Production Status

Bugs, patches and outlook

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Software and Computing Meeting

Current status

- Detector concept is fixed
  - We have a software stack to pick this up, prop.2
- Time was spent testing full production, a few problems found:
  - A large % of jobs failed at BNL, maybe 40% or more were empty
    - Problem was concurrent accesses on simulation macro to change strings (i.e. file changed during read for several jobs)
    - Solution was to split into production branches on git hub which have the strings already changed
    - Outcome, I submitted 10k jobs and had 6 failures (99.94% success)
    - We now have four branches for production:

1. production
2. production-singlePion-0-20GeV
3. production-singlePion-0-20GeV
4. production-pythia8

    - The last three branches are auto-synced from “production”
    - We will make new tags for fixed git hashes for each production iteration

Current status

- Detector concept is fixed
  - We have a software stack to pick this up, prop.2
- Time was spent testing full production, a few problems found:
  - Two bugs were found in evaluators
  1. Missing null check for cross section calculation:
     auto xsec = truthevent->cross_section();
     _cross_section = xsec->cross_section();
  2. Crash from jet evaluator:
     Seems to arise from a check that two particles being compared aren't the same. We have asserts in place that should have picked this up
  - Event eval has been patched
  - Current solution is to disable both event and jet eval then rerun the evaluators later with patches
    - Can't run event evaluator in production as EIC diverged the code last week so we have new include folders and class names, requires a new software stack to make compatible with productions

Production launches

- I've checked that prop.2 and macros repo's are ready for launch on current tags:
  - Software build = prop.2, macros branch/tag = production/c131177
  - This tag disables event and jet eval
- Production repo has been updated with suggestions from last week
  - Each site has a folder with input file lists
  - I just need to check we have a fair distribution
- prop.2.1 files that were produced this week:

1. 5M single pions (~50 minutes for 1k events)
2. 5M single electrons (~50 minutes for 1k events)
3. 5M pythia8 at ep of 10x100 (~1 hour for 1k events, mem. ~1465MB)
4. 5M pythia8 at ep of 5x41 (~1 hour for 1k events, mem. ~1465MB)

July 2021 Concept

- Detector readiness meeting directly preceded this meeting
  - I wrote the slides before the detector so I can't add anything here
- Online spreadsheet may have up-to-date info from meeting