EvF/DQM Meeting

OUTLINE:

- Alignment Monitoring
- CSC update
- RPC update
- Possibility about Quality Tests Visualization (based on Tracker group's TrackerMap)

NOTE:
Fabio Cossutti just informed me of the ongoing discussion about using DQM tools for Physics Validation, see:

http://agenda.cern.ch/askArchive.php?base=agenda&categ=a061433&id=a061433s0t2/transparencies

The issue will be further discussed at CMS week.

Discussion with Muon Alignment group

(I met with Zoltan Szillasi, other contact persons are Gervasio Gomez, Gyorgy Bencze, TeresaRodrigo, Francisco Matorras)

- Schematic of Aligment of Muon chambers:
  - Use LEDs (monitorable example: time behaviour, relative movements)
  - Three systems : Barrel, Endcap, Link (between Barrel, Endcap and Tracker)
  - LEDs are positioned on “forks” (10 LEDs/fork) which are attached to the chamber
  - 250 chambers to be aligned, 4 forks muonted on each

- The Measurements:
  - They need to make 10K individual measurements, most of them must be serialized (only the Link system measurements can run in parallel). Data is analyzed off-line (COCOA) histograms are produced
  - Measuring cycle is about half an hour, it’s not a system that needs very fast response

  ⇒It could use the tools we have for DQM

- The Data
  - At the moment the three systems have very inhomogeneous way of storing data, on-line db are not used (the 5 minutes update for the DCS on-line DB is too fast for the alignment system). In any case now there are temporary solutions that will not remain for CMS (e.g. Link system uses a PVSS archiving system).

This way of storing data does not match well the CMSSW-DQM, but a possible plan (Zoltan's plan) for the future is to move towards a more homogeneous system for the three components (Barrel, Endcap and Link) and store the data to analyze off-line in root files for all three systems

=> this makes it more natural to interface it to DQM structure and gives the possibility to use all the tools

GOTCHA's

- Still need to see what analysis tools they use, do they need something not achievable in CMSSW?
- The multi-node DQM structure is a un-necessary, but if the single node DQM application foreseen for the future is provided, then that would be the solution

PRO's:

- Moving to a unique structure for the three system
- All the advangates of using a system that is used by many other systems (sub-detectors for now) which is therefore well mantained (over the years of CMS), a single place where all the "customers" needs are addressed (sharing of tools, upgrading of tools by having more systems using them and making requirements for upgrades)

WHAT WE CONCLUDED:

Obviously too late for MTCC, but will continue this discussion (I need mostly to find out about the kind of analysis performed) and might be an interesting definitive solution for CMS startup.

CSC Update:

- ALCT and CLCT digi have become available => I'm working on making the plots with this info
- Looking into State Machine Client

- <u>Change in manpower:</u> I'll soon leave this task, there are different people interested in continuing it (Paolo Bartalini, LCP group (Michael Schmitt) to which I should give a demo and show the program during next week)

RPC Update:

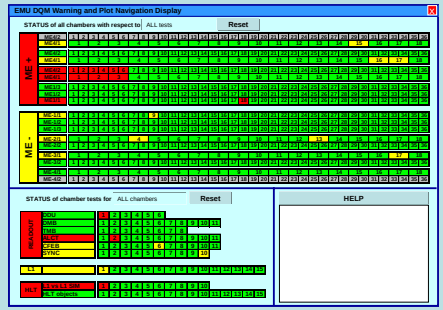
- New package: DQM/RPCMonitorDigi for digi analysis (occupancy & clusters for now). Mapping from hardware channel to RPCDetId is not available yet, so for now I still have a fake mapping.

⇒I'll soon start to work on this mapping

- Looking into state Machine Client

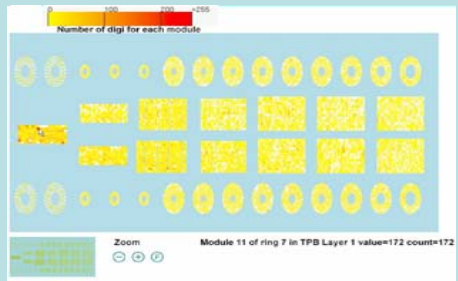
Visualizaition of ME's and Quality Tests

Andrey Korytov's suggestion for visualizing Quality tests:



- Color coded information for hardware status (i.e. which chambers are failing the Quality test(s)
- Color coded information for tests status (i.e. which quality tests are failing
- Plots shown on demand

It could be done like the TrackerMap (DTMap, RPCMap, CSCMap, HCALMap,ECALMap). I talked to Maria Mennea and the discussion is on-going with Suchandra. In particular the retrieval of histograms by clicking on DetUnits in the Map and the color coding of DetUnits was already implemented (for tracker), in COSINE.



Should we all (other sub-det) move in this direction (probably on the long run, considering one needs full geometry description), maybe identyfing first the shared parts to be put in a common repository?