

OSG Operations Team

The Open Science Grid (OSG) Operations team is responsible for administering and maintaining the **central services** that **resource providers** and **scientific communities** depend on. The team is distributed across multiple institutions in multiple time zones.

OSG-LHC - the IRIS-HEP part of OSG

The OSG is a **collaboration** across **multiple scientific communities**. The biggest contributors and users of the OSG belong to the **Worldwide LHC Computing Grid (WLCG)**. The IRIS-HEP OSG-LHC project is the portion of OSG dedicated to serving the LHC communities.

OSG-LHC Service Types

The subset of services owned by OSG-LHC are tightly coordinated. The Operations team has created **Service Level Agreements (SLAs)** for each category, which defines **availability** for each service, along with a **target percentage**. Actual availability is monitored, and reported as a metric in the quarterly reports.

	SLA Target	Measured Availability	Met SLA?
CE Collector	90%	100.00%	YES
GRACC	95%	96.37%	YES
Message Broker	95%	100.00%	YES
OASIS	95%	98.29%	YES
perfSONAR	95%	99.96%	YES
Software Repositories	95%	100.00%	YES
Topology	95%	99.81%	YES
Web Services	95%	99.98%	YES

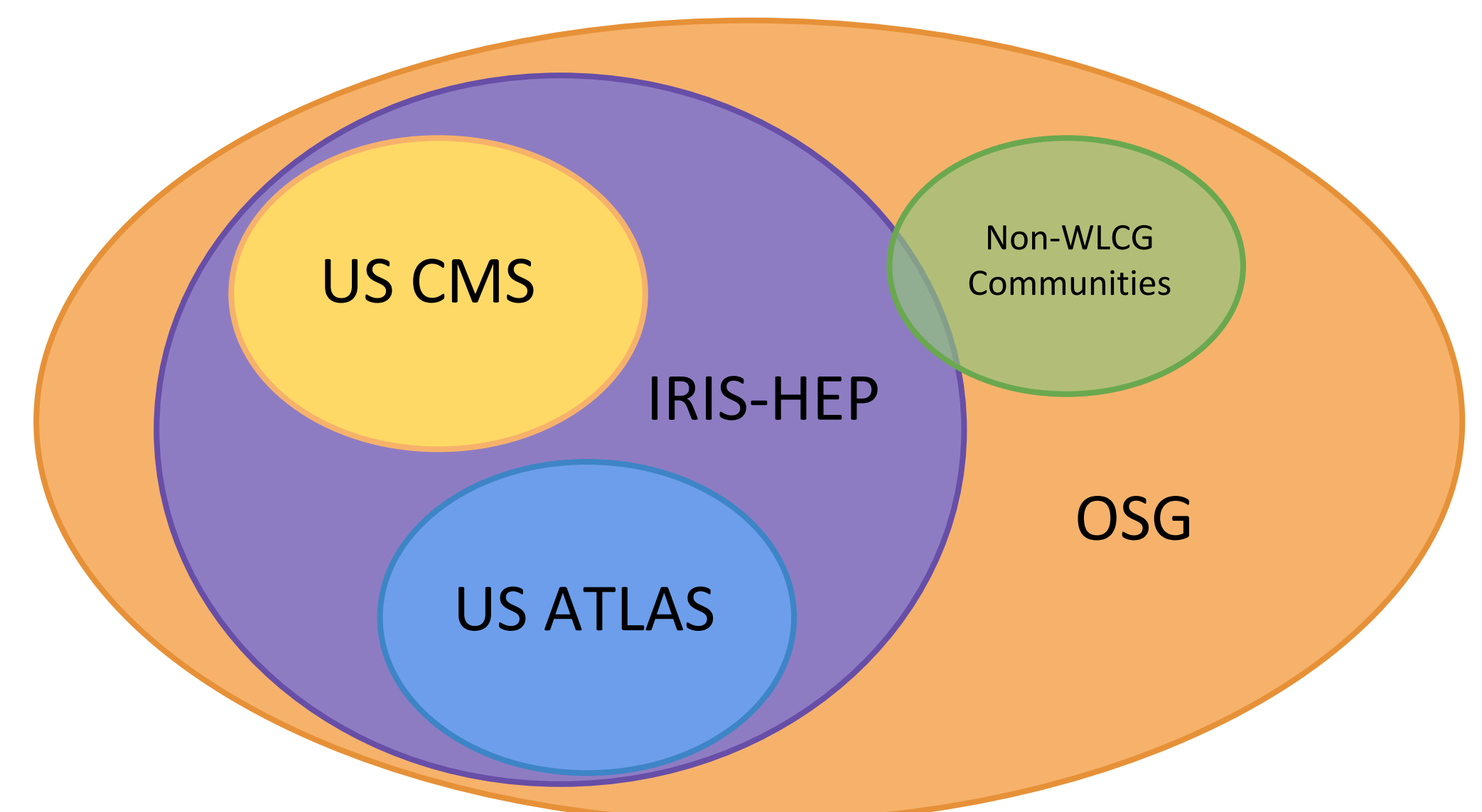
OSG-LHC Service Type Descriptions

- **CE Collector** - database describing all access points (Compute Elements) into resources on OSG
- **GRACC¹** - accounting database for usage statistics of all resources on OSG
- **Message Broker** - queuing system for data metrics fed into GRACC and other databases for improved service resilience
- **OASIS** - storage for user applications and data that is made available across all participating OSG sites
- **perfSONAR²** - collectors that pass network pipeline data between message buses and various databases
- **Software Repositories³** - contains all infrastructure software for resource providers
- **Topology** - registration database containing site resource and administrator contact information, as well as project contacts and descriptions
- **Web Services** - all user facing web pages, such as documentation, monitoring, and map pages, and the DNS records for the opensciencegrid.org domain

Conclusions

The **central services** required to support science across the OSG are supported by **various communities** and projects. **OSG-LHC services** are the fundamental services that are **required to support WLCG operations on the OSG**. Extra care is taken to ensure these services are stable and meet the **quality of standards** expected by the WLCG community. This core set of services doesn't only enable science for the WLCG, but **also supports communities beyond the LHC**.

IRIS-HEP and Related Communities



Service Catalog

To have a global picture of OSG services, the Operations team began tracking them in a **Service Catalog**. The Catalog includes **11 categories of service types**, and includes **~100 services**. To provide a complete picture, the catalog also includes services that are not operated by OSG but are a part of the fabric of production services.

The complete picture provided by the Catalog has led to **improved security** for the central services. The Security team has used the catalog to perform **vulnerability scans**, and has guided the operations team to patch services requiring updates.

1. See "OSG Accounting and Visualization" poster
2. See "OSG Network Monitoring" poster
3. See "Infrastructure Software Delivery" poster