ESMF Advisory Board Meeting, 17 December, 2008
Members present:

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We reviewed the response to last year's Advisory Board recommendations, including the Annual Plan, the Strategic Plan, results from the user feedback survey, statistics of ESMF code problem reconciliation, and discussion of code stability. We applaud the excellent and comprehensive response to the recommendations and are particularly impressed with the clarity and utility of the Strategic Plan and Annual Report. We endorse distribution of the report and plan, and recommend that the Strategic Plan be treated as a living document with annual updates. We note that the feedback survey results were less valuable that had been anticipated but that they satisfied the previous Advisory Board recommendation (perhaps poorly posed). We also applaud the availability of the documentation prior to the board meetings and encourage the practice to continue.

Following discussion, the Advisory Board agreed on a number of recommendations that we feel will improve the adoption of ESMF and provide guidance for future ESMF development and staffing priorities.

1. We recommend that ESMF create and regularly monitor additional metrics to measure (and help market) the success of the overall ESMF effort (noting that a few of these already exist). Such metrics should focus on success beyond attainment of annual goals. Metrics could include:

    a. Interoperability of components/applications adopting ESMF. This metric could perhaps monitor the degree of reuse or adoption of ESMF components by groups other than the group having developed/adapted the ESMF component and track the transition of ESMF-enabled applications from development to operations. We acknowledge that such measures will not be a true metric of ESMF utility, since adoption of components/applications will depend on many factors other than the utility of ESMF, but will provide an indicator of ESMF interest in the broader community. Summaries of this metric might include tables providing lists of components and levels of adoption, reuse, and operational transition.
    b. Level of implementation of ESMF superstructure within specific applications. This metric could assess the level (i.e. model wrapper, physics suite, physics component, subcomponent, etc) to which ESMF utilities are used to link modules within each application and/or to link different applications within a modeling system. A similar metric could also measure the adoption of ESMF infrastructure utilities in building the various components making up the application.
    c. Information about the value of the implementation and the effort involved in adopting ESMF in addition to the "Code Change Metrics". It is not

clear that this could be an objective/quantitative metric, and might become rather a listing of anecdotal descriptions, but in any case there is value in understanding/communicating the benefit that applications have found in adopting ESMF and the associated effort involved. Such understanding can help with prioritization of further ESMF tasking as well as with marketing ESMF to potential future users.

d. Compilation of ESMF success stories. It is important that ESMF successes are communicated to the wider community, both to provide examples of how ESMF has provided benefit and to help potential users justify the investment required for adoption.
e. ESMF All of these metrics (or at least those for which it makes sense) could be evaluated at regular intervals so that changes over time might serve as an integrator metric for an overall success estimate of ESMF adoption.

2. We recommend that ESMF review its planned post-2010 customer support strategy. We agree that the focus until 2010 should remain achievement of the developmental goals already established. Post 2010, we expect that the investment balance between development and support will change, with increased priority afforded to product and application support. Achieving the desired balance will require an honest assessment of what that balance should be, the rate at which that balance needs to change, and the associated cost. There will be need to ramp up user support, to include some of the following:

    a. Improved access to ESMF software. This might include multi-component examples for download and descriptions of how different utilities can be used.
    b. Guides for new users. This might include Web tutorials with detailed walk through of implementation examples.
    c. Implementation support tools. This might include templates or checklists that could help a new user master the specifics of ESMF superstructure and infrastructure implementation.
    d. Direct support staff. This could apply to both general marketing and to focused application support, possibly involving a help desk focused on applications issues and direct support provided to specific application integration.
    e. On-site support. A select few high priority applications could benefit from temporary on-site ESMF support personnel. This would require some method of prioritizing applications to support, and would obviously be limited by the available staff expertise.
    f. A community distribution portal for ESMF enabled codes. This would make it easier for reuse of existing ESMF applications and also provide examples for new users. It might be possible for ESMF to maintain a metadata library of ESMF enabled codes and establish agreements with applications developers to allow sharing of applications via an ESMF supported portal.

3. Although we did not elaborate on the discussion of standards that occupied much of the general meeting, we do endorse the general recommendation that ESMF participate in emerging efforts to establish standards for model development and operations, especially those associated with Web Services/XML and Metadata (e.g., CF) standards. We agree that acceptance of standards for model architecture, coding, data passing and management, gridding, supporting utilities, etc. can accelerate collaborative development and transition of model improvements. ESMF can be an important contributor to such standards. However, creation and acceptance of standards must be driven by the model development community in coordination with the operational community. ESMF can help to enable creation of standards, but is not in position to actively lead the creation effort. It will be important for ESMF to monitor efforts to create standards and participate as appropriate, but care must be taken against premature endorsement of standards that might alienate a significant portion of the development and/or operational community.

4. We recommend that ESMF establish a "Five Year Plan" for implementation of the Strategic Plan beyond the limits of the Annual Plan. Such a plan could include:

    a. Implementation priorities, including review of application efforts recommended for support by ESMF.
    b. A review of metrics to be adopted and discussion of the utility of such metrics in guiding future ESMF development and implementation.
    c. A review of user support efforts to implement the sorts of support activities described in 2 above.
    d. Remaining development priorities, with review of the need for and target application of the selected development.
    e. Assessment of the relative efforts anticipated related to development versus maintenance, including testing, documentation and porting.
    f. Review of the governance process, with focus on any changes that might be required by the anticipated shift in investment balance from development to support and maintenance and associated changes in project funding and direction.

5. We noted that the membership of the ESMF Advisory Board was poorly represented at this meeting, with half of the members not present, either in person or via telcon. We recommend that the ESMF Executive Board review the membership of the Advisory Board to determine if changes are necessary to ensure adequate participation at future board meetings.