Towards a new validation system - DAVAÏ

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Outline

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7. when happy with results, declare **CY##_t1.nn** ⇒ **CY##T1**

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not to mention Data Assimilation, postponed by months (when it is done)

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- design not very flexible
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Opportunities

- Karim leave
- ***Vortex*** : now used for **all** our operational and research configurations, and contains much ***wrapping utilities*** for DA runs
- ***OOPS*** : thanks to its object-oriented design, enables to test observation operators ***separately*** from algorithms (hence in parallel to the model)

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Scripting a **Task**

1. fetch input resources for task
2. run executable
3. save output : cache/archive

Scripting a **Test**

1. fetch input resources for task
1'. *fetch reference output (for comparison)*
2. run executable
2'. *compare output to reference, and feed DAVAÏ graphical interface (database) with the comparison*
3. save output : cache/archive *(+ metadata of the task, e.g. mem/CPU)*

Classification of the tests

- model :
  - forecast
  - fullpos
  - algorithimic components around forecast (DFI, IAU, IOserv, restart...)
  - TL & AD

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↪ *on small truncation/grids, for* ***efficiency*** *(a few minutes or less per test, max)*
↪ *and ± small number of obs (****memory*** *vs. representativity)*

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- ***OOPS-JoTests*** : from stdout, compares computed Jo or result of adjoint test of Jo

Ciboulaï

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- macro view :
  - ***all Davaï experiments from all users***
  - filtering tool among experiments
  - summary of each experiment : number and % of tests OK/KO/ ?/crashed
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- micro view *(individual task)* :
  - expertise about the ***task itself*** : metadata parsed by all ***experts*** involved
  - comparison to reference(s) [a], by all ***experts***

---

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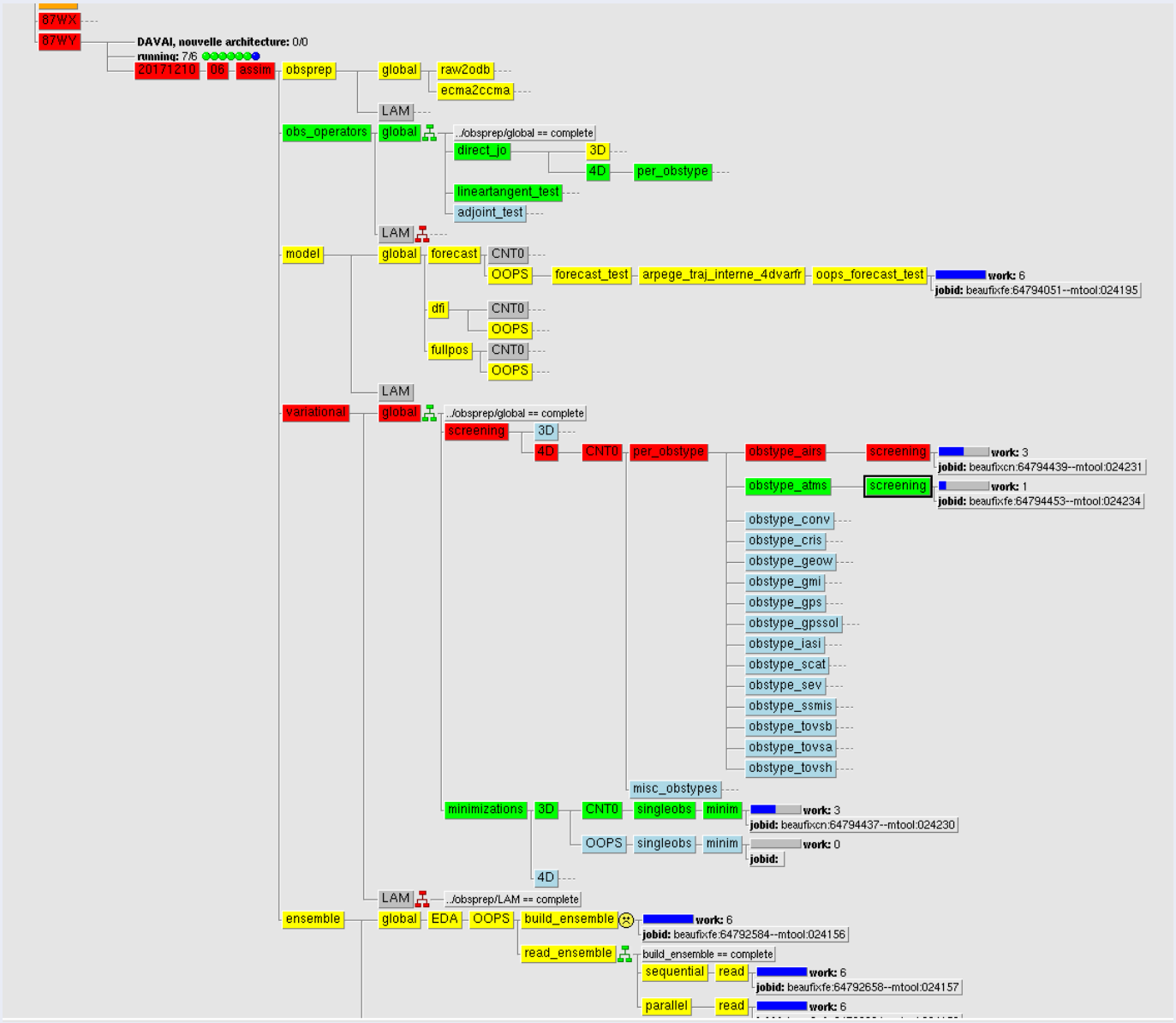
DAVAI for/from outside MF

- portability :
  - Vortex : $\sim$ OK ?
  - Olive/Vortex works on ECMWF HPC from Météo France SMS servers
- accessibility :
  - of Olive from outside MF ?
  - export of Olive experiments/tasks to standalone Vortex scripts ?

DAVAI


87WX
87WY
DAVAI, nouvelle architecture: 0/0
running: 7/6
20171210
06
assim
obsprep
global
raw2odb
ecma2ccma
LAM
obs_operators
global
../obsprep/global == complete
direct_jo
3D
4D
per_obstype
lineartangent_test
adjoint_test
LAM
model
global
forecast
CNT0
OOPS
forecast_test
arpege_traj_interne_4dvarfr
oops_forecast_test
work: 6
jobid: beaufixfe:64794051--mtool:024195
dfi
CNT0
OOPS
fullpos
CNT0
OOPS
LAM
variational
global
../obsprep/global == complete
screening
3D
4D
CNT0
per_obstype
obstype_airs
screening
work: 3
jobid: beaufixcn:64794439--mtool:024231
obstype_atms
screening
work: 1
jobid: beaufixfe:64794453--mtool:024234
obstype_conv
obstype_cris
obstype_geow
obstype_gmi
obstype_gps
obstype_gpssol
obstype_iasi
obstype_scat
obstype_sev
obstype_ssmis
obstype_tovsb
obstype_tovsa
obstype_tovsh
misc_obstypes
minimizations
3D
CNT0
singleobs
minim
work: 3
jobid: beaufixcn:64794437--mtool:024230
OOPS
singleobs
minim
work: 0
jobid:
4D
LAM
../obsprep/LAM == complete
ensemble
global
EDA
OOPS
build_ensemble
work: 6
jobid: beaufixfe:64792584--mtool:024156
read_ensemble
build_ensemble == complete
sequential
read
work: 6
jobid: beaufixfe:64792658--mtool:024157
parallel
read
work: 6