

ESGF Publication, Security, and Data Management for CMIP6

Reporting period: April 1 2017 to June 30 2017

This is a report of work completed for second quarter of Year 3 for the subaward to University of Chicago: ESGF Publication, Security, and Data Management for CMIP6.

Installation and admin guide

Maintained the monitoring systems for the production and test federation nodes, <https://esgf.anl.gov/monitor/>, <https://esgf.anl.gov/monitor/testfed/>. Proactively contacted the admins of failing nodes and helped them investigate and fix the issues.

Installed and tested development releases 2.5.1-devel, 2.5.3-devel and reported issues. Changed a URL to the authorization service called by the GridFTP authz callout to point to the local service on the data node instead of an authorization service on the IdP node.

Investigated an issue with interrupted file downloads from GridFTP server on aims3.llnl.gov and rebuilt the GridFTP authz callout RPMs with newer version of gSOAP (version 2.7.17) to address the issue.

ESGF Security

Signed certificate requests for host certificates and MyProxy CA certificates from ESGF admins, and managed the ESGF trustroots to make sure that it contains signing policies of the new MyProxy CA and expired certificates are removed.

Developed a simple Django web application to provide an example how to integrate the python-esgf-auth, <https://github.com/lukaszlacinski/esgf-auth>, in a web service. The application authenticates ESGF users using ESGF OpenID and OAuth2 servers, and requests an X.509 certificate from the Short-Lived Certificate Service in an exchange for an access token. The web application can be has been deployed on dev.esgf.anl.gov behind the same Apache server that runs as a reverse proxy for CoG.

ESGF MyProxy servers after an update started refusing certificate requests from clients using MyProxyClient Python package. Investigated the issue that turned out to be associated with the md5 hashing algorithm in certificate request that is not accepted by the latest version of MyProxy servers. A corresponding fix has been applied in MyProxyClient v2.0.1 Also another bug causing that a certificate subject of MyProxy server was not correctly verified was discovered and a corresponding fix proposed which will be included in a next release.

Data transfer and replication

Ran Synda download tests in the test and production federation to improve the performance of GridFTP and Globus transfers implemented in Synda.