



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, big vs little endian problem (toy), maintenance & support ensured.
 - Provide full makefile (for use outside SCE) and typical CPU and elapse time numbers.
 - 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.
 - ~2 groups 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). *We know this drawback but still think that XML is a good choice given the complexity of the coupling interface description and of the possible configuration. We will not retain a user's proposition to build a tool to create namelists out of the XML files (the coupler would then read only namelists but xmllib would still be needed in the tool). We prefer to provide tools (GUI) to help create the XML files.*
 - Error message, debugging info not clear enough. *This will be added in the code on demand based on user's feedback; an additional chapter with detailed error message will be provided in the User Guide; a FAQ will be set-up.*
 - Dependent on other packages. This is true (NetCDF, MPI, xmllib) but we still think that those packages are good technical choices
-



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)
 - Source management: Source reorganisation, CVS at CERFACS, Subversion and Trac
 - Compiling environment: SCE + ...
 - Simplify XML structure, develop GUI for XML
 - Improve consistency checking, error messages, debugging info
 - Improve documentation (esp. on interpolation), set-up FAQ (?), provide typical CPU and elapse time numbers
-



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)
 - Support of vectors, bundles, subgrids
- Long term:
 - Non-blocking sending and receiving routines
 - 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