

Test_1bin_ocnice toy model

1. To compile the OASIS3-MCT coupler:

- Go into directory oasis3-mct/util/make_dir
- In each new terminal you open, do :


```

module purge
module load intel intelmpi
alias ferret="xterm -e ferret &"

```
- Adapt the value of \$COUPLE and \$ARCHDIR in your platform header (see example therein)
- Adapt the "make.inc" file to include your platform header in the TopMakefileOasis3.
- Type "make realclean -f TopMakefileOasis3" and then "make -f TopMakefileOasis3"
- The libraries "libmct.a", "libmpeu.a", "libpsmile.MPI1.a" and "libscrip.a" that need to be linked to the models are available in the directory \$ARCHDIR/lib

1. To compile the test_1bin_ocnice model:

- Go into directory oasis3-mct/examples/test_1bin_ocnice
- Type "make clean; make" (note that the Makefile in this directory automatically includes your OASIS3-MCT header makefile – see the first line in the Makefile)
- The executable ocnice is available in the current directory.

2. To run the ocnice component models:

Edit the script *run_1bin_ocnice* to adapt it to your platform and execute it.

The results are now in subdirectory \$rundir defined in the script. This toy model reproduces the coupling between 5 sub-components of component “ocnice” in the “ocnice” executable. Two sub-components, defining grids with respectively a “partocn_phys” partition and a “partocn_dyna” partition, run sequentially on tasks 0-8 and exchange coupling fields. These two sequential sub-components run concurrently with and exchange coupling fields with a third sub-component defining a grid with partition “partice_ice” on tasks 9-14. Two additional sub-components, running sequentially and defining grids with partitions “partio_ocn” and “partio_ice” on task 15, run concurrently and exchange coupling fields with the first 3 sub-components. The sequence of calls to oasis_init_comp, oasis_def_partition and oasis_def_var reproduced by ocnice on the different tasks is illustrated on Figure 1, while the coupling exchanges of the different fields between the different tasks is detailed on Figure 2.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
init_comp ['ocnice']															
def_partition [apple for 'partocn_phys']									def_partition [for 'partice_ice']						def_partition [partio_ocn]
def_partition [box for 'partocn_dyna']									def_var [I1,I2,I3,I4,P31,P41,D31,D41]						def_partition [partio_ice]
def_var [P1, P2, P3, P4, P5, D1P, D2P, I1P, I2P]															def_var [P4I, P5I, I3I, I4I]
def_var [D1, D2, D3, D4, D5, P1D, P2D, P3D]															def_var [I3I, I4I]
oasis_enddef															

Figure 1: The sequence of calls to oasis_init_comp, oasis_def_partition and oasis_def_var reproduced by the different tasks of ocnice.

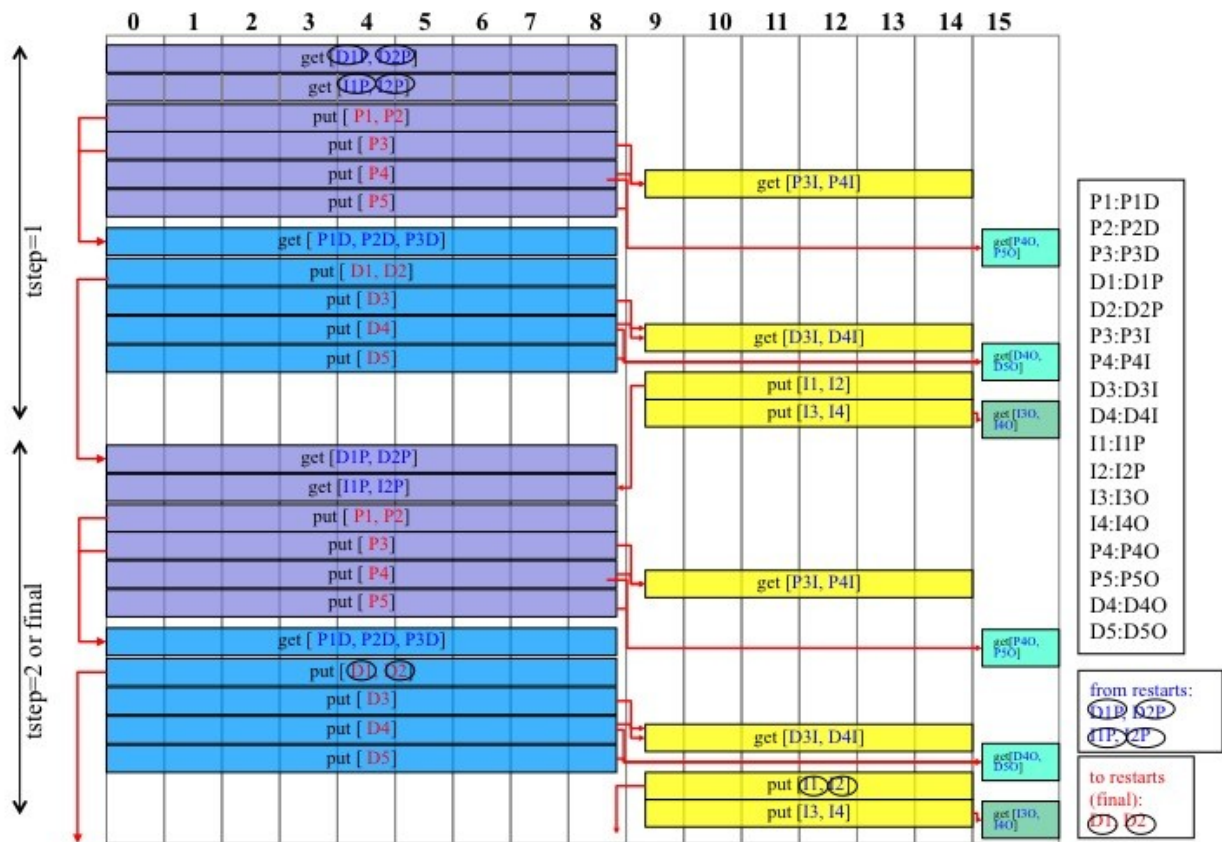


Figure 2: Coupling exchanges of the different fields between the different tasks of `ocnice`.