Summary of the ESMF Change Review Board Meeting on January 13, 2011.

Attendance:

Robert Ferraro/JPL, Cecelia DeLuca/NOAA/CIRES, Alan Wallcraft/NRL SSC, Tom Black/NOAA, Marianna Verstenstein/NCAR, Chris Hill/MIT, Scott Sangathe/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 V5.2.0 release. The following items on the development schedule have been completed since the last CRB meeting:

- Compliance tester
- C reference manual
- Initial data IO implementation (PIO – net CDF) - done
  (async I/O to be implemented as a separate component)
- Initial implementation of exchange grids - releasable in beta but multi-processor is buggy
- Implement local conservation to improve conservative regridding
- Updated on-line tutorial and demo - releasable but could use improvement

The following items are still in progress:

- Communication support for data objects that contain both arbitrarily distributed and non-arbitrarily distributed dimensions
- Communication support for Fields with replicated dimensions
- Final sweep of bugs and feature requests for API freeze
- API standardization - not really done
- Make the treatment of characters consistent
- Implement grid connections in regridding methods
- Support for tripole grid shortcuts
- Implement multi-tile grid representation

There was discussion regarding the API standardization and backward compatibility activity, and what it would really mean to the ESMF interfaces. Clearly, there are new additions to ESMF functionality that will remain in flux for some time. The intent of the standardization / backward compatibility is to focus on the mature functional content of the ESMF distribution (approx 80% of the interfaces). Major customers are being

consulted to gather feedback about the specific interfaces that are to remain "unfrozen" after V5.2.0r, so that everyone is aware of the potential future changes, and has a chance to weigh in on the impact of not freezing a particular interface.

[Note - "Freeze" is used in a general sense in these notes. The specific terms of backwards compatibility do not preclude the addition of optional arguments in the future, but does indicate that the required arguments, and their positions within the interface at V5.2.0r, will be preserved in future releases.]

Adjustments to the Current Schedule

V5.2.0 will be released in approximately 1 month, with the public release to follow towards the summer.

The CRB next examined the open feature tasking list maintained by the project. The group reviewed a large portion of the list to select some near term tasks to add to the development schedule. The following tasks were identified as near term priorities:

- Implement grid connections
- Factorization of regrid for performance
- Higher order conservative regrid
- Extrapolation of dst points that lie outside src
- Enable field and scientific metadata
- Write a config file
- Define attribute packages with an xsd
- Field data operations
- Continued development of exchange grid
- Fault tolerant MPMD component level communication
- NUOPC interfaces and development
- ASMM support for multi-tuple sequence indices
- Garbage collection and object destruction strategy
- Complete non-blocking routehandle communication
- Better demo and online tutorial
- Performance and memory optimization of RegridStore
- Connect attributes to class information
- C interfaces for Attribute
- I/O set up for more than one package and format
- Restructure reconcile for robustness
- Implement component reconcile

These tasks were matched against developer resources (time and expertise), and were ranked relative to each developers workload. The ESMF Project Manager will develop a new beta delivery schedule based on this CRB input.

Next Meeting

The next meeting will be scheduled to take place in the spring or early summer, as the potential release date for V5.2.0r draws nearer.