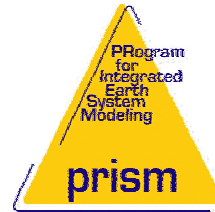


PRISM Support Initiative



Coupler and I/O work group The future developments

*A. Caubel, D. Declat, J. Ghattas, R. Redler, H. Ritzdorf,
T. Schoenemeyer, S. Valcke and R. Vogelsang*

PRISM Community Meeting 2005
CERFACS, Toulouse, November 16-17, 2005

CRAY

CECMWF



NEC



SMHI





OASIS3: User Survey results and plans

- Well accepted standard, developed and used also before PRISM
- All groups currently using OASIS3 want to keep on using it or switching to OASIS4
- Benefits:
 - Portable
 - Targeted at ESM needs
 - NetCDF support
 - Well used standard, large community
 - Integrated with SCE and SRE, but also usable independently
- Drawbacks:
 - Too slow, extra memory and CPU needed
 - Only 2D exchange
 - Binary machine I/O
 - Difficult to debug
- New version planned beginning of next year to solve known bugs., maintenance and support ensured.
- Effort will be put on OASIS4 (to address drawbacks)



OASIS4: User Survey results

- Considered as logical OASIS3 follow-on but many groups still happy with OASIS3.
- One group happy to have IO below PSMILe (easy switch from coupled to forced mode) but general standard IO library appeared not a strong need.
- Benefits:
 - More efficient than OASIS3, parallel
 - Improved API
 - Portable
- Drawbacks:
 - **Currently does not support all OASIS3 interpolations**
 - Not mature enough, not stable enough
 - Increased complexity (XML)
 - Error message, debugging info not clear enough
 - Dependent on other packages



OASIS4: future developments

Short term (-> December 2006)

- Regridding/transformations:
 - Implement OASIS3 interpolations:
 - Full validation of schemes currently implemented
 - Implement 2D conservative remapping
 - Improve Transformer efficiency
 - Communication:
 - Implement global search (not just local process search)
 - Simplify XML structure, develop GUI for XML
 - Improve consistency checking, error messages, debugging info
 - Improve documentation, set-up FAQ (?)
 - Source management: Subversion and Trac
 - Compiling environment: SCE + ...
-



OASIS4: future developments

- Medium term (-> July 2007)
 - 2D1D with linear and nearest-neighbour in the vertical
 - Tricubic interpolation
 - PSMILe API for model access to more SMIOC info
 - PSMILe API for model access to calendar info
 - External specification of different calendars (internally supported)
 - Full support of vectors, bundles, subgrids
 - Non-blocking sending and receiving routines
- Long term:
 - Support types of exchange dates other than fixed frequency
 - 3D conservative remapping
 - User-defined 3D and 2D remapping
 - Field reduction, combination
 - Full support of unstructured grid
 - Support of adaptive grids



The end