Workflow Progress Summary

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### Workflow new features

#### Process Flow
- The Pegasus workflow manager is being tested at OLCF and NERSC
- The ACME configure, build, and run process under Pegasus is working at OLCF and NERSC
- The HPSS storage wrapping software is completed and being tested
- Service with REST API for programmatic access
- Web front-end for users to browse and prepare and review models
- Review and create visualizations with CDATWeb
- Refining technical requirements for ACME Workflow Integration Framework

#### Data Management
- Set up additional ACME ESGF nodes and work environment:
  - LLNL
- Publish additional data from model runs
- Track a few outstanding issues or limitations, such as:
  - Need additional storage from the ONRL’s CADES storage infrastructure
- Work with publication team to allow individual ACME scientist to publish data to the ACME archive
- Testing HPSS within the ESGF infrastructure

#### Publication
- Moved authentication from Globus Nexus to Globus Authentication
- Improvements to user interface, e.g.,
  - remembering last selected facet
  - rearranged widgets, etc.
- Globus endpoints
  - Users can authenticate to ORNL/OLCF Rhea and Titan Globus endpoints using OSG certificates (instead of only PIN +SecureRSA) what makes scripting data transfer from/to Rhea and Titan possible now.
  - Webinar tutorials

#### NCO
- Works uniformly on all ACME, CESM, and observation components
- More accurate and Parallel mode ~25x faster than AMWG
- Remapper and grid/map-generator ncremap:
  - Infers grids from SCRUD (Swath, Curvilinear, Rectangular, Unstructured Data), or creates rectangular grids de novo, and remaps data in parallel
  - Generates weights with ESMF_RegridWeightGen or TempestRemap
# Workflow new features cont.

## UV-CDAT
- Anaconda build
- Linux, OSX
- Comes with: Matplotlib, VCS, CDMS2, cdt ime, NumPy, iPython, etc.
- Interactive point selection
- Continue work on cleaner API
- UV-CDAT new user’s documentation

## UVCmetrics
- AMWG reproduction
- Output customizable for ACME needs
- Generates own “climo” files or uses those generated by NCO
- Diags.py
- Metadiags.py
- Built-in Viewer
- MPI testing (mcenerney paper)
- Vector (.svg) and Raster (.png) graphical output
- ACME model variable name on plots

## DIAGS

## AMWG

### Test suite
- Continuous integration and code testing using CMake/CDash (https://cmake.org) and Buildbot (http://buildbot.net)
- Increased overall code coverage and new tests