Trigger Data Quality Flags Discussion

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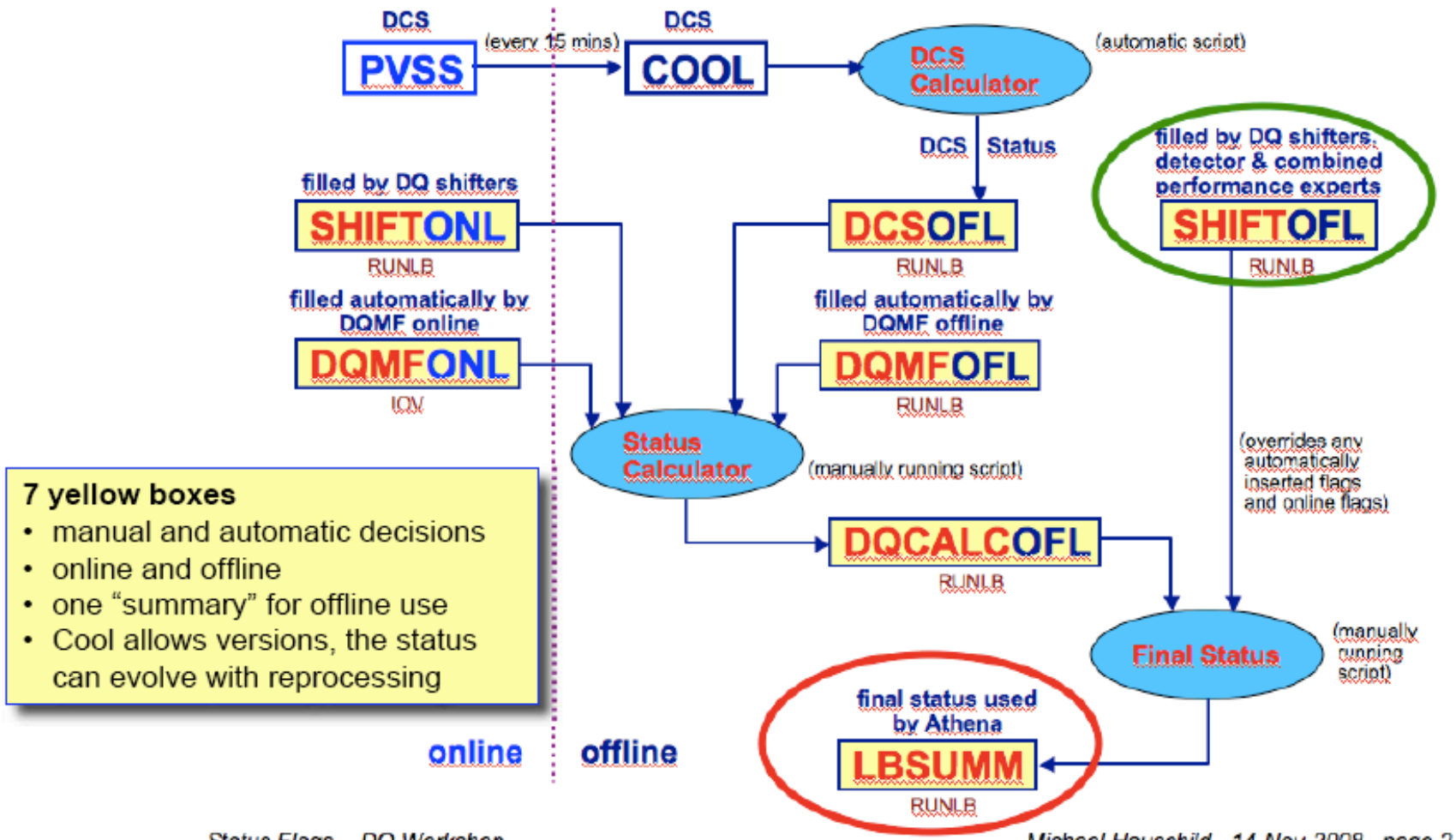
Trigger Core Software and Slices Open Meeting, 10 December 2008

Notes…

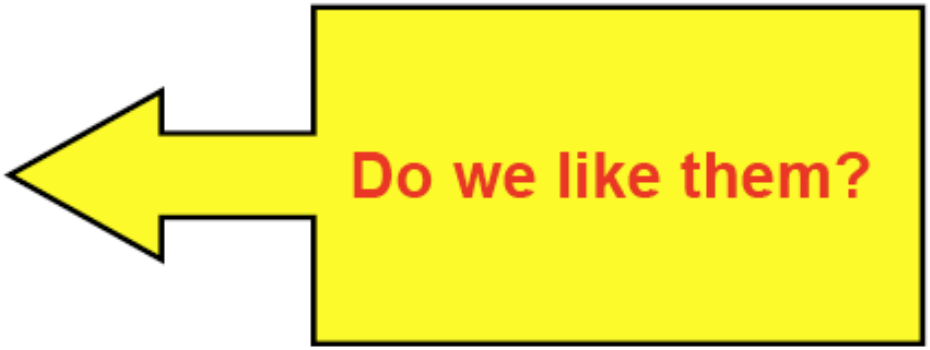
- Conditions database **(COOL) is primary repository of data quality information**
  - **Accessible online, offline, and distributed throughout collaboration**
  - **May mean** copying **some data in**
  - **Or** copying **some data out for efficient use in particular contexts**
    - **Putting some detector status in event files, or into TAG database**
- Reproducibility **from Tier-0 output onwards**
  - **Should be possible to recover status knowledge corresponding to a particular time (e.g. a reconstruction pass), even if 'we now know better'**
  - **Use of** tags **(=calibration versions) in COOL allows this**
- Simplicity **for the end user - should I use this data?**
  - **End-user detector status is 'traffic light' (red/yellow/green = bad/dubious/good) for each subsystem part (TRT endcap C, MDT barrel A side, LVL1 calo trigger, …)**
    - **Also have similar flags for combined performance groups - 'barrel ID good for b-tag'**

Offline DQ Monitoring



Existing DQ flags

```
'PIXB','PIX0','PIXEA','PIXEC',
'SCTB','SCTEA,'SCTEC',
'TRTB','TRTEA','TRTEC',
'IDGL','IDAL’,'IDBS','IDPF',
'EMBA','EMBC','EMECA','EMECC',
'HECA','HECC','FCALA','FCALC',
'TIGB','TILBA','TILBC','TIEBA','TIEBC',
'CALBA','CALEA','CALEC',
'MDTBA','MDTBC','MDTEA','MDTEC',
'RPCBA','RPCBC',
'TGCEA','TGCEC',
'CSCEA','CSCEC',
'L1CAL','L1MU','L1CTP',
'HLTL2','HLTEF',
'LUMI','EIDB','EIDEA','EIDEC',
'MIDB','MIDEA','MIDEC',
'JETB','JETEA','JETEC','MET',
'BTGB','BTGEA','BTGEC',
'TAUB','TAUEA','TAUEC'
```



- **Meaning of the flags is subjective. We need to agree what they mean. My proposition:**

  "gray" is unset; Never set anything to gray.

  "green" is good enough to be used by non-experts. It is not perfect. It may be used.

  "yellow" is to be checked by the experts. Nobody else should use the information. It may change to green or to red later.

  "red" is broken or absent.

- **There will be an evolution of decision making with time.**

  1. **Expert.**
  2. **Shifter with a check list.**
  3. **An automatic tool.**

Points for discussion

- Should we have 1 flag per slice?
- Should we have 1 flag per detector?
- Total is ~12 flags: ok from storage standpoint, but we need to fill them!
  - Role of offline shifter?
  - Role of slice on-call expert?
  - Role of a slice DQ expert?
  - Can it be automated?