

CCSM - CAM with HOMME

The Community Climate System Model (CCSM) is a fully coupled climate model. In this benchmark we only evaluate the Community Atmosphere Model using the HOMME di-core.

Setup the environment:

```
export COMPSET=F
export RES=T31_g37
export MACH=generic_linux_intel
export CCSMROOT=/home/bmayer/ccsm_port/ccsm4_0
export CASE=CAMbm
export CASEROOT=/home/bmayer/ccsm_port/dcs_port/CAMbm
export EXEROOT=/home/bmayer/ccsm_port/dcs_port/exe
export RUNDIR=$EXEROOT/run
```

Create the test case:

```
cd $CCSMROOT/scripts
./create_newcase -case $CASEROOT -mach $MACH -compset $COMPSET -res $RES -scratchroot /ptmp/scratch -
din_loc_root_ccsmdata /ptmp/ccsm_data -max_tasks_per_node 16
cd $CASEROOT
```

Setup machine specific variables:

```
edit env_mach_specific and update INTEL_PATH, MPICH_PATH, PATH, LD_LIBRARY_PATH.
edit Macros.generic_linux_intel and update FC, CC, NETCDF_PATH, MPICH_PATH, MPI_LIB_NAME.
edit env_mach_pes.xml Modify NTASKS_* to have tasks the number of cores that the test node has.
```

Lock the files and build the test case:

```
./configure -case
./$CASE.$MACH.build
Edit env_run.xml and modify STOP_N so the value is 20.
```

Run the model:

```
./$CASE.$MACH.run
```

After running the model the timing results will be in the sub-directory "timing" in a file which starts with "ccsm_timing.CAMbm.". Running:

```
grep TOT timing/ccsm_timing.CAMbm.*
```

will report the total run time for each of the completed CAM/HOMME runs.