

# Status and plans for data processing for early phase 3

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- Scripts and tools for production on LSF have improved substantially.
- <https://stash.desy.de/projects/B2P/repos/data/browse/Proc>
  - ▶ better configuration: single json for all processing
  - ▶ better logging and bookkeeping
  - ▶ More exhaustive set of known failures to catch (only experience will tell if complete!)
  - ▶ do not submit if input file is on tape only: first ask for staging
    - ★ can b2\_dataprod group have higher priority in staging requests?
    - ★ now it is: first come, first served
  - ▶ Need to be documented
- Steering script
  - ▶ the goal was to have them as “standard” as possible, namely straight from the release
  - ▶ not so
  - ▶ Many ad-hoc fixes, adding/removing modules, changing modules’ parameters, etc. . .
  - ▶ A concern in the long scale.
  - ▶ Proposal: work as in software
    - ★ mods only after jira ticket and official PR, so we can keep track
    - ★ goal is still to have ~ none ad-hoc fix

- The one described previously by Umberto
  - ▶ **DIFFERENT** from “unofficial processing” (later)
- **bucket 4 BIIDP-1366**: issues
  - ▶ produced cdst for all RAW, then do the hlt-skim
  - ▶ issue with wrong prescale for bhabha and TRG unpacker. Need to process 2.5 times
  - ▶ **issue with files being removed from disk: need to stage. Job reported as Done!**
    - ★ 61 jobs resubmitted **BIIDP-1369**
  - ▶ skim done by Karim
  - ▶ Grid processing: not yet (later)
- **bucket 5**: no particular issue
- **bucket 6 BIIDP-1480**
  - ▶ HLT-skim done in advance
  - ▶ cdst on skim submitted timely **BIIDP-1485**
  - ▶ issues:
    - ★ LSF killed 2 jobs for reaching memory limit (4GB) **BIIDP-1502, BII-4879**
    - ★ LSF killed 2 jobs after 1 day of running (to be understood)
    - ★ log as big as **150 MB** for some job: PXDUnpacker **BII-4875** and other modules
    - ★ **many input files! N = 22921. b2\_prod has only 400 job slots, not much**

- long story short: **a mess! But useful**
  - ▶ in general, run with the best GT available at that moment
  - ▶ Tried to keep up with raw data availability
  - ▶ Issue to process B-off runs
  - ▶ request to process also Debug runs
  - ▶ switched to on-demand mode: do only the run requested by someone
  - ▶ Potentially resource intensive, LSF queue is limited, so refrain to process new runs when official processing was running or about to be submitted.
- **New mode from experiment 8 BIIDP-1533**
  - ▶ Unofficial process will be performed only on HLT\_hadron skim
  - ▶ can be done for other skim or unskemmed events for specific runs on request
  - ▶ Please follow **BIIDP-1533** and add there if you need specific runs

- HLT\_skim "mumu\_2trk", "hadron", "bhabha", "gamma\_gamma" ~~will be~~ is done as soon as raw data is available **BIIDP-1544** very fast (few hours and asynchronous)
  - ▶ Done up to run 348
  - ▶ the hadron will be used for unofficial processing
  - ▶ so they will be ready to produce cdst as soon as calib team provide the first GT
- cdst processing for selected hlt\_skims (intermediate GT) fast: 1-2 day/bucket
- cdst/mdst processing with final bucket GT
  - a produce mdst/cdst(?) for all raw data slow: 2+ day/bucket and then produce hlt/offline\_skim fast: 1-2 day/bucket [Karim]
  - b produce mdst/cdst(?) only for hlt\_skim fast: 1-2 day/bucket
    - ▶ I guess (a): we need to have all events, not just selected, at least now. (b) would be faster. . .
    - ▶ mdst-only production on grid possibly fast: 1-2 day/bucket
      - ★ also mdst hlt/offline skim on grid?

- Still working on script
- last issue is that our current basf2 script takes many parameters and uses an external python tools.py
  - ✓ Need to pass all properly via input sandbox
  - ✓ we want to use the very same script we use for Isf
  - 🔧 almost there
  - ✗ development–submission–test–check–problem–redo cycle is not fast. . .
- need to coordinate with kekcc/bnl people to stage input data on disk before submission
  - ▶ once the test are successful

- file permission to copy final output
  - ✓ we do have a common b2\_dataproduct group
  - 🔧 need to remember to set properly the ACL each time one of us create a top directory tree
  - ✓ Just once per experiment!
    - ▶ `setfacl -m 'd:g:b2_dataproduct:rwX' /ghi/fs01/belle2/bdata/Data/e000<X>`
- b2\_prod has only 400 job slots: bucket6 processing is 22921 jobs!
- the log are sometime very big: we want to run with loglevel WARNING, but 140 MB of log is huge!
  - ▶ Not easy to understand in a easy and fast way if a job has ended successfully
  - ▶ Discussion on [B2 Question](#)
  - ▶ tried to separate stdout/err, and look into err, but not enough
- sometime some run in the physics list are actually debug/beam (or the other way around)
  - ▶ Hara-san comment about this in the Raw data available ticket [BIIDP-1497](#)
  - ▶ not clear what to do in these cases.
- some days ago I experienced a file-system full on gpfs
  - ▶ quota is per group (belle2)
  - ▶ we were writing log on gpfs, switching to ghi

Additional or backup slides