

Summary of the ESMF Change Review Board Meeting on Oct 14, 2011.

Attendance:

Robert Ferraro/JPL, Cecelia DeLuca/NOAA/CIRES, Alan Wallcraft/NRL SSC, Tom Black/NOAA, Scott Sangathe/NUOPC, Tim Campbell/NRL SSC/NUOPC

Agenda

The CRB covered the following topics during its meeting:

- Review development status
- Update development schedule

A synopsis of the discussion and decisions from the meeting is presented below. It is organized by agenda item. These notes attempt to capture the high points of the discussions, and any decisions that resulted.

Development Status Review (Cecelia DeLuca)

DeLuca reported on the status of the V5.2.0r public release, which took place in July. The release includes a commitment to backwards compatibility for about 75% of the ESMF interfaces. These represent the majority of the ESMF functionality, and have been finalized through dialogue with the user community. Highlights of the new release include:

- Regridding now includes a conservative option in addition to a bilinear and higher order method, and handles poles, grid connections, masking, and regional grids.
- An application that allows regrid weights to be generated offline from netCDF input files comes with ESMF.
- Distributed data classes such as Fields support a halo operation in addition to regridding, redistribution, and other communication methods.
- The communication methods support non-blocking execution. The implementation of State, FieldBundle and ArrayBundle has been completed and is based on a standard, highly efficient container implementation.
- An Exchange Grid (XGrid) class was added that supports flux-conserving regridding on an interfacial surface layer.
- An integrated compliance checker was made available with the ESMF library. It can be activated at runtime by setting an environment variable.

Richard Signell/Woods Hole joined the telecon to participate in a discussion about creating a Python interface to the unstructured grids tools. This includes Python wrappers to the ESMF API for unstructured grids, and not just the stand alone regridding capability. There is a user interest in subsetting these grids for computation and analysis purposes, as well as for interpolating to different grids. The current interest is in the sequential implementation of the regridding tools. Python is widely used within the community for developing analysis tools and codes, as well as gluing models to other models in the sequential environment.

At the moment, this potential capability does not appear to be in line with the priorities (or milestones) of the ESMF sponsors. The CRB is sensitive to the sponsor requirements, and asked for an opinion regarding the time commitment and time frame for developing such a capability. DeLuca indicated that the Core Team would need to do more investigation on the native package to determine how involved adding a Python interface would be. Subsetting would be a new capability for the package. Given the uncertainty at this stage, the CRB deemed this new capability to be of lower priority than the work in line with achieving sponsor milestones during the next 12 – 18 months.

Current Schedule Review

Since recent priority has been on completing the Public Release V5.2.0r, the future schedule was largely undefined. The CRB reviewed the current list of feature requests maintained by the Core Team, with a view towards identifying those items which are in line with upcoming sponsor milestones or commitments. Several NUOPC milestones are due, or will be due in the next 6 – 9 months, which drive requirements for certain functionality. As always, matching developer availability/skills with the priority tasks will drive the schedule. DeLuca took the action to match the priority task list to developer available time, and return a draft schedule by email to the CRB for comment and approval.

[The revised schedule was subsequently delivered on Nov 21, due to extenuating circumstances. The schedule received no comments from the CRB and was adopted. Due to the matching of skills to tasks, and synergy among tasks, the Python interface was incorporated into the schedule on a non-interference basis.]

Next Meeting

The next meeting will be scheduled to take place in February, 2012, in preparation for the v5.3.0 release.