Charles, Doutriaux

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

Quarterly Report for April 1, 2016 – June 30, 2016

Quarter Accomplishments:
- UV-CDAT releases
  - 2.4.1 [April 2016]
    - This was our first attempt at a conda distribution (non official)
    - It caught as wild fire and got a very enthusiastic response.
  - 2.6 [June 2016]
    - First official release through conda
    - cdscan can be imported, this means no need to call subprocess
      it is now usable with mpi and inside pure script (mpi and
      subprocess do not play well together)
- Conda repo
  - I created a set of script to easily tag version and upload/remove for
    each package we maintain, with so many package editing each files by
    hand was really tedious and error prone.
  - I created a set of script to build uvcdat packages, this saves time
  - I implemented a mechanism for “featured build” i.e custom builds. UV-
    CDAT can be built with some special options turned on in some
    external non-python packages (i.e. opennmp needs a special build of
    hdf5, computer with no X system need to have the graphics built
    against the mesa libraries). Conda does not support this natively.
  - I devolped a custom version of VTK for our conda channel, the official
    ones does not have all the vtk bug fixes needed by uvcdat.
  - I trained local users in person and via mails on how to setup and use
    anaconda (see: https://github.com/UV-
    CDAT/uvcdat/wiki/Anaconda_Multi_Users)
  - I made sure pcmdi legacy and specialized software are now part of
    conda automatically and not as special builds(drs/ezget/lats). This
    saves me time because I don’t need to do any special magic for our
    local users to have these features.
  - I demoed at our weekly meeting how all these new conda scripts work
  - Pyspharm conda build was from newer computer and wouldn’t work
    on older computers. So we are now distributing one built from our
    RH6 server, it works everywhere.
- UV-CDAT
  - A potentially new isofill algorithm was discussed among developers
    and scientists.
  - I maintained the uvcdat wiki for release page (conda mainly)
  - I reviewed other developers pull requests on github
  - I helped document/reproduce VTK png leak issue
I made sure that animation colormaps are not lost any longer
log/linear interpolation can now accept axis keyword to specify which axis is the level one.
Initial meetings on vCDAT, a new backend to render UV-CDAT graphics directly via the browser.

• CWT
  API 1.0 released
  Knowledge transfer to Zeshawn for install
  Helped Zeshawn with Ophidia integration, ophidian is a very powerful system developed in Europe for parallel processing of data. The biggest caveat is that it needs re-ingest the data into their custom format, but we think that caching should minimize this issue
  Brought Jason up to speed
  Met with Sandro and his team when they came here, we got a path forward for them to use UV-CDAT rather than ncl for their graphics and to use the CWT API.
  Got David Huard team from Canada’s Ouranos project to jump on board of CWT team.

• PCMDI metrics
  1.0 [April 2016]
  1.1 [June 2016]
  test suite uses conda -> travis

• Diagnostics
  Test suite uses conda builds
  Self contained
  Pretty levels
  Custom levels passed by user
  Custom obs passed by user
  No X version for super computer
  Sbatch option for metadiags to run on Edison at NERSC
  Marcia polar plots
  Autot used for regions subsets
  Helped Yuying
  Helped Zeshawn with redesigned of unified diagnostics packages

• Deputy work
  Decided on how to split team members among 3 deputies
  Re-assessed team time charges
  Interview with Jason Boutte

Next Quarter’s Roadmap
• Python api for end user for CWT
• pydata conference submission
• uvcdat paper, maybe conda paper
• Conda nightly build
• Cwt python user api
• Patterns uvcdat
• 3.0 preparation

**Resources Required to Achieve Goals**
• Need to discuss with community x,y,z capabilities before moving forward.