

Summary of the ESMF Change Review Board Meeting on August 28, 2008.

Attendance:

Robert Ferraro/JPL, Cecelia Deluce/NCAR, Tom Clune/NASA GSFC, Atanas Trayanov/NASA GSFC, Alan Wallcraft/NRL SSC, Tom Black/NOAA, Chris Hill/MIT

Agenda

The CRB covered the following topics during its meeting:

- Development status review (v 3.1.1 & v4.0.0)
- Review of JST/CRB Telecon notes
- Review feature requests being tracked by the Core Team
- Review and amend current 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.

Review of JST/CRB Telecon notes

There were no substantive comments from users during the JST/CRB telecon held on 8/21/08. The CRB proceeded directly to reviewing the development status.

Development Status Review (Cecelia Deluca)

The internal release ESMF v3.1.1 did not take place due to the Public Release ESMF v3.1.0r in May. Progress has been made on a combination of items in the scheduled v3.1.1 and v4.0.0 releases. The CRB decided that the next release, expected by Sept 5th, would be labeled v3.1.1 and incorporate those items that were ready for release. Items deferred to a later release from the release v3.1.1 schedule for May are:

- Method to return IRF and phase
- Add VM documentation

Items completed from V4.0.0 which are ready for release are:

- C interfaces required for coupling
- Fix reverse time bug
- Modified Julien date calendar
- Continued petascale optimization of sparse matrix multiply
- Implement concurrency in regrid
- Implement unstructured grid support

Internal Release V4.0.0 is now scheduled for Jan 2009. Additional tasks have been added to round out the delivery. (See below)

ESMF support/feature/bug requests update

[The ESMF SourceForge site now tracks all support requests, bugs, new feature requests, and all development tasks. Links to the various tracking lists can be reached by clicking on Developers on the navigation bar at the top of the ESMF home page.]

The ESMF Project has stated a commitment to a stable API with the Public Release of ESMF v5, by Sept 2010. In order to satisfy that commitment, any addition of features and further development that affects the API needs to be completed and released for beta testing by Jan 2010. To this end, the CRB reviewed the outstanding feature requests being tracked on SourceForge, to identify those items which could potentially impact the current API.

Five feature requests were identified as potentially impacting the ability to commit to a stable (and backwards compatible) API. These were:

- resolving component interfaces with respect to clock arguments
- support for tripole grids
- one-sided/asynchronous communications
- a function to check by grid content whether the grids are the same
- grid coordinate generation

A development task for each was added to the schedule queue. More tasks of this nature may be identified by core team developers before the schedule is posted.

The CRB then proceeded to prioritize all of the remaining tasks in the schedule queue so that a stable API would be ready for internal release in Jan 2010.

Review and amend current schedule

The Internal Release v 3.1.1 is slipped to Sept 5, 2008

The Internal Release v 4.0.0 was redefined, and scheduled for Jan 2009. It includes

- Add VM documentation

deferred from v 3.1.1, and the remaining items from v 4.0.0 planned for August. Based on developer time available after the v 3.1.1 release, regrid tasks and additional C interface implementations were added to V 4.0.0, along with user-method callbacks and other minor functionality.

The CRB set the internal release of V5 for Jan 2010, so that public release in Sept 2010 is stable and there will be 6 months time available to complete bug fixes and documentation.

The remaining tasks in the schedule queue were examined for potential developer conflicts. None were identified. Based on CRB priorities, Array Halo implementation and improved garbage collection were placed later on the development schedule to allow one sided comms, petascale optimization, and IRF & phase methods to be completed before the API is frozen.

The remaining grid/regrid implementation task in the queue were scheduled based on the priority to support conservative regridding before potentially supporting user generated grids. The CRB wasn't sure who the customer for user generated grids was.

There have been requests to incorporate some of the utility layer from MAPL into the ESMF interface, where MAPL enables simplified methods for dealing with iterative or repetitive setup and management of components. The CRB agreed that such functionality would be useful to include in V5 (and has the potential to impact a stable

API commitment). The Core Team will do an analysis of MAPL and NUOPC requirements to determine a recommended set of functions to be included in the V5 release. An implementation task may be put on the schedule after this analysis is completed.

An I/O interface has been on the feature request list from the beginning of the project. This is a difficult task, and has been deferred many times. However, there is a strong desire to have an I/O interface in ESMF V5, so the Core Team will take on the challenge for including a preliminary implementation by next spring.

A tentative date for the Public Release of V4.0.0 was put on the schedule for May 2009, with an internal release to follow in June.

Other Topics

The CRB did not specifically address the open bugs list at this meeting. There is expected to be some developer slack in the new schedule that will allow more attention to be paid to these items on a Core Team internal priority basis.

Next Meeting

The next meeting is tentatively scheduled to take place in December. The specific date is TBD.