



CMS Tracker Long Term Software status

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Status

- Version lt_1_22
- Assumption if one is not complaining it is running stable. So in most centers it is running stable
- Instability reported due :
 - PAACB communication (for slot 0) (Firenze). Happens sometimes but if it is there for longer time even after switch off /on everything. Unclear situation.
 - Corrupted scenario file (strange characters 0xA0). Assume download problem from the WWW. Simple scenario file reading code can not handle this. Wrote a small program to check (see helper program page).
 - Hard reset problems. Torino. Tentative diagnostics the FEC or CCU ring recovers slow from the hard reset.
- Who has uploaded the result xml file to the data base ?

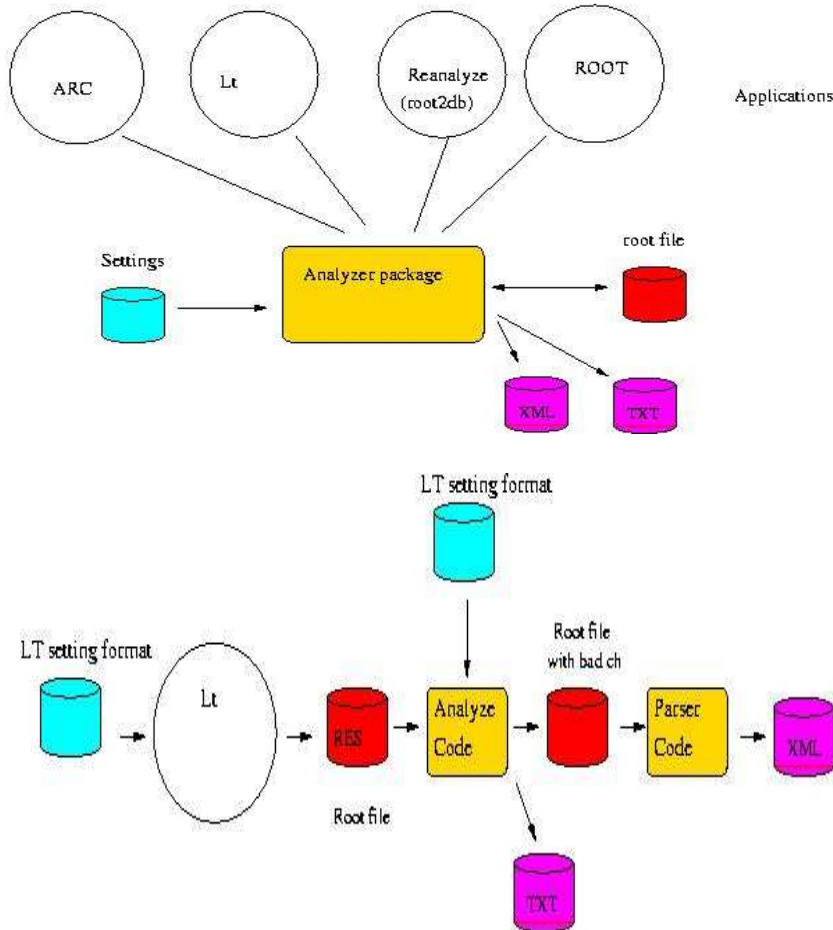
known "problems"

- The modlt.xml data base template was not correct (new template is now available, mail sent)
- For the TIB scenario the last record is empty. Most likely the module was excluded from the DAQ. But why is unclear.
- Pulse height is not correctly set by the settings.xml file for CalProfRun. Never was. For the CalProfRun the I2CDescriptor settings for Ical is used (default=29). It is not clear why there is a difference in respect to the previous versions. (For CalRun it is correct)
- Some settings in the settings.xml result in to many tagged bad channels
- Some badchannel flags graphs for the individual tests are only set for the first APV chip.
- Bad pulse shapes. Still not understood. Property of the setup ?

Bad strip tagging / fault diagnostics

- The tagging of bad channels give not the same results as for the ARC system. Combination of test for tagging , combined with different cuts seems to be the problem
- Rise time fitting. Which one has to be used ?
- Root files have to processed again
 - Design a package that can be used by
 - LT
 - ARC
 - Root Macro
 - Reanalyzing stand alone program

Ideal world proposal



- Developing of a general package of C++ classes based on the "Tony's macro's".

- For production keep current (eventual upgraded) analyzing in ARC (Lt?) until the packages is tested
- Settings file depends on module type that should be filled in the root file
- All root versions should be supported.
- extended for structure test

next version

- We had to combine the developments of the long term petal and rod test with the cold box. For version lt_1_22 we updated the old Lt structure. For the new version we will use a new directory structure
 - Same code
 - Different tags for stable module test release and structure tests release
 - The procedure codes are the same as for lt_1_22. But beta test for lt_2_00 is needed as not all details are the same.

next version (2)

- How the transition has to be done?
 - Consequence is that one has to install a new directory (LtStruct) beside the existing Lt structure
 - Both version can run from the same user account. (but not at the same time)
 - Only necessary changes are made so results of the programs should be the same.
 - The structure need some extra functionalities from the basic DAQ. This implies and **upgrade for the basic DAQ**. This has to be synchronized with the update of the FEC software. This also corrects some minor bugs that we have now. So the transition will be done after the new release off the FEC software (hopefully not a new Tridas software)
- Need for analyzing code ? Introduce version that doesn't need the upgrade of the basic DAQ ?

Requests

- Use same HV and electrometer channel for more than one module.
 - Can be "copied" from the structure implementation. But need an change in the hardware configuration file (lt.xml).
 - Problem for the IV test. Now for each module the voltage is set individual and the current is checked if it is not to high. Shared Hv channels break this concept.
 - For the Petal test the HV is controlled by a slow control computer and the modules are connected via a switch matrix. The slow control computer takes care about the measurement for the IV curve (code done on the Lt side, not tested).

actions

- Bad channel analyzing / fault diagnostics (based on the UCSB macro's) have to be implemented (in a "stand alone" package)
- Root re-analyzing program has to be written
- Shared Hv for Lt module test
- Beta test for lt_2_00
- tuning of cuts (still.....)