

The Open Science Grid (**OSG**) provides common service and support for resource providers and scientific institutions using a distributed fabric of high throughput computational services. The OSG does not own resources but provides software and services to users and resource providers alike to enable the opportunistic usage and sharing of resources. The OSG is jointly funded by the Department of Energy and the National Science Foundation.

High-throughput computing needs of our scientific users are being met by a large number of computing resources that can be accessed directly through **Globus** services or more conveniently through grid technologies build on top of them. Storage resources provide easy access to terabytes of storage space through the common **SRM** protocol. The resources contributing to the OSG are primarily Linux clusters with Ethernet interconnects.

Recent statistics show that one third of the resources are used opportunistically by VOs that do not own resources and who benefit from the grid effort of the OSG. The OSG continues to grow and is currently supporting 30 VOs at 80 sites. More than 1,000,000 cpu hours are turned into scientific results by their members every day.

OSG brings together many VOs for contracted and/or opportunistic sharing of resources in a grid environment, allowing for more effective use of their collective resources. Use of resources at a site is determined by a combination of the site's local policies and the user VO's policies. VOs are responsible for contracting individually with each other for guaranteed access to resources.

Many VOs in the OSG address the specific requirements of their users with their own user support that provides more in-depth help than the OSG does (current VO list). Additionally some VOs provide dedicated resources to the OSG that provide preferred access to their members. Some VOs provide a problem specific user interface to their members.

The OSG assumes that each user is preferably supported by their membership VO. Each VO is expected to register with the OSG and provide support for their members. OSG support is maintained through a VO representative for each VO rather than a member of a VO.

The Open Science Grid is proud to support a wide range of scientific research activities, among them:

-Astrophysics: LIGO

-High Energy Physics: CMS and ATLAS

-Nanoscience: NANOHUB

-Structural Biology: SBGrid

-Community VO (multiple sciences): Engage

OSG: <https://www.opensciencegrid.org/bin/view>

(Source: Open Science Grid)

