

---

# Leveraging the InCommon Federation to access the NSF TeraGrid

Jim Basney  
Senior Research Scientist  
National Center for Supercomputing Applications  
University of Illinois at Urbana-Champaign  
[jbasney@ncsa.uiuc.edu](mailto:jbasney@ncsa.uiuc.edu)



This material is based upon work supported by the National Science Foundation under Grant No. 0503697. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.



---

## What is the TeraGrid?

NSF-funded facility to offer high end compute, data, and visualization resources to the nation's academic researchers



[www.teragrid.org](http://www.teragrid.org)



---

## TeraGrid Campus Integration

- The TeraGrid project is working in many ways to better integrate with campuses to support research and education
  - TeraGrid Campus Champions  
<http://www.teragrid.org/eot/campuschamps.html>
  - TeraGrid Client Software  
[http://teragridforum.org/mediawiki/index.php?title=TeraGrid\\_Client\\_Software](http://teragridforum.org/mediawiki/index.php?title=TeraGrid_Client_Software)
- Authentication and Authorization is just one aspect of TeraGrid's Campus Integration efforts
- For more info about TeraGrid  
Contact: [help@teragrid.org](mailto:help@teragrid.org)



---

## TeraGrid and InCommon: Status

- TeraGrid joined InCommon in July 2008
  - TeraGrid will be an InCommon Resource Provider
  - TeraGrid will not be an InCommon Credential Provider (at this time)
- Shibboleth integration with TeraGrid User Portal (TGUP) will begin soon
  - Today I'm presenting our plans



---

## TeraGrid Federations

- TeraGrid Core Services
  - Manage accounts and allocations across resources and sites
  - Centralized resource usage accounting
  - TeraGrid Central Database (TGCDB)
- X.509 Public Key Infrastructure (PKI)
  - International Grid Trust Federation (IGTF) ([igtf.net](http://igtf.net))
  - Includes Certificate Authorities operating outside of TeraGrid
  - Enables single sign-on across TeraGrid systems and other grids



---

# TeraGrid Federations

## ➤ TeraGrid Science Gateways Program

- Enables TeraGrid to scale to large user communities by outsourcing front-end user support
- Gateways are self-managed scientific communities
- Gateways act as identity provider and resource broker

## ➤ InCommon Federation

- Facilitates campus login to TeraGrid resources by researchers and students
- Provides an integrated login experience between campus and TeraGrid services



---

## TeraGrid and InCommon: Goals

- First Step: Campus login to TeraGrid User Portal
  - Access administrative interfaces:  
Request Allocation, View Usage, List Accounts, Edit Profile, Register X.509 DNs, Add/Remove User
  - Access TeraGrid resources:  
SSH Terminal, File Transfer
  - Manage Training Accounts:  
Short-term student access using campus attributes  
Eliminate the need to distribute TeraGrid usernames and passwords in the classroom



---

## TeraGrid and InCommon: Goals

- Next Step: Campus logins to TeraGrid Science Gateways
  - Attribute-based access to community-focused interfaces
  - Operated by the community
  - Attributes used end-to-end from campus through gateway to TeraGrid resource providers and TeraGrid-wide accounting





# TeraGrid User Portal (TGUP)

TeraGrid User Portal

Home Resources Documentation Training Consulting Allocations

About Team Changes and Plans Feedback Citation Info

## Welcome to the TeraGrid User Portal

### About

The TeraGrid User Portal is a Web interface for making TeraGrid account management easier, for getting information about TeraGrid resources, and for accessing many of the existing TeraGrid services in a single place.

While users may utilize many features of the User Portal without logging in, authenticating provides access to a full set of services available on the TeraGrid. All new users will receive a "New User Form" via U.S. postal mail containing a User Portal username and password along with their other TeraGrid system account usernames and passwords.

### Feature Spotlight

#### TeraGrid User Portal Now Offers File Manager Service

The NSF TeraGrid project exposes the academic research community to more than twenty distributed computational, visualization, and storage resources. Consequently, a significant user interest has grown in having the ability to remotely manage files via a web interface. In response to this need, the TeraGrid User Portal development team is happy to announce the availability of a new beta file manager service. Available through the TeraGrid User Portal, this file manager service includes the following features and capabilities.

- A custom list of TeraGrid resources based on user's accounts.
- The ability to transfer files between TeraGrid and local systems.
- An easy to use drag-and-drop interface.
- The existence of delete, rename and copy features for managing files and directories.
- The ability to view the status of current file transfers as well as the history of previous transfers.
- Support for transferring files between TeraGrid resources and Amazon S3.

To manage your files on the TeraGrid User Portal, please log in and visit the 'Resources' area, select the 'File Manager [Beta]' to use the file manager service.

The TeraGrid project is funded by the [National Science Foundation](#) and includes eleven resource providers: Indiana, LONI, NCAR, NCSA, NICS, ORNL, PSC, Purdue, SDSC, TACC and UC/ANL.



# TGUP Systems Monitor

TeraGrid User Portal

https://portal.teragrid.org:443/gridsphere/gridsphere?cid=32&JavaScript

**TeraGrid™ User Portal**

Login  
Welcome, Guest User

Home Resources Documentation Training Consulting Allocations

**Systems Monitor** HPC Queue Prediction Science Gateways Data Collections User Responsibilities

**TeraGrid Systems Monitor**

HPC Systems | Storage Systems | Advanced Vis Systems | Special Purpose Systems

**High Performance Systems**

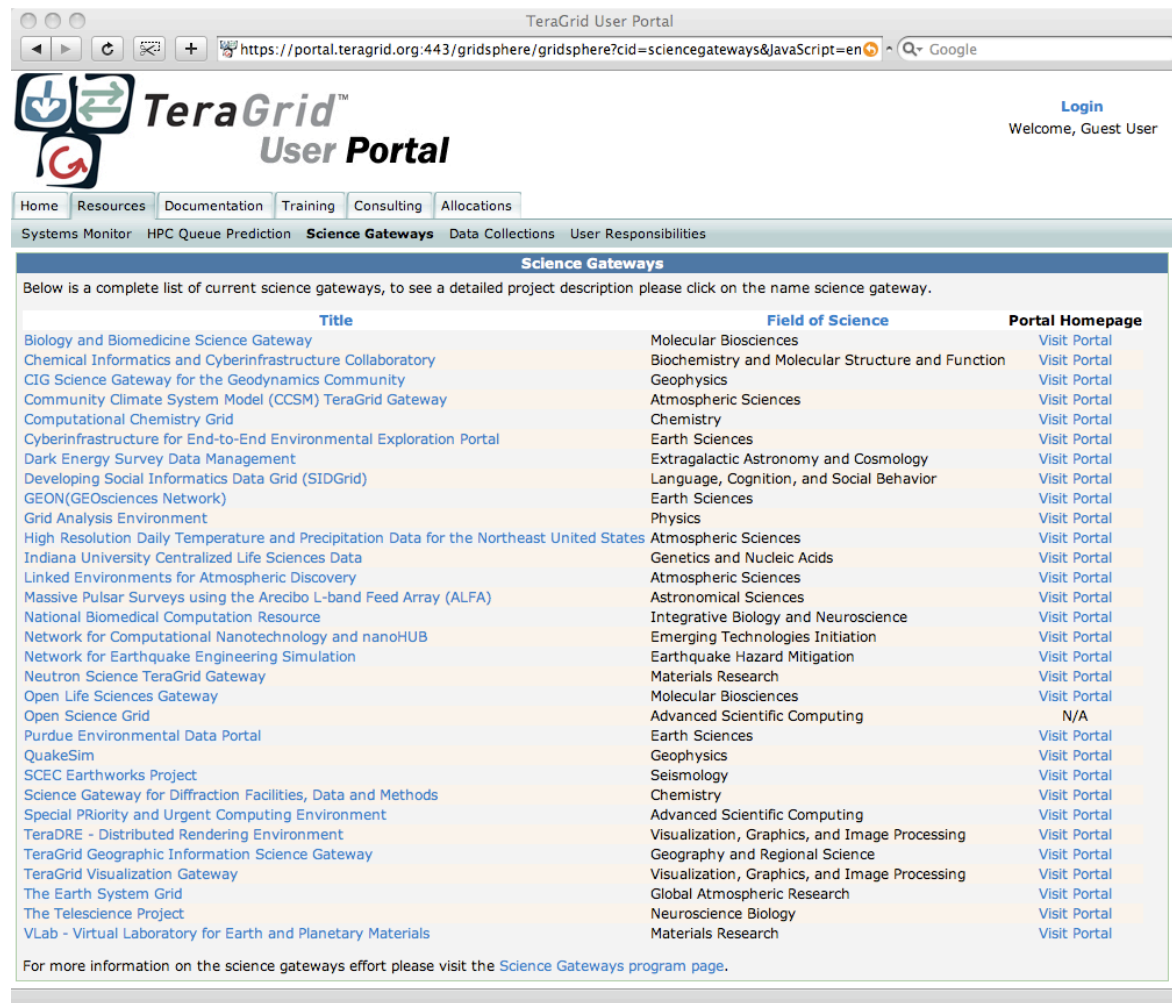
Name	Institution	System	Peak TFlops	Memory TBytes	Status	Load	Running Jobs	Queued Jobs	Other Jobs
Ranger	TACC	Sun Constellation	579.40	123.00	Up		208	29	70
Kraken	NICS	Cray XT4	166.00	18.04	Up		49	21	7
Abe	NCSA	Dell Intel 64 Linux Cluster	89.47	9.38	Down		162	23	47
Lonestar	TACC	Dell PowerEdge Linux Cluster	62.16	11.60	Up		172	0	38
Steele	Purdue	Dell Intel 64 Linux Cluster	60.00	12.40	Up*		597	52	38
Queen Bee	LONI	Dell Intel 64 Linux Cluster	50.70	5.31	Up		74	23	1
Big Red	IU	IBM e1350	30.60	6.00	Up		330	618	3
BigBen	PSC	Cray XT3	21.50	4.04	Up		26	27	58
TeraGrid Cluster	NCSA	IBM Itanium2 Cluster	10.23	4.47	Up		50	19	0
Cobalt	NCSA	SGI Altix	6.55	3.00	Up		0	243	1
Frost	NCAR	IBM BlueGene/L	5.73	0.51	Up		10	1	0
Pople	PSC	SGI Altix 4700	5.00	1.54	Up*		26	39	30
TeraGrid Cluster	SDSC	IBM Itanium2 Cluster	3.10	1.02	Up		8	0	6
TeraGrid Cluster	UC/ANL	IBM Itanium2 Cluster	0.61	0.24	Up		58	6	2
NSTG	ORNL	IBM IA-32 Cluster	0.34	0.07	Up		1	0	1
<b>Total:</b>			<b>1091.39</b>	<b>200.62</b>			<b>1771</b>	<b>1101</b>	<b>302</b>

\*Indicates failure of one or more status test.  
Hover mouse pointer over Resource Name, Resource Status, and headings to see additional information.  
Click "Down" Resource status to see TG User News Item.

The TeraGrid project is funded by the National Science Foundation and includes eleven resource providers:  
Indiana, LONI, NCAR, NCSA, NICS, ORNL, PSC, Purdue, SDSC, TACC and UC/ANL.



# TGUP Science Gateways Listing



The screenshot shows the TeraGrid User Portal interface. At the top, there is a navigation menu with links for Home, Resources, Documentation, Training, Consulting, and Allocations. Below this is a sub-menu with links for Systems Monitor, HPC Queue Prediction, Science Gateways (highlighted), Data Collections, and User Responsibilities. The main content area is titled "Science Gateways" and contains a table listing various gateways. Each row includes the gateway title, its field of science, and a link to its portal homepage. The table is as follows:

Title	Field of Science	Portal Homepage
Biology and Biomedicine Science Gateway	Molecular Biosciences	<a href="#">Visit Portal</a>
Chemical Informatics and Cyberinfrastructure Collaboratory	Biochemistry and Molecular Structure and Function	<a href="#">Visit Portal</a>
CIG Science Gateway for the Geodynamics Community	Geophysics	<a href="#">Visit Portal</a>
Community Climate System Model (CCSM) TeraGrid Gateway	Atmospheric Sciences	<a href="#">Visit Portal</a>
Computational Chemistry Grid	Chemistry	<a href="#">Visit Portal</a>
Cyberinfrastructure for End-to-End Environmental Exploration Portal	Earth Sciences	<a href="#">Visit Portal</a>
Dark Energy Survey Data Management	Extragalactic Astronomy and Cosmology	<a href="#">Visit Portal</a>
Developing Social Informatics Data Grid (SIDGrid)	Language, Cognition, and Social Behavior	<a href="#">Visit Portal</a>
GEON(GEOsciences Network)	Earth Sciences	<a href="#">Visit Portal</a>
Grid Analysis Environment	Physics	<a href="#">Visit Portal</a>
High Resolution Daily Temperature and Precipitation Data for the Northeast United States	Atmospheric Sciences	<a href="#">Visit Portal</a>
Indiana University Centralized Life Sciences Data	Genetics and Nucleic Acids	<a href="#">Visit Portal</a>
Linked Environments for Atmospheric Discovery	Atmospheric Sciences	<a href="#">Visit Portal</a>
Massive Pulsar Surveys using the Arecibo L-band Feed Array (ALFA)	Astronomical Sciences	<a href="#">Visit Portal</a>
National Biomedical Computation Resource	Integrative Biology and Neuroscience	<a href="#">Visit Portal</a>
Network for Computational Nanotechnology and nanoHUB	Emerging Technologies Initiation	<a href="#">Visit Portal</a>
Network for Earthquake Engineering Simulation	Earthquake Hazard Mitigation	<a href="#">Visit Portal</a>
Neutron Science TeraGrid Gateway	Materials Research	<a href="#">Visit Portal</a>
Open Life Sciences Gateway	Molecular Biosciences	<a href="#">Visit Portal</a>
Open Science Grid	Advanced Scientific Computing	N/A
Purdue Environmental Data Portal	Earth Sciences	<a href="#">Visit Portal</a>
QuakeSim	Geophysics	<a href="#">Visit Portal</a>
SCEC Earthworks Project	Seismology	<a href="#">Visit Portal</a>
Science Gateway for Diffraction Facilities, Data and Methods	Chemistry	<a href="#">Visit Portal</a>
Special Priority and Urgent Computing Environment	Advanced Scientific Computing	<a href="#">Visit Portal</a>
TeraDRE - Distributed Rendering Environment	Visualization, Graphics, and Image Processing	<a href="#">Visit Portal</a>
TeraGrid Geographic Information Science Gateway	Geography and Regional Science	<a href="#">Visit Portal</a>
TeraGrid Visualization Gateway	Visualization, Graphics, and Image Processing	<a href="#">Visit Portal</a>
The Earth System Grid	Global Atmospheric Research	<a href="#">Visit Portal</a>
The Telescience Project	Neuroscience Biology	<a href="#">Visit Portal</a>
VLab - Virtual Laboratory for Earth and Planetary Materials	Materials Research	<a href="#">Visit Portal</a>

Below the table, there is a note: "For more information on the science gateways effort please visit the [Science Gateways program page](#)."



# My TeraGrid: Usage

The screenshot shows the TeraGrid User Portal interface. At the top, there is a navigation bar with links for Home, My TeraGrid, Resources, Documentation, Training, Consulting, and Allocations. Below this is a sub-navigation bar with links for Allocations/Usage, Accounts, Profile, Registered DNs, Change Portal Password, Add/Remove User, Community Account, SSH Terminal, and Citation Info. The main content area is titled "Allocation Usage" and displays two project sections:

**TG RP NCSA** [Show Project Details](#)

Start Date	End Date	Resource	SUs Remaining	SUs Awarded	My Usage (SU)	% Remaining	Alloc. Type	State
2008-04-29	2009-05-31	staff.teragrid	-41,693 Overdrawn	100,000	0.0	0 %	renewal	active

**TG Staff Project: Portal Test Project** [Show Project Details](#)

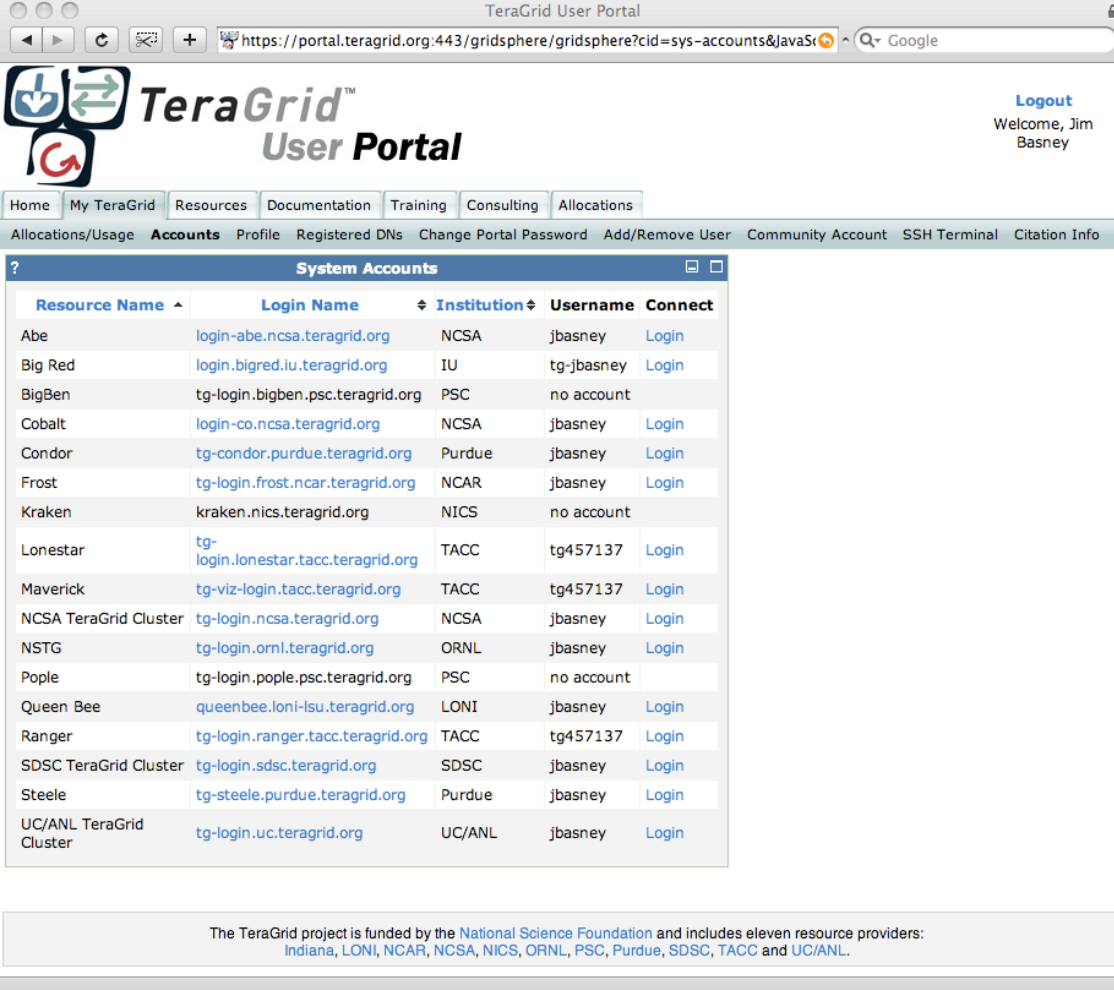
Start Date	End Date	Resource	SUs Remaining	SUs Awarded	My Usage (SU)	% Remaining	Alloc. Type	State
2006-01-18	2015-12-31	staff.teragrid	24,893	25,000	0.0	100 %	new	active

Additional links at the bottom of the page include: [User Responsibility Form], Need to cite TeraGrid?, and Report Security Incident.

The TeraGrid project is funded by the National Science Foundation and includes eleven resource providers: Indiana, LONI, NCAR, NCSA, NICS, ORNL, PSC, Purdue, SDSC, TACC and UC/ANL.



# My TeraGrid: Accounts



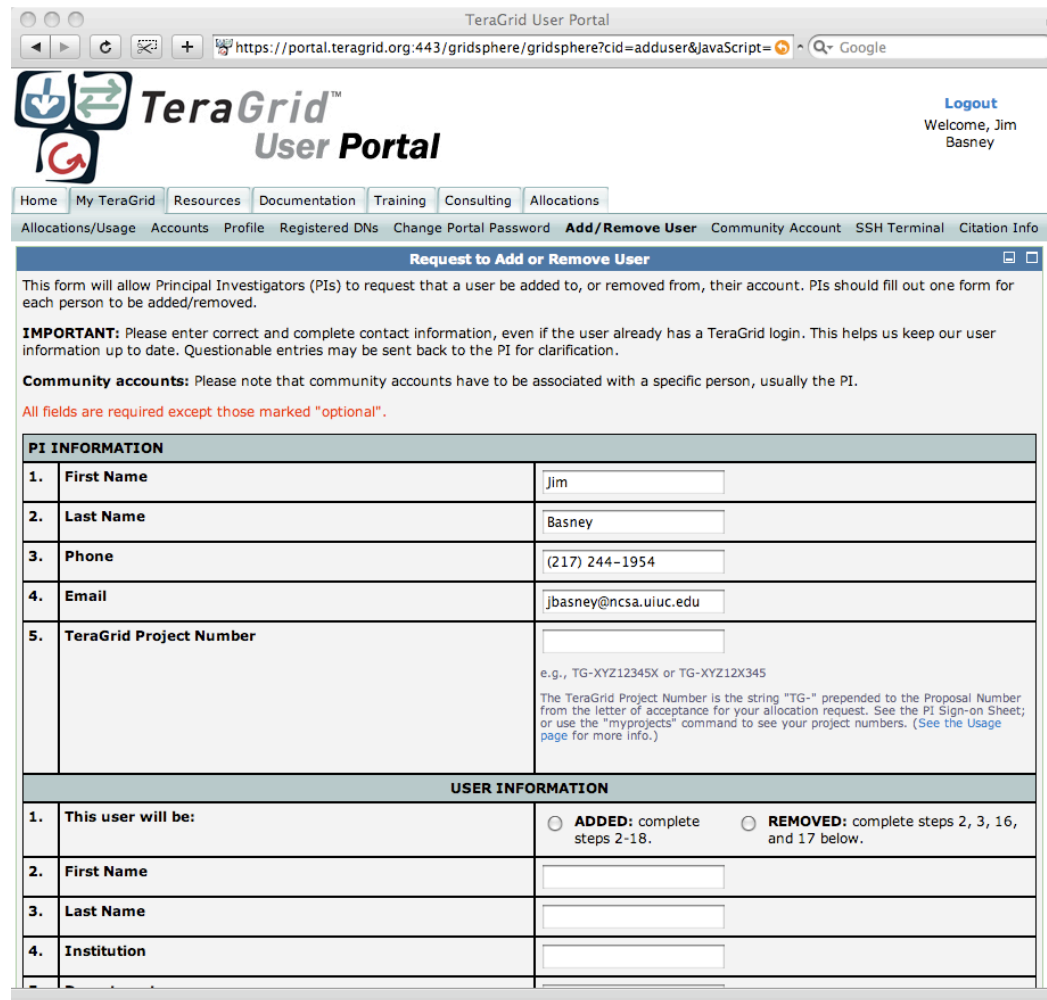
The screenshot shows the TeraGrid User Portal interface. At the top, there is a navigation bar with the TeraGrid logo and the text "TeraGrid User Portal". To the right, there is a "Logout" link and a welcome message: "Welcome, Jim Basney". Below the navigation bar, there are several tabs: "Home", "My TeraGrid", "Resources", "Documentation", "Training", "Consulting", and "Allocations". The "My TeraGrid" tab is selected, and a sub-menu is visible with options: "Allocations/Usage", "Accounts", "Profile", "Registered DNs", "Change Portal Password", "Add/Remove User", "Community Account", "SSH Terminal", and "Citation Info". The "Accounts" sub-menu item is highlighted, and a table titled "System Accounts" is displayed. The table has columns for "Resource Name", "Login Name", "Institution", "Username", and "Connect". The table lists various resources and their corresponding login information.

Resource Name	Login Name	Institution	Username	Connect
Abe	<a href="https://login-abe.ncsa.teragrid.org">login-abe.ncsa.teragrid.org</a>	NCSA	jbasney	<a href="#">Login</a>
Big Red	<a href="https://login.bigred.iu.teragrid.org">login.bigred.iu.teragrid.org</a>	IU	tg-jbasney	<a href="#">Login</a>
BigBen	<a href="https://tg-login.bigben.psc.teragrid.org">tg-login.bigben.psc.teragrid.org</a>	PSC	no account	
Cobalt	<a href="https://login-co.ncsa.teragrid.org">login-co.ncsa.teragrid.org</a>	NCSA	jbasney	<a href="#">Login</a>
Condor	<a href="https://tg-condor.purdue.teragrid.org">tg-condor.purdue.teragrid.org</a>	Purdue	jbasney	<a href="#">Login</a>
Frost	<a href="https://tg-login.frost.ncar.teragrid.org">tg-login.frost.ncar.teragrid.org</a>	NCAR	jbasney	<a href="#">Login</a>
Kraken	<a href="https://kraken.nics.teragrid.org">kraken.nics.teragrid.org</a>	NICS	no account	
Lonestar	<a href="https://tg-login.lonestar.tacc.teragrid.org">tg-login.lonestar.tacc.teragrid.org</a>	TACC	tg457137	<a href="#">Login</a>
Maverick	<a href="https://tg-viz-login.tacc.teragrid.org">tg-viz-login.tacc.teragrid.org</a>	TACC	tg457137	<a href="#">Login</a>
NCSA TeraGrid Cluster	<a href="https://tg-login.ncsa.teragrid.org">tg-login.ncsa.teragrid.org</a>	NCSA	jbasney	<a href="#">Login</a>
NSTG	<a href="https://tg-login.ornl.teragrid.org">tg-login.ornl.teragrid.org</a>	ORNL	jbasney	<a href="#">Login</a>
People	<a href="https://tg-login.pople.psc.teragrid.org">tg-login.pople.psc.teragrid.org</a>	PSC	no account	
Queen Bee	<a href="https://queenbee.loni-lsu.teragrid.org">queenbee.loni-lsu.teragrid.org</a>	LONI	jbasney	<a href="#">Login</a>
Ranger	<a href="https://tg-login.ranger.tacc.teragrid.org">tg-login.ranger.tacc.teragrid.org</a>	TACC	tg457137	<a href="#">Login</a>
SDSC TeraGrid Cluster	<a href="https://tg-login.sdsc.teragrid.org">tg-login.sdsc.teragrid.org</a>	SDSC	jbasney	<a href="#">Login</a>
Steele	<a href="https://tg-steele.purdue.teragrid.org">tg-steele.purdue.teragrid.org</a>	Purdue	jbasney	<a href="#">Login</a>
UC/ANL TeraGrid Cluster	<a href="https://tg-login.uc.teragrid.org">tg-login.uc.teragrid.org</a>	UC/ANL	jbasney	<a href="#">Login</a>

The TeraGrid project is funded by the National Science Foundation and includes eleven resource providers: Indiana, LONI, NCAR, NCSA, NICS, ORNL, PSC, Purdue, SDSC, TACC and UC/ANL.



# My TeraGrid: Add/Remove User



The screenshot shows a web browser window titled "TeraGrid User Portal" with the URL <https://portal.teragrid.org:443/gridsphere/gridsphere?cid=adduser&JavaScript=>. The page features the TeraGrid logo and a navigation menu with items like Home, My TeraGrid, Resources, Documentation, Training, Consulting, Allocations, and Add/Remove User. A "Logout" link is visible with the text "Welcome, Jim Basney".

**Request to Add or Remove User**

This form will allow Principal Investigators (PIs) to request that a user be added to, or removed from, their account. PIs should fill out one form for each person to be added/removed.

**IMPORTANT:** Please enter correct and complete contact information, even if the user already has a TeraGrid login. This helps us keep our user information up to date. Questionable entries may be sent back to the PI for clarification.

**Community accounts:** Please note that community accounts have to be associated with a specific person, usually the PI.

All fields are required except those marked "optional".

PI INFORMATION	
1. First Name	<input type="text" value="Jim"/>
2. Last Name	<input type="text" value="Basney"/>
3. Phone	<input type="text" value="(217) 244-1954"/>
4. Email	<input type="text" value="jbasney@ncsa.uiuc.edu"/>
5. TeraGrid Project Number	<input type="text"/> <small>e.g., TG-XYZ12345X or TG-XYZ12X345 The TeraGrid Project Number is the string "TG-" prepended to the Proposal Number from the letter of acceptance for your allocation request. See the PI Sign-on Sheet, or use the "myprojects" command to see your project numbers. (See the Usage page for more info.)</small>

USER INFORMATION	
1. This user will be:	<input type="radio"/> <b>ADDED:</b> complete steps 2-18. <input type="radio"/> <b>REMOVED:</b> complete steps 2, 3, 16, and 17 below.
2. First Name	<input type="text"/>
3. Last Name	<input type="text"/>
4. Institution	<input type="text"/>



# TG Proposal Submission

POPS Submit

https://pops-submit.teragrid.org/auth/TG\_PORTAL/main/cgi/proposal\_top. Google

**POPS**

Next --> Co-PI Information

**Principal Investigator Information**

Fields with \* are required for all final submissions; you may save-to-date with Incomplete fields.

**First Name \***  **Middle Name**  **Last Name \***

**Organization \***  Name of affiliated Institution

**Position**  **Degree**  **Degree Field**

**Department**  Please enter department name at affiliated institution

**Address 1 \***

**Address 2**

**City \***  **State \***  **Zip Code \***

**Country \***

**Email \***  **Phone \***  **Fax**

**Home Page(S)**  Enter URL(s) of your personal home page(s) one per line. Any URL longer than 255 chars will be truncated.

**Distinguished Name(S) (DN)**  Previous users of a computing resource will have one or more DNs. **Enter DN(s) one per line.** Any DN longer than 255 chars will be truncated.

Reset

Next --> Co-PI Information

Review your entire submission, including all entries saved to date, at any time using the Submission Summary link on the left menu.

**PI Information \***

Co-PI Information

Proposal Info \*

Supporting Grants \*

Resource Request \*

required pages

Save To Date

Final Submission

Submission Summary


Submission Status

Incomplete

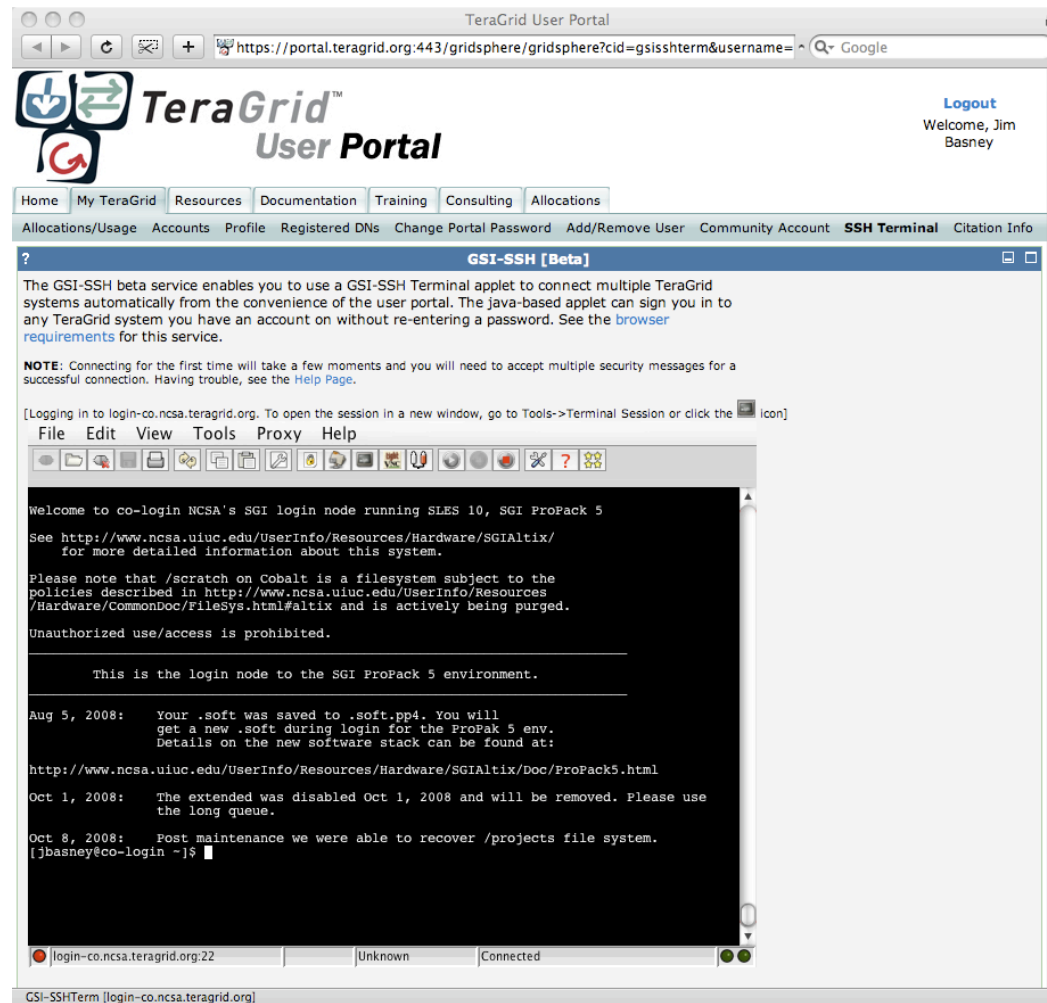
Submission Home

POPS User Guide

Contact POPS



# My TeraGrid: SSH Terminal




The screenshot shows a web browser window titled "TeraGrid User Portal" with the URL <https://portal.teragrid.org:443/gridsphere/gridsphere?cid=gssisshterm&username=...>. The page features the TeraGrid logo and a navigation menu with options like Home, My TeraGrid, Resources, Documentation, Training, Consulting, and Allocations. A "Logout" link is visible in the top right corner, along with a welcome message: "Welcome, Jim Basney".

The main content area is titled "GSI-SSH [Beta]" and contains the following text:

The GSI-SSH beta service enables you to use a GSI-SSH Terminal applet to connect multiple TeraGrid systems automatically from the convenience of the user portal. The java-based applet can sign you in to any TeraGrid system you have an account on without re-entering a password. See the [browser requirements](#) for this service.

**NOTE:** Connecting for the first time will take a few moments and you will need to accept multiple security messages for a successful connection. Having trouble, see the [Help Page](#).

[Logging in to login-co.ncsa.teragrid.org. To open the session in a new window, go to Tools->Terminal Session or click the  icon]

File Edit View Tools Proxy Help

```
Welcome to co-login NCSA's SGI login node running SLES 10, SGI ProPack 5
See http://www.ncsa.uiuc.edu/UserInfo/Resources/Hardware/SGIAltix/
for more detailed information about this system.

Please note that /scratch on Cobalt is a filesystem subject to the
policies described in http://www.ncsa.uiuc.edu/UserInfo/Resources
/Hardware/CommonDoc/FileSys.html#altix and is actively being purged.
Unauthorized use/access is prohibited.

-----
This is the login node to the SGI ProPack 5 environment.
-----
Aug 5, 2008: Your .soft was saved to .soft.pp4. You will
get a new .soft during login for the ProPak 5 env.
Details on the new software stack can be found at:
http://www.ncsa.uiuc.edu/UserInfo/Resources/Hardware/SGIAltix/Doc/ProPack5.html
Oct 1, 2008: The extended was disabled Oct 1, 2008 and will be removed. Please use
the long queue.
Oct 8, 2008: Post maintenance we were able to recover /projects file system.
[basney@co-login ~]$
```

The terminal window shows a connection to login-co.ncsa.teragrid.org:22, with an unknown host key fingerprint and a connected status.





# My TeraGrid: File Manager

The TeraGrid File Management Service enables you to use a GSI-enabled file browsing applet to view and manage your files within and across multiple TeraGrid systems automatically from the convenience of the user portal using a simple drag-and-drop interface. The java-based applet can sign you in to any TeraGrid system on which you have an account without re-entering a password. To use the applet you need [Java 1.5 JRE](#) or higher installed.

**NOTE:** Opening the applet for the first time will take a few moments while the libraries load and you will need to accept the security message before the applet starts.

To open the session in a new window, go to File -> Open in new window

TGFM File Help

NCSA TeraGrid Cluster

Cobalt

jbasney

jbasney

Name	Size	Type	Modified
..	0 B	Folder	
dg	128 KB	Folder	Jan 5, 20:22
dg.testing	16 KB	Folder	Jan 5, 10:10
dg.testing2	32 KB	Folder	Jan 5, 14:12
dg.testing3	16 KB	Folder	Jan 5, 14:14
dg.testing4	16 KB	Folder	Jan 5, 14:22
dg.testing5	32 KB	Folder	Jan 5, 14:52
Documents	16 KB	Folder	Apr 9, 14:33
globus_core-2.7	16 KB	Folder	Apr 9, 14:33
globus_core-2.9	16 KB	Folder	Apr 9, 14:33
gpt-2.2.9	16 KB	Folder	Apr 9, 14:33
gpt-3.1	16 KB	Folder	Apr 30, 18:05
gt4-install	16 KB	Folder	Jan 6, 15:41
hostcert	16 KB	Folder	Jan 4, 09:22
hostcerts	16 KB	Folder	Jan 4, 09:14
iperf-2.0.2	16 KB	Folder	Jan 6, 14:33
manic_sprint	16 KB	Folder	Jan 6, 15:41

Name	Size	Type	Modified	Attribu
..	0 B	Folder		
scratch-global	6 B	Folder	Aug 30, 18:20	drwxr-
debug.e315989	64 B	File	Mar 14, 09:41	-rw---
debug.o315989	866 B	File	Mar 14, 09:44	-rw---
foo.jbasney	4 B	File	May 29, 13:38	-rw-r-
sleep.pbs	439 B	File	Mar 14, 09:41	-rw-r-

home/ ncsa/ jbasney/

u/ ncsa/ jbasney/

ID	Item Name	Source	-->	Destination	Progress	Speed	Start Time	Total Time	Left Time	Status
----	-----------	--------	-----	-------------	----------	-------	------------	------------	-----------	--------

Applet org.teragrid.portal.filebrowser.applet.AppMain started



---

## Approach: Account Linking

### ➤ New User

- A new user authenticates to the TGUP via Shibboleth
- The user prepares and submits a proposal for TeraGrid resources
- If the proposal is approved, the user's TeraGrid account is created with a link to his/her ePPN/ePTID

### ➤ Result

- The user can access personalized TGUP functionality using campus Shibboleth authentication, without requiring a separate TGUP username and password



---

## Approach: Account Linking

### ➤ Existing User

- An existing user authenticates to the TGUP via Shibboleth
- The TGUP prompts for the user's TGUP username and password
- The user is given the option to link his/her ePPN/ ePTID to his/her TeraGrid account

### ➤ Result

- The user can access personalized TGUP functionality using campus Shibboleth authentication, without requiring a separate TGUP username and password



---

## Access to TeraGrid Resources

- TeraGrid resources support PKI authentication
  - Interfaces: GSISSH (remote login), GRAM (job submission), GridFTP (file transfer)
- Approach:
  - Automatically obtain PKI credentials based on Shibboleth authentication to TGUP
  - Transparently use PKI credentials with TGUP SSH Terminal and File Manager
- See
  - GridShib CA: <http://gridshib.globus.org/>
  - MyProxy CA: <http://myproxy.ncsa.uiuc.edu/ca>



---

## Summary

- TeraGrid has joined InCommon
  - To facilitate campus login to TeraGrid resources by researchers and students
- First Step: Campus login to TeraGrid User Portal
- Next Step: Campus login to Science Gateways
  
- Thanks!
  
- Contact: [jbasney@ncsa.uiuc.edu](mailto:jbasney@ncsa.uiuc.edu)

