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Supported Projects: ESGF, UV-CDAT, ACME, PCMDI

Quarterly Report for April 1, 2016 – June 31, 2016

Quarter Accomplishments:
- ESGF:
  - Refactored HPSS connector application, split backend to allow for accessing HPSS from behind computing facility firewalls
  - Abstracted ACME viewer script to allow for arbitrary diagnostics sets to be viewed, created library for generating index file from the diagnostics output. (output_viewer)
- ACME:
  - Made AMWG/LMWG diagnostics execute in parallel, and expand to fill available processors.
  - Created viewer script that generates attractive pages for viewing diagnostics output
  - Integrated the new ESGF output_viewer library into a web service for uploading and viewing diagnostics output, to allow scientists to share the analysis of model runs with their collaborators.
  - Attended ACME All Hands in Rockville, Maryland and met with our users and collaborators from the various laboratories
  - Obtained credentials for OLCF, began work to install HPSS software there in support of ACME project
  - Deployed DiagnosticsViewer at ORNL (in CADES)
- UV-CDAT:
  - Created new visualization methods for UV-CDAT to allow scientists to display scatter plot data in a polar coordinate system
  - Created a proof-of-concept client-side rendered framework for doing climate visualizations using UV-CDAT infrastructure
  - Pitched concept for merging two UV-CDAT UI projects into a single one, which we've begun work on, and am leading the development team for this new UI (Matt, Bryce, James, Ed Brown, Anna Pawlicka-Maule)
  - Working with our collaborators at Kitware to guide development of new client-side rendered visualization library built on top of UV-CDAT.
  - Became maintainer of UV-CDAT installation at NERSC
  - Released UV-CDAT 2.4.1
  - Began work on cleaning up UV-CDAT documentation
  - Collaborated with Dean and Charles on UV-CDAT proposal as Co-PI
  - Pushed the CDATGUI project to near completion
  - Found source of long-present memory leak in UV-CDAT

- PCMDI/AIMS:
  - Used new polar 1D system to create a timelapse visualization of the last 130 years of temperature data with science input
  - Built series of predefined polar 1D plots to demonstrate to scientists how to use new system
  - Provided technical guidance on PCMDI Publisher site, helped with deployments

Next Quarter's Roadmap
- ESGF:
  - Publish output_viewer and work on integrating with other diagnostics sets
  - BASEJumper completion?
- ACME:
  - Deploy updated DiagnosticsViewer at ORNL
  - Add new user capabilities to DV
- UV-CDAT:
  - Build and release initial version of vCDAT
  - Guide Ed through UV-CDAT documentation cleanup
- PCMDI/AIMS:
  - Complete timelapse visualization and get released to public

Resources Required to Achieve Goals
- Need to have conversations with other diagnostics projects to discuss integration with output_viewer/DiagnosticsViewer (PMP, Coupled Diagnostics)