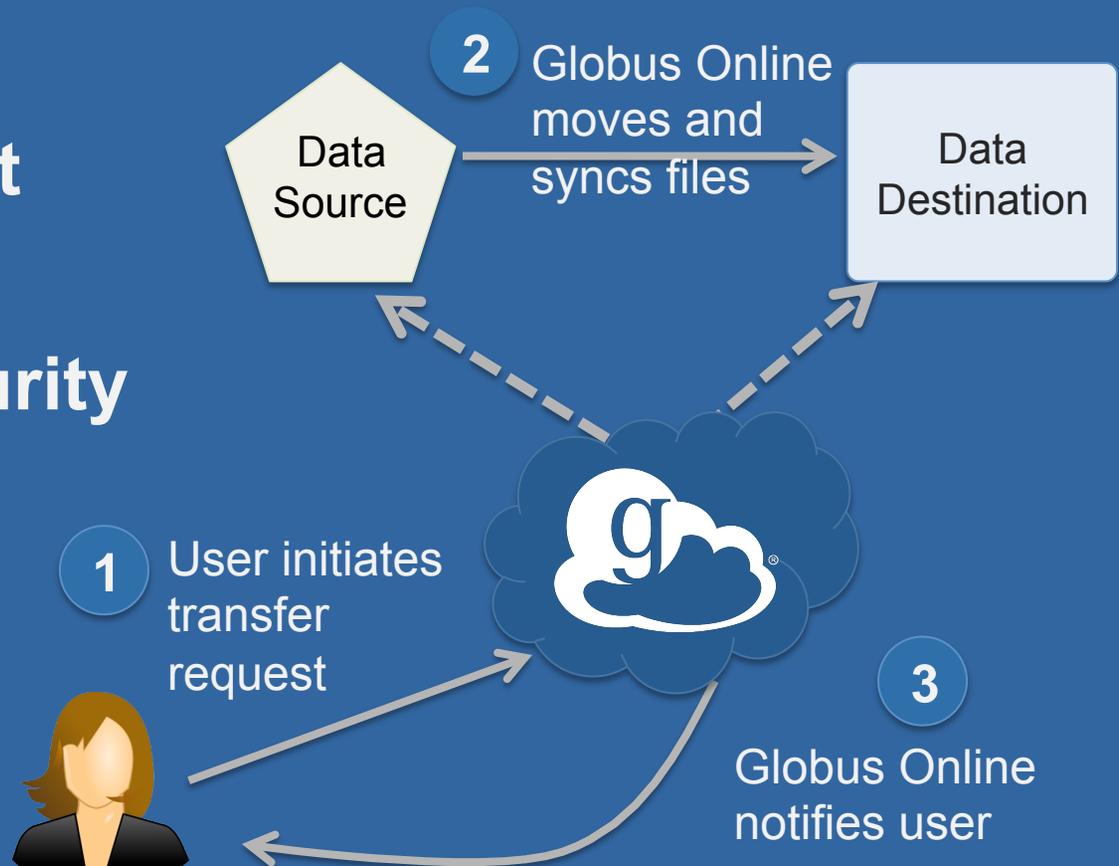
...with Dropbox-like
simplicity...

...directly from your own
storage systems



Reliable, secure, high-performance *file transfer* and *synchronization*

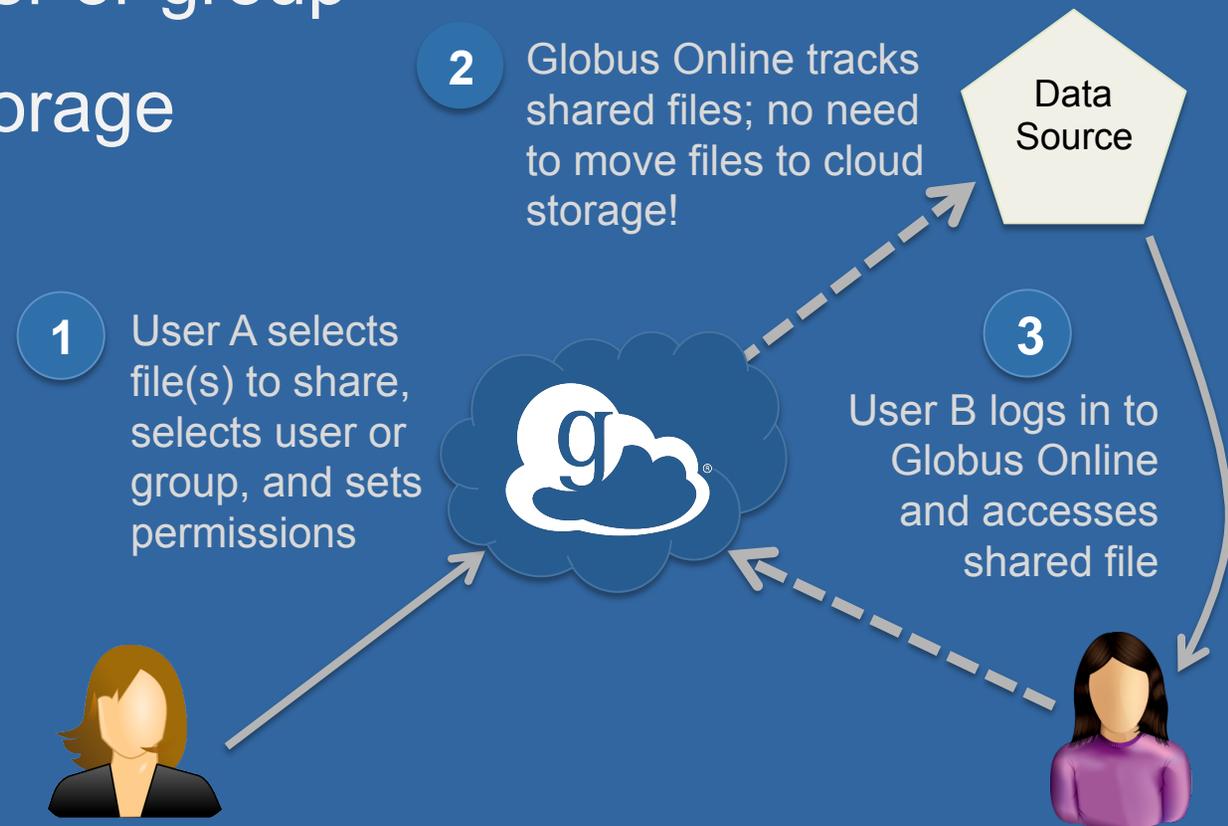
- “Fire-and-forget” transfers
- Automatic fault recovery
- Seamless security integration





Simple, secure *sharing* off existing storage systems

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





Globus Online is SaaS

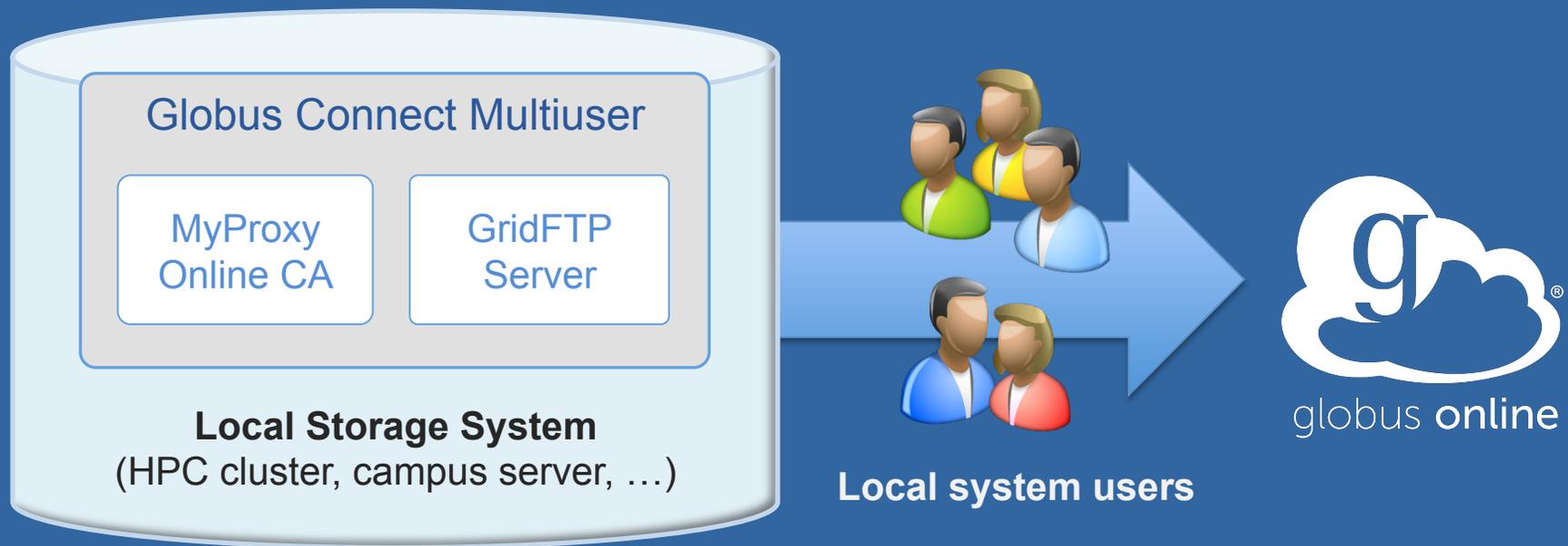
- **Web, command line, and REST interfaces**
- **Reduced IT operational costs**
- **New features automatically available**
- **Consolidated support & troubleshooting**
- **Easy to add your laptop, server, cluster, supercomputer, etc. with Globus Connect**



Demonstration



Globus Connect Multiuser



- **Create endpoint in minutes; no complex GridFTP install**
- **Enable all users with local accounts to transfer files**
- **Native packages: RPMs and DEBs**
- **Also available as part of the Globus Toolkit**



Globus Platform-as-a-Service



Globus Online APIs



 Dataset Services

 Sharing Service

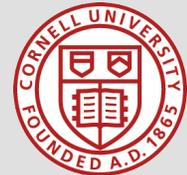
 Transfer Service

 Globus Nexus
(Identity, Group, Profile)



Globus Toolkit

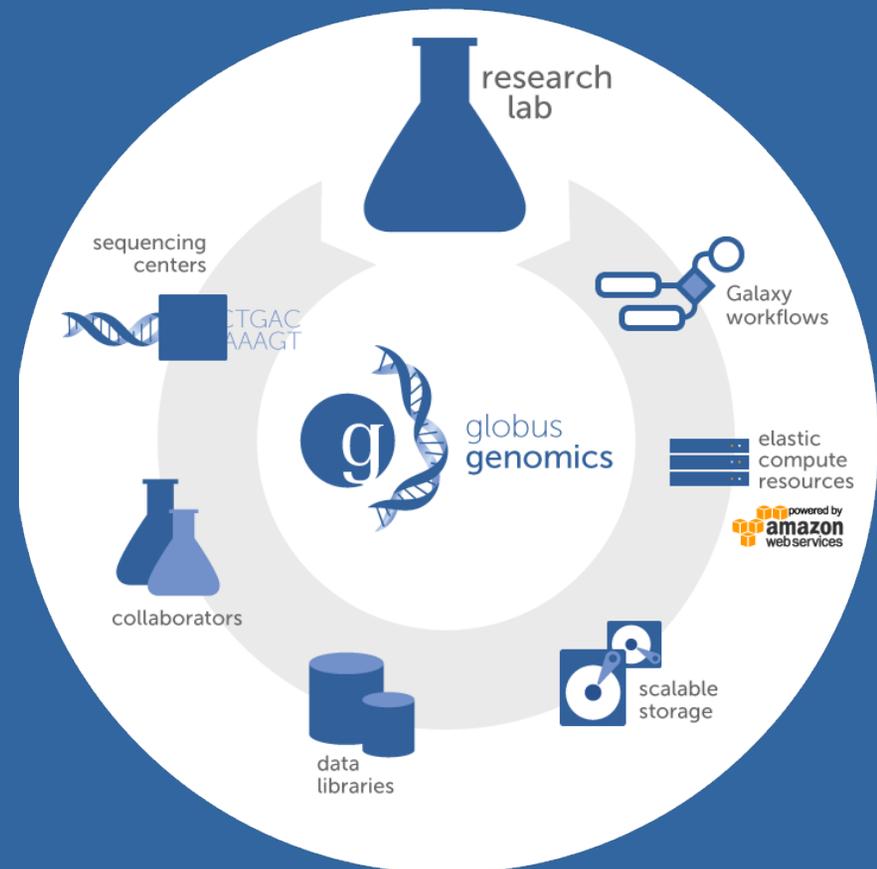
Globus Connect





Globus Genomics

- Workflows can be easily defined and automated with integrated Galaxy Platform capabilities
- Data movement is streamlined with integrated Globus Online file-transfer functionality
- Resources can be provisioned on-demand with Amazon Web Services cloud based infrastructure
- Authenticate using your Globus Online account





We are a non-profit service
provider to the non-profit
research community



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Our challenge:
Sustainability



Globus Online End User Plans

- **Basic: Free**
 - File transfer and synchronization to/from servers
 - Create private and public endpoints
 - Access to shared endpoints created by others
- **Plus: \$7/month (or \$70/year)**
 - Create and manage shared endpoints
 - Peer-to-peer transfer and sharing



Globus Online Provider Plans

Bundle of Plus subscriptions
+ Features for providers

<http://globusonline.org/provider-plans>
(Working on NET+ offering)



Our research is supported by:



U.S. DEPARTMENT OF
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globusonline.org/globus_connect**
- **Learn: support.globusonline.org/forums**
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