

Globus Online meets Earth System Grid

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Globus Toolkit

Build the Grid



Components for building
custom grid solutions

globustoolkit.org

Globus Online

Use the Grid



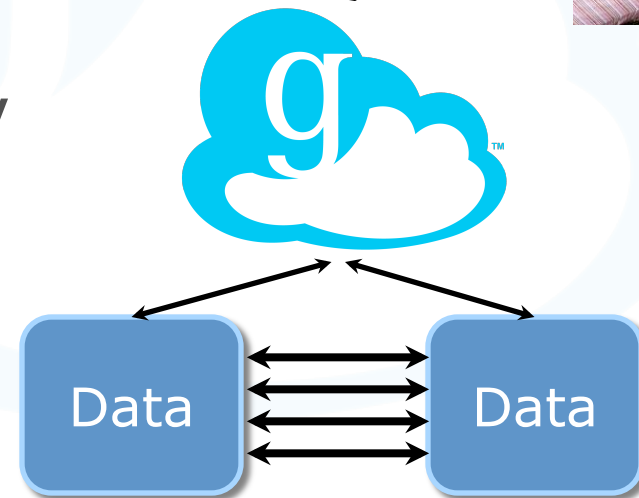
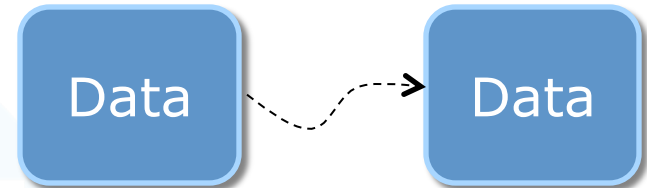
Cloud-hosted
file transfer service

globusonline.org

Benefits of Globus Online



- Easy “fire and forget” file transfers
- Automatic fault recovery
- High performance
- Simplify use of multiple security domains
- No client software installation
- New features automatically available
- Consolidated support and troubleshooting



Globus Online and ESG

- Outsource data transfer management
- Leverage ESG infrastructure:
 - Reuse ESG login mechanisms
 - Deployed Gateway and Data Nodes
- Support transfer options:
 - Replication
 - End user download
 - Server to server transfer

Demonstration

Login to globusonline.org

Sign-in with Google OpenID

Sign-in with MyProxy



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[Learn more about Globus Online](#)

Initiate Transfers











Transfers In Progress: 1

[View All Transfers](#)

Endpoint ranantha#ncar Go

Directory //datazone/narccap/DATA/MM5I/ncep/table2/ Go

[Up Directory](#) [Refresh Directory](#) [Select All](#)

 uas_MM5I_ncep_1979010103.nc	271.88MB
 huss_MM5I_ncep_2001010103.nc	531.68MB
 pr_MM5I_ncep_2001010103.nc	531.86MB
 pr_MM5I_ncep_1991010103.nc	679.09MB
 pr_MM5I_ncep_1981010103.nc	679.09MB
 pr_MM5I_ncep_1979010103.nc	271.97MB
 huss_MM5I_ncep_1979010103.nc	271.88MB
 huss_MM5I_ncep_1996010103.nc	679.24MB
 huss_MM5I_ncep_1991010103.nc	678.87MB
 huss_MM5I_ncep_1986010103.nc	678.87MB

[Clear Selections](#)

Mode:










Transfer



Endpoint ranantha#ci-vm Go

Directory /tmp/ Go

[Up Directory](#) [Refresh Directory](#) [Select All](#)

 pr_MM5I_ncep_2001010103.nc	0b
 FOOa	673b
 .ICE-unix	Folder
 uas_MM5I_ncep_1991010103.nc	0b
 .font-unix	Folder
 NCAR	Folder
 AUTHLOG	2.79MB
 GFTPLOG	32.72MB
 vas_MM5I_ncep_1991010103.nc	0b

[Clear Selections](#)

Monitor Transfers

Cancel

Remove Data Filter

◀◀ 1 of 9 ▶▶

10

	Status	ID	Task Progress	Username	Completion Time	Request Time
<input type="checkbox"/>	✓	3fe10...	1 / 1	ranantha	12/02/2010 04:33 PM	12/02/2010 04:31 PM
<input type="checkbox"/>	✓	48492...	1 / 1	ranantha	12/01/2010 09:41 PM	12/01/2010 09:39 PM
<input type="checkbox"/>	!	9d9e3...	0 / 1 / 1	ranantha	12/01/2010 10:01 PM	12/01/2010 08:22 PM
<input type="checkbox"/>	✓	099a9...	5 / 5	ranantha	12/01/2010 08:22 PM	12/01/2010 08:17 PM
<input type="checkbox"/>	!	261f1...	0 / 1 / 1	ranantha	12/01/2010 08:20 PM	12/01/2010 08:04 PM

Cancel

✕

Task ID: 3fe105d2-fe31-11df-9c7e-123139075e62

Status	SUCCEEDED	Request Time	12/02/2010 04:31 PM
Origin	ranantha#ncar	Deadline	12/03/2010 04:31 PM
Destination	ranantha#ci-vm	Completion Time	12/02/2010 04:33 PM
User	ranantha		
Directories	0		

Task Statistics

Pending	0	Succeeded	1	Cancelled	0	Expired	0	Failed	0
Retrying	0								

Latest Activity

Status	Origin	Destination
SUCCEEDED	//datazone/narccap/DATA/MM5I/ncap/table2/pr_MM5I_ncep_2001010103.nc	/tmp/pr_MM5I_ncep_2001010103.nc

10

Periscope Grid Monitoring Demo

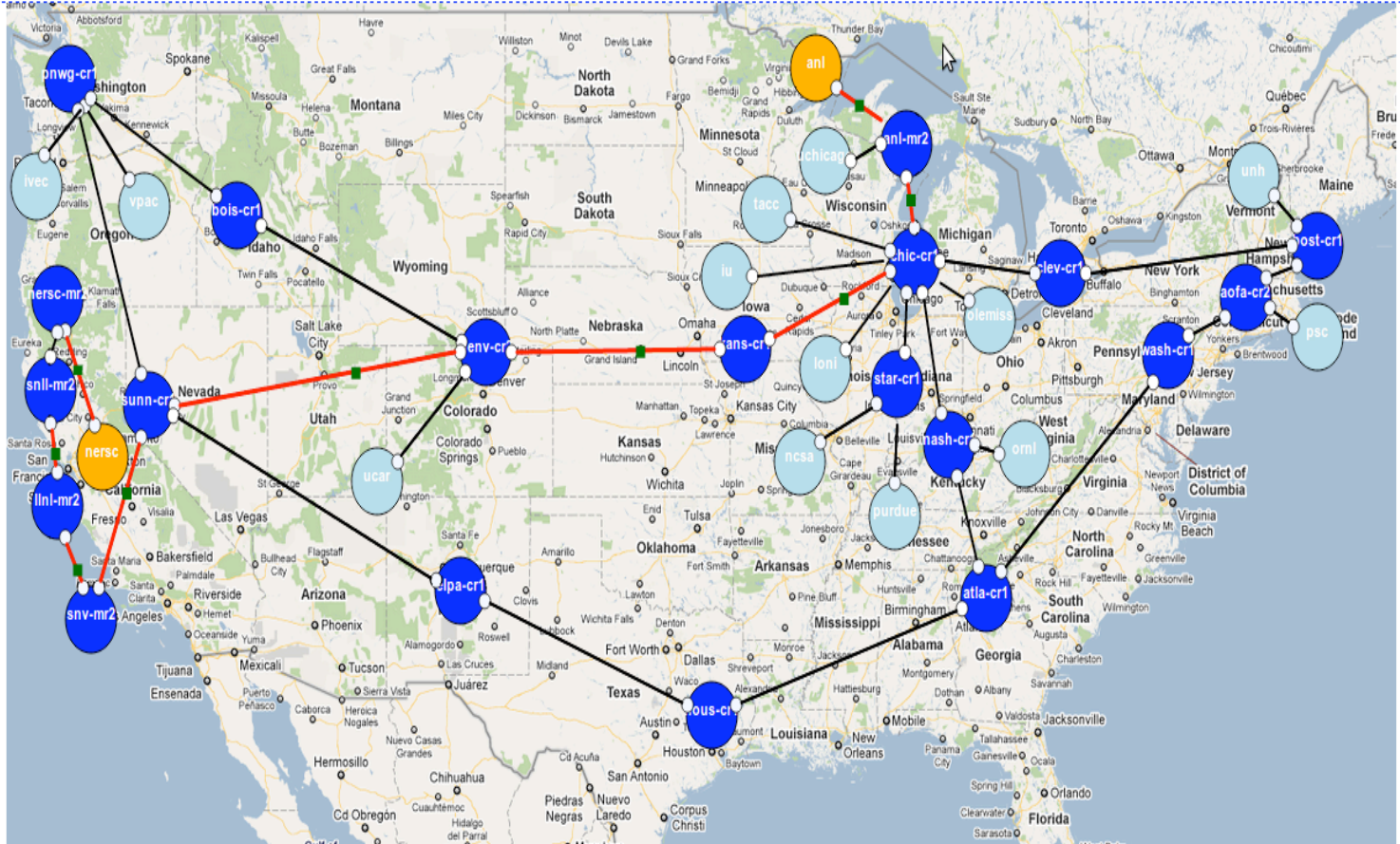


Transfer Rate (Mb/s)



Active Users

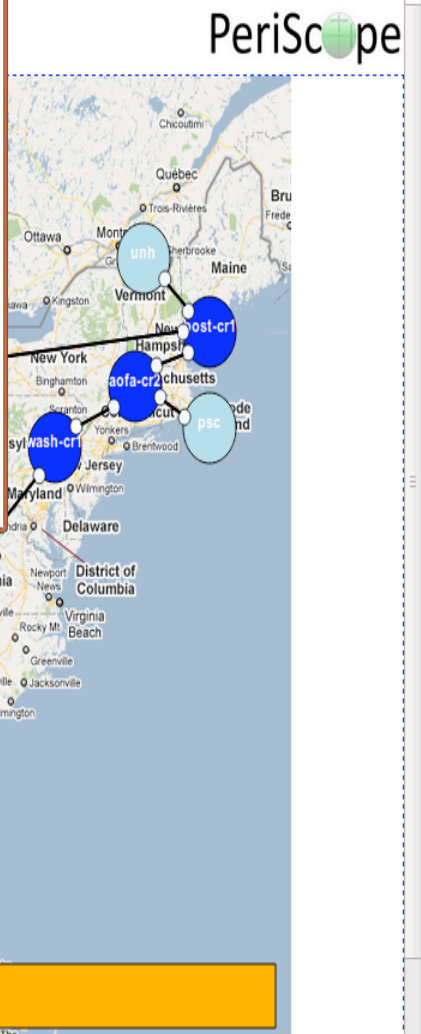
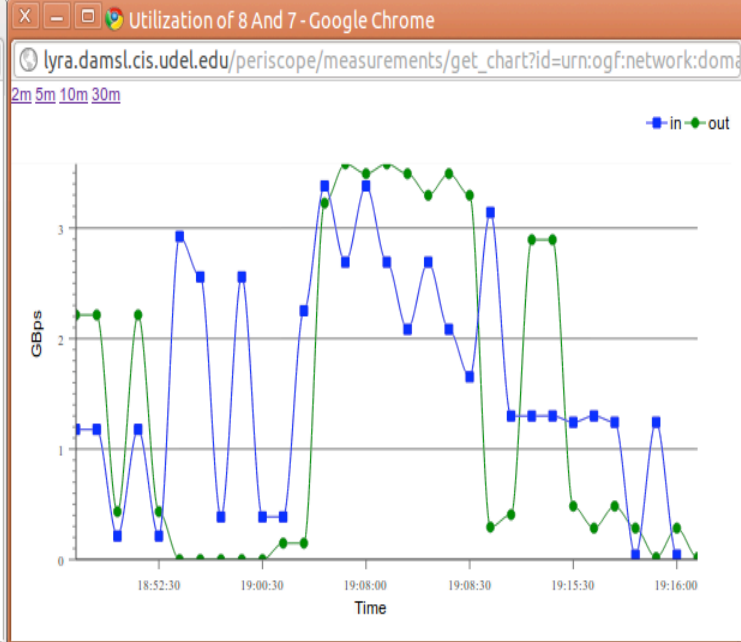
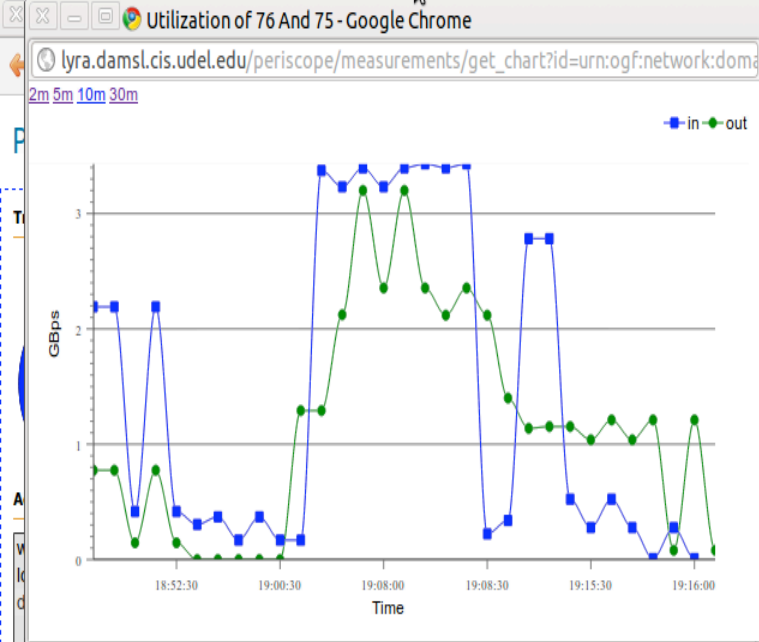
- wilde
- lcc
- dang



Visualizing Path: dtn01.nersc.gov:2811 <--> gs2.intrepid.alcf.anl.gov:2811

Remove selected transfers Save topology locations

Transfer ID	Status	Source	Destination	Source Port	Dest. Port	Misc
dtn01.nersc.gov:2811 transfer-1	active	dtn01.nersc.gov	gs2.intrepid.alcf.anl.gov	2811	2811	id=test-transfer-1



Remove selected transfers Save topology locations

Transfer ID	Status	Source	Destination	Source Port	Dest. Port	Misc
dtn01.nersc.gov:2811 transfer-1	active	dtn01.nersc.gov	gs2.intrepid.alcf.anl.gov	2811	2811	id=test-transfer-1

CLI Profile

- Basic information
- Login Accounts
- Command-line (CLI)

The Globus Command-Line Interface (CLI) supports authentication via SSH keys and x509 proxy certificates. Use this section of Edit Profile to manage how to authenticate to CLI.

SSH Authorized Keys

[Remove](#)

```
ssh-rsa  
AAAAB3NzaC1yc2EAAAABIwAAAQEAsgt5SLXA7gu5cs+jGO9lGOyi87xNpC7Bdj6DAV  
ranantha@veena-mcs-anl-gov.local
```

[Add SSH Authorized Key](#) What is this?

X.509 Certificates

[Remove](#)

```
/C=US/O=Globus /C=US/O=Globus  
Alliance/OU=User/CN=Alliance User/148763dcd-3dcd-59ef-  
-----BEGIN CERTIFICATE-----  
MIICpDCCAg2gAwIBAgIJAMj0oel8No+sMA0G  
BAYTAIVTMQswCQYDVQQIEWJTTDEVMBMGA  
VQDEWVwWfHETAFw0xMDEwMTYyMjIxMTFa  
BgNVBAYTAIVTMQswCQYDVQQIEWJTTDEVME
```

“CLI 2.0”

```
ssh -t <user>@cli.globusonline.org <command> <options> <params>
```

|

Globus Online user name

|

Globus Online command

Use as needed to hide password text

Command

Endpoints

scp **go#ep1**:/share/godata/file1.txt \
go#ep2:~/myfile.txt

```
ssh lcc@cli.globusonline.org scp go#ep1:/share/godata/file1.txt  
go#ep2:~/myfile.txt
```

```
Contacting 'myproxy.tutorial.globusonline.org'...
```

```
Activating 'ep2'
```

```
Activating 'ep1'
```

```
Task ID: 19029d64-ecec-11df-aa30-1231350018b1
```

```
[XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX] 1/1 0.00
```

```
mbps
```

```
ssh lcc@cli.globusonline.org ls go#ep2/~/  
myfile.txt
```

cancel

details

endpoint-activate

endpoint-add

endpoint-deactivate

endpoint-list

endpoint-modify

endpoint-remove

endpoint-rename

events

ls

profile

scp

status

transfer

versions

wait

Globus Online and ESG

- Integration interfaces:
 - Transfer REST API
 - Direct analysis tool and Gateways
 - CLI
 - Backend transfers/replication
 - Website
 - Adhoc transfers and monitoring
- Monitoring and notification:
 - No state on local machine
 - Web based monitoring and access to logs
 - PerfSONAR integration
- Endpoint Management:
 - Discover ESG endpoints
 - Associate appropriate defaults



Download Selected Data

Please select a download method below. Get [MyProxy certificate](#).



Wget Script Download

Unix, Linux, and Mac OSX only

Download a Wget shell script that you can run from the command line on Unix, Linux, or Mac OSX.

[Learn more about Wget...](#)

5 Files 2.6 GB



DML Script Download

Java enabled systems only

Download a script that you can run with the DataMover-Lite (DML) file transfer tool on Java enabled systems.

[Launch DataMover-Lite](#) via Java Web Start.

[Learn more about DataMover-Lite...](#)

5 Files 2.6 GB



Globus Online Download

Transfer to your local machine or to external server using Globus Online.

5 Files 2.6 GB

Login to globus.org

Sign-In with Google

Sign-In with MyProxy

Sign-in with OpenID:

<https://esg.prototype.ucar.edu/myopenid/ranantha>

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Login with MyProxy

MyProxy Servers

- Argonne LCF
- Birn
- UChicago CI
- NERSC
- TeraGrid
- ESG NCAR Gateway**

MyProxy Username

MyProxy Password

MyProxy One-time password (if required)

Remember me

Sign-In

<< Don't have a MyProxy identity? See more login choices

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- Advanced Research Computing

Coming Soon



- Personal GridFTP
 - Upload/download from laptops
- Support for HTTP transfers
- Other login options
 - Other OpenID Identity Providers
 - InCommon Shibboleth Identity Providers
- Sharing of transfer tasks
 - Groups and permissions management



- Provisioning of collaboration tools
- Job management capabilities
- Workflow capabilities
- VO Management capabilities