Operation and monitoring
2022/11/24
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Motivation

-Discuss possible improvement of operation and monitoring during LS1
  -Expert shift
  -elastic alert
  -DQM, QAM
  -Operation log

Expert shift

-Time slot: 4hours × 6 slots/day

-Member: ~10 people

-Quota: #Time slots divided by #Members.
        Point is ×2 weighted on holiday and meeting day with slide.

-Work:
  -On-call trouble shooting
  -Attend meeting and report
  -Check DQM/QAM
  -Write Elog

-Manual

-I think we can keep present scheme after LS1.
-If you have any comments/suggestions, please let us know.

On-call trouble shooting

-Present procedure: If an error occurred and called,
- -① execute recovery command
- -② call sub-trigger expert

-I would like to ask CR shifter ① from the next physics run.
Sudo-san is making GUI for CR shifter.

Automatic error detection and message

-Automatic error detection and message on rochet chat are very useful for quick error recovery and keeping data quality

-We should prepare more error detection and message during LS1. Could you let me know possible items to be implemented?

Automatic error detection and message

-List of new error check and message in my mind:

-KLMTRG too high/low hit rate in each sector

-efficiency of all physics bits   (for now, ~10bits are monitored)

-rate of all physics bits respect to bhabha

-efficiency of CDCtrack/ECLcluster/KLMsector with μμγ, with φ/θ mapping

-Arrangement of present messages

-all of GDL/GRL/CDCTRG VME parameters   (for now, only important one)

-Latency of subtriggers on GRL

Detailed trouble shooting manual for core expert

-At the end of 2022b, I started to summarize detailed trouble shooting for core experts:

https://confluence.desy.de/display/BI/Detailed+command+and+trouble+shooting
It will be important for long-term operation with less experts.

-Please add more information on the page time to time.

Operation log

-Operation configuration is logged on confluence and elog at online:
  -[trigger bit](#)
  -[run configuration](#)
  -[Elog](#)

-Data quality and trigger configuration have been summarized by BelleII note (https://docs.belle2.org/record/3109 etc.) after end of run

-I think we can keep this scheme
  -automation might be possible?

-Let me know any idea of improvements/reduction of work

Shift requirement for authorship

-Detector etc. service work is required for authorship

-However, there has been no rule for TRG service work qualification
-I and Iwasaki-san permitted it time to time, whenever we are asked
-sometimes I do not know the asked person..

-I would like to make a rule for the authorship as follows

①take TRG expert shift around the quota, during you are working with TRG

②work on TRG research topic and gave presentations at TRG B2GM parallel session more than one time, or write bellell note, or equivalent work

③work on TRG management (Professor etc.) to provide money and human resource

You should satisfy (① and ②) , or ③.

-I think most of you have satisfied the requirement
-Let me know any comments

DQM/QAM

-I would like to add following plots during LS1:

  -TSF B2L (DQM)
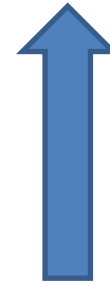
  -KLMTRG B2L is possible (DQM)

  -efficiency of all physics bits (DQM, QAM. a few bits missed)

  -efficiency of CDCtrack/ECLcluster/KLMsector with μμγ, with φ/θ mapping
  (DQM, EPICS and QAM)

-QAM will be available on Mirabelle too
  -https://agira.desy.de/browse/BII-8410

I planned to ask Xuyang, but he left BelleII unfortunately.
Can someone take over ??

Summary

-Discuss possible improvement of operation and monitoring during LS1
- -Expert shift
- -elastic alert
- -DQM, QAM
- -Operation log

-Let me know your feedback.

backup

Long downtime 2022ab: CDCTRG with CDCFE SEU

-Several rare (happen once per a few months) CDCTRG dataflow issue
 with SEU of CDCFE: 218 min

   -3 kinds of errors happened in 2022ab. difficult to reproduce the issues.

   -2 of them are not completely solved but automatic error detection is implemented
     and recovered by the recovery script

   -1 of them is not solved yet and to be fixed during LS1. under consideration.

-Related ticket:
   -https://agira.desy.de/browse/BIIOPS-277 (40min)
   -https://agira.desy.de/browse/BIIOPS-293 (36min)
   -https://agira.desy.de/browse/BIIOPS-301 (65min)
   -https://agira.desy.de/browse/BIIOPS-309 (47min) ← not solved, task in LS1
   -https://agira.desy.de/browse/BIIOPS-321 (30min) ← not solved, task in LS1

Long downtime 2022ab: GDL

-GDL->FTSW data transmission issue: 110 min

-have happened since May 10th

-monitor was modified to detect the issue automatically and fixed by SALS

-https://agira.desy.de/browse/BIIOPS-304 (71min)

-https://agira.desy.de/browse/BIIOPS-306 (39min)

-Shifter/expert mis operation: 65 min

-miss to execute recovery script

-expert shift manual is modified

-https://agira.desy.de/browse/BIIOPS-311 (31min)

-reset TOPTRG cause additional error related to GDL and take recovery time

-discussed with TOPTRG expert about a rule for local work

-https://agira.desy.de/browse/BIIOPS-307 (34min)