



WP12 – General News

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Some organisational points

- Started to re-organize web page for WP12
 - [O2 WP12/CWG8 page](#) cleaned up a bit
 - Main page links to [TWiki](#)
 - TWiki tries to collect information + documentation about various simulation activities
 - All ALICE members can edit the Twiki
- A google doc was created to plan WP12 meetings ahead
 - Link is [here](#)
 - Proposals for topics can be put there and/or communicated to us
 - Also try to put (or link) some minutes

Overview of recent activities

Detector porting

- Recent focused activity for milestone “Simulation of all detectors in O2” [\[AOGM-56\]](#)
 - Concentrating on geometry + hit creation
- Coding sprint at CERN organized first week of July 2017
 - Participants: M. Fasel (EMCAL), F. Noferini (TOF), S. Wenzel
 - Ported/integrated geometries for EMCAL, TOF, FRAME, TRD to the O2 code base
 - Full hits for TOF, partially for EMCAL, TRD
- A lot of experience gained ... which should be beneficial to attack remaining detectors
- Would like to continue this format of bringing people together

Overview of recent activities

A global o2sim application

- Up until now we only had detector specific macros running simulation tests (e.g. `“run_sim_its.C”`)
 - Fine for prototyping...
 - But a lot of code duplication ... now that we have more and more detectors available
- Provided a first version of a global “o2sim” application, integration all detectors together
 - `“o2sim --modules EMCAL TPC --mcEngine TGeant4 --nEvents 2”`
 - Only hit production
 - For now mainly for testing, performance studies etc.
 - First concept for simulation configuration via command line params/ config file (change generators, MC engines, select detector modules, etc.)
 - will be developed more carefully together with Framework
- ITS not yet integrated (too complex geometry configuration happening in their macro: Could this be cleaned up/moved to library code?)

Overview of recent activities

Monitoring of simulation

- Developed a Monte Carlo “monitoring” facility for use in O2 and AliRoot
 - For detailed understanding of
 - Where and how many steps/magnetic field calls are done
 - For which particle this is done
 - Timing of individual track processing
 - Etc....
 - For cross comparison / debugging of O2 vs AliRoot simulation
 - For detailed comparison between G4 and G3
- External mechanism having zero CPU penalty when not used; small penalty when used
 - “[LD_PRELOAD=libMCStepLogger.so] o2sim | aliroot sim.C”
- More details in a dedicated talk in of the next meetings

Overview of recent activities

Miscellaneous

- Improved situation for (unit) testing
 - Complete simulation jobs (TPC for the moment) are now being run during pull request checks with both Geant4 and Geant3 setups
 - Prevents trivial bugs that would crash the application (segfaults, wrong environment setup, ..)
 - Will (re-)add step-by-step more complex setups / other tests
- Fixed issue with global macro installation
 - Macros are again (unconditionally) installed in `${O2_ROOT}/share/macro`

Next big items

- MCTruth
 - Refinement/putting into place proposal presented in [last meeting](#)
- CCDB access for simulation
- Processing of simulation tasks in O2 framework
 - FairMQ device based processing
- Currently planned to try out/advance these issues in context of TPC
 - Coding sprint organized 11.9.-15.9. at CERN
- (Simulation) configuration in O2 framework
- Upcoming important milestones for detectors:
 - Continuous time simulation for ITS
 - Rest of detectors advancing with there development
- Geant4 MT demonstrator