

# Open Science Grid

Submit locally, run globally.

The Open Science Grid (OSG) provides the national fabric of distributed high throughput computing, serving researchers across a wide variety of scientific disciplines.

Over 125 institutions  
sharing resources

Over 500,000 research  
computing jobs a day

Over 925,000,000 CPU  
hours in the last year

## Who can use the OSG?

We provide maximum throughput for researchers with large demands and elastic scale-out for those who need short-term spikes. We're open to collaboration with partners who want to share:

- Hardware via an Open Facility
- Software via an Open Software Stack
- Ideas and experiences via an Open Ecosystem

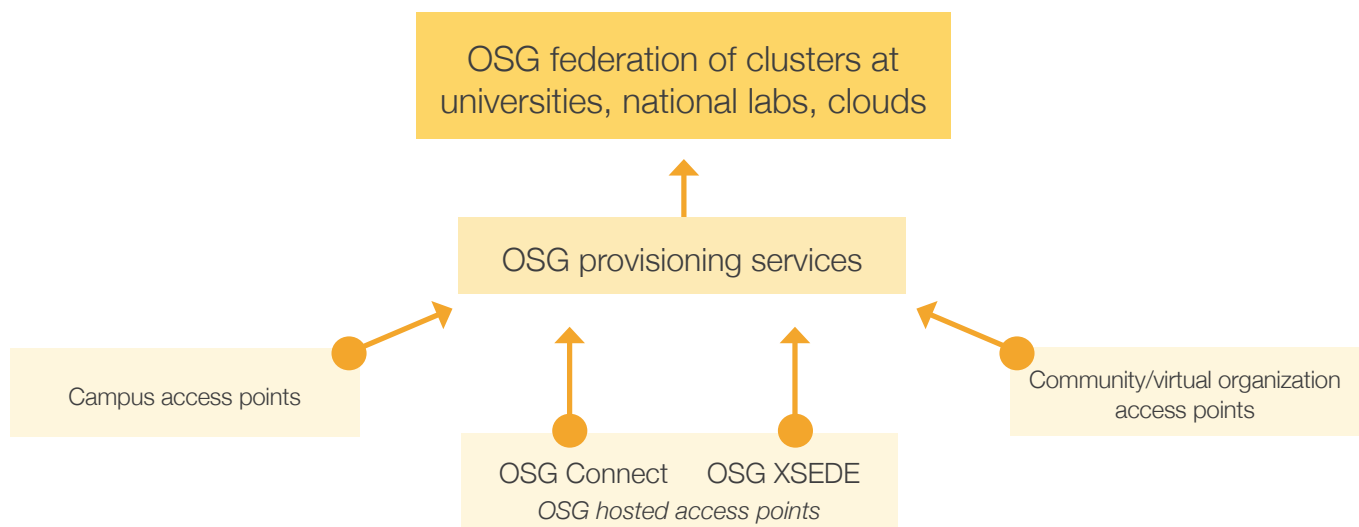
## Why use the OSG?

We prioritize research needs and productivity, sharing beyond institutional, geographic, or budgetary boundaries. With OSG you can:

- Seamlessly compute at a scale larger than local resources allow
- Run computation- and data-intensive apps that outstrip your local cluster
- Harness computing resources in flexible ways, according to your needs
- Develop your research and IT workforces

## How does the OSG work?

There are four ways to access the OSG:



We work tirelessly to expand open access, community spirit, and inspiration for new projects.

#### In the last 24 hours

<b>392,000</b>	Jobs
<b>2,180,000</b>	CPU hours
<b>2,225,000</b>	Transfers
<b>450</b>	TB transfers

#### In the last 30 days

<b>16,090,000</b>	Jobs
<b>90,144,000</b>	CPU hours
<b>132,830,000</b>	Transfers
<b>19,886</b>	TB transfers

#### In the last 12 months

<b>202,433,000</b>	Jobs
<b>926,464,000</b>	CPU hours
<b>1,100,654,000</b>	Transfers
<b>192,000</b>	TB transfers

Figures as of November 2, 2015

## How are researchers using the OSG?

### *Meeting the computational demands of brain research*

The University of Pittsburgh's Don Krieger consumed 46M hours in 2014, analyzing MEG functional brain images to understand brain trauma in humans.

### *Tapping into burst resources for biomechanics modeling*

Joshua Plotkin from the University of Pennsylvania scaled out elastically to 1M hours in 2 days, validating the accuracy of a newly developed molecular mechanics force field.

### *Preparing for the next big thing at Brookhaven*

Brookhaven National Laboratory's Martin Purschke is running simulations on the OSG to help determine the design of the next version of PHENIX for research into heavy ion collisions.

### *Contributing to genetic diversity and food security research*

Patrick Reeves and Christopher Richards, of the National Center for Genetic Resources Preservation, use the OSG to determine genetically distinct groups within a species.

### *Nuclear physics and computer science meet on the OSG*

Jonah Bernhard and Steffen Bass at Duke University are using the OSG for model-to-data comparison on a larger—and more systematic and rigorous—scale than ever before.

### *Providing a unique view into the universe*

Gonzalo Merino at the University of Wisconsin-Madison relies on the OSG to transparently meet the computing challenges of IceCube, the world's largest neutrino detector.

### *Changing society one math problem at a time*

Dr. Anton Betten at Colorado State University created Orbiter, a C++ program that runs jobs using OSG Connect (which, as the name suggests, connects your science to cycles and data).

To read more about these and other examples, visit:

[opensciencegrid.org/news](http://opensciencegrid.org/news)

## Useful links

- Sign up for a user account: [osgconnect.net](http://osgconnect.net)
- Access our knowledge base and help desk: [support.opensciencegrid.org](http://support.opensciencegrid.org)
- View documentation: [twiki.grid.iu.edu](http://twiki.grid.iu.edu)
- Download our 2014 annual report: [opensciencegrid.org/annual-report/](http://opensciencegrid.org/annual-report/)

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