DQ Flags from the Detector Monitoring System (DMS)

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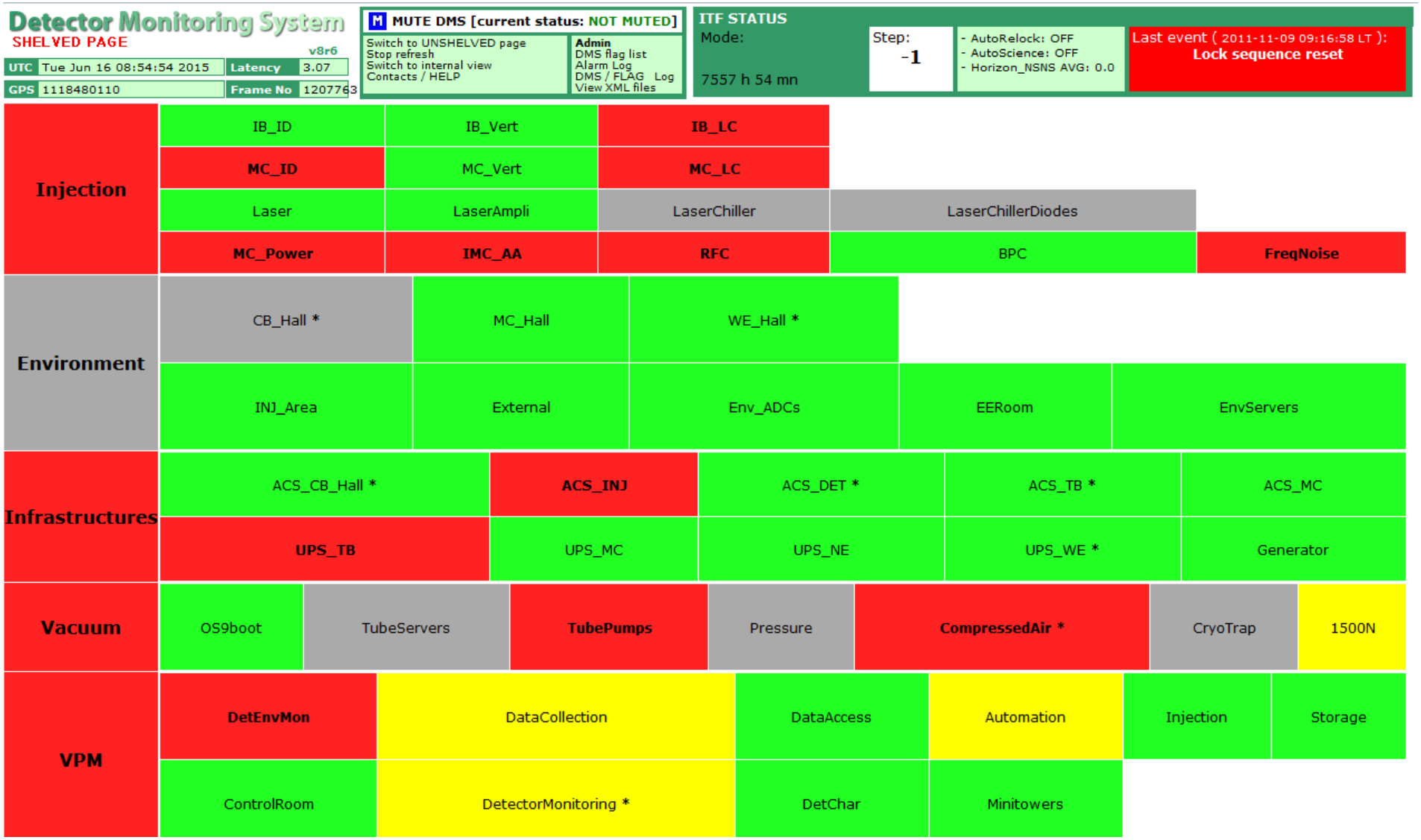
Virgo detchar meeting 19 june 2015

Detector Monitoring System (DMS)



Detector Monitoring System (DMS)

- Current DMS is based on
  - a set of Moni processes producing flags (sent to raw/trend data) and XML files
  - php scripts that read XML files and provide the DMS web page

- New Moni library:
  - Will produce only flags with 0/1 values (no more bits coding)
  - Will produce per process only one overall flag + one set of subflags (no more flag levels)
  - Will always use calibrated data (no more use of REALUNITS keyword)
  - Will follow a DMS flags naming convention : DQ_MoniName_FlagName
  - Does not require large modifications in DMS web page tools.

- Use of DMS flags for data analysis:
  - SegOnline will select the flags to be included into the State Vector for online analyses
  - SegOnline will select the flags to be propagated to DQSEGDB for offline analyses
  - Should be only a matter of SegOnline configuration file
  - Or will need SegOnline code modification, depending on selection criteria we want

Configuration file of InjMoni_new

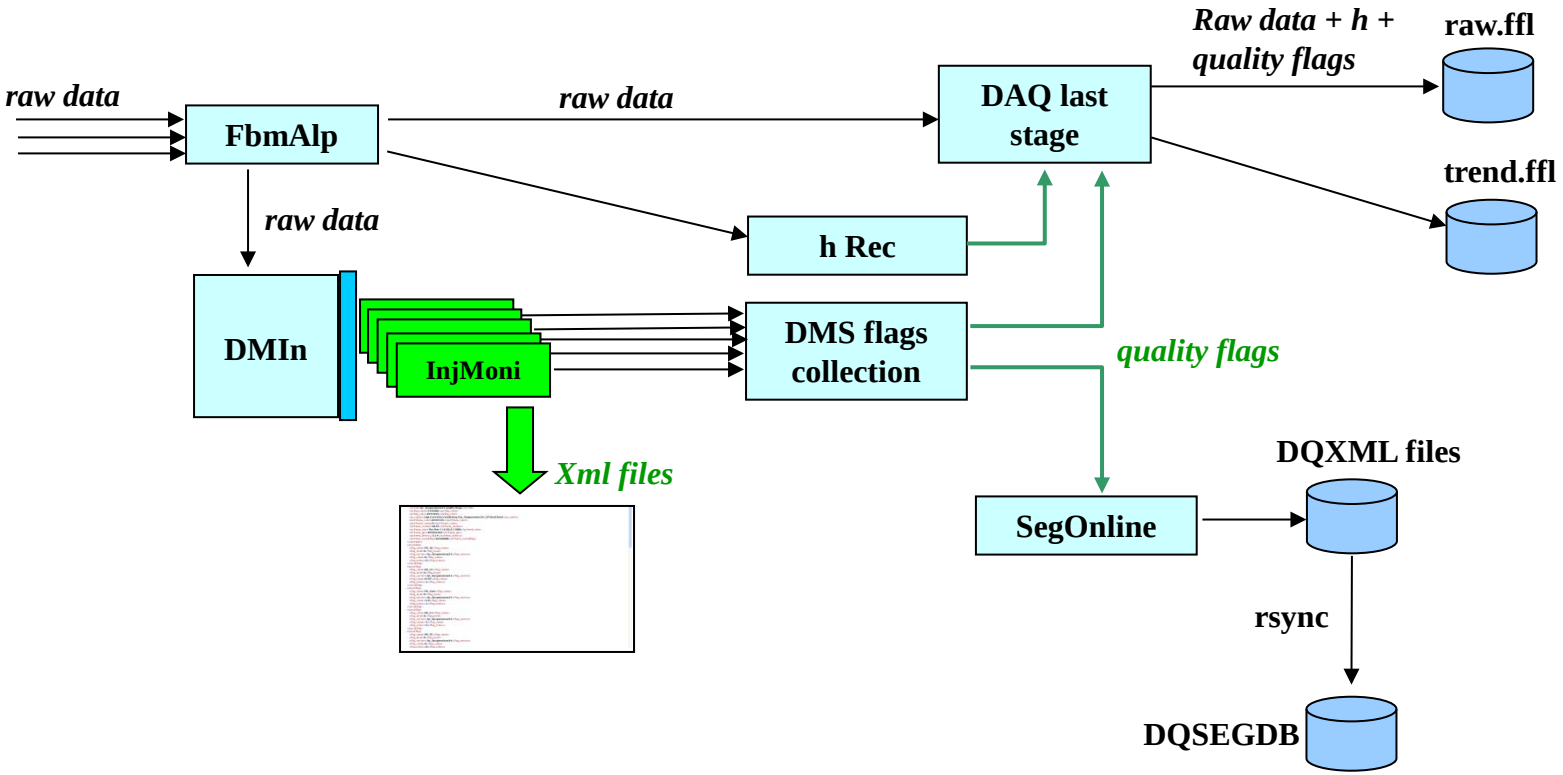
```
QC_XML ./QcInjectionData_new.php 5

QC_NAME Qc_Injection

QC_FLAG  MasterLaser       "MasterLaser parameters out of range"
QC_FLAG  SlaveLaser        "SlaveLaser parameters out of range"

/*** MastereLaser ***/
QC_MONITOR * MasterLaser  "mean(PSL_ML_DC,60)>0.5" "Master laser thermal correction voltage saturated"

/*** SlaveLaser ***/
QC_MONITOR *    SlaveLaser  "0.5<mean(PSL_SL_PUMP1_CURR,60)<1.8" "Slave Laser current too high"
QC_MONITOR *    SlaveLaser  "0.5<mean(PSL_SL_PUMP2_CURR,60)<1.8" "Slave Laser current too high"
QC_MONITOR *    SlaveLaser  "0.2<mean(PSL_SL_REFL_PD2_DC,60)<3.8" "problem with the master or slave laser"
```

Will produce the following flags sent to SegOnline:

- DQ_Qc_Injection_overall
- DQ_Qc_Injection_MasterLaser
- DQ_Qc_Injection_SlaveLaser

Will produce the XML file QcInjectionData_new.php
which will contain those flags + the results of the various QC_MONITOR

Scheme of implementation



Next steps?

- New Moni library ready to be tested : June 2015
- Configurations of Moni processes changed and tested: July or Sep 2015? (DV or DV+FB)
- XML files format changed: need small modifications of the DMS php scripts : Sep 2015? (FB)
- SegOnline ready to get DMS flags : need a test for the selection of DMS flags (DV)
- Upgrade of the DMS web page tools (php, mySQL…) : Nov 2015?
- New user requirements, new software requirements : Nov 2015?

- Investigate the possibility to read trend data frames with php script?
  (no more use of XML files)
- Look how to include VirgoCAM information?
- VPM monitors many Virgo processes. It provides only a XML file (no flag sent to DAQ).
  Do we need also DMS flags coming from it?