

Long term software status

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Software packages

- “Classic” long term module test software
current version lt_1_24
- Structure Long term test software including long term module test. Current
test version ls_0_07
- Defect analyzer package (see talk L. Neukemans)

For detailed information, installation instructions see

<http://www.hep.ua.ac.be/cms/testing>

Long term module test version lt_1_24

- Is a “patch” of the version lt_1_22. During the diagnosing process for the I2C errors some useful and “less strict” checking were introduced. This is introduced in the version lt_1_24:
 - More information in log file, with time stamp (All warnings and error message that where before only seen on the terminal).
 - error counts for I2C errors and DAQ errors in root file
 - More actions during data acquisition loop recovery like : set the mux position again. APV reset (101)
 - After an I2C also the other I2C devices are set again.
 - Some errors in the data base result file filling are corrected.

"standard DAQ errors"

- “Standard” DAQ errors. The FED doesn't see triggers and or frames. Both are needed to have the acquisition running.
 - If there a no frames seen a new series of triggers are sent
 - After 8 tries the acquisition loop is stopped, the mux-position is set again and an APV reset is generated. Finally the acquisition loop is restarted.
 - Previous steps are done 100 times (= updatetries). There after the module is excluded from **this** test and the DAQ error count is increased by 10.
Personal observation. Or the acquisition loop recovers after the first restart of the DAQ or not at all.
 - Not yet flagged errors: illegal pipe line address, APV frame error bit low. (only tested in latency run)

"DAQ errors"

- IV errors
 - The voltage can not be set. Low voltages at the N470 (SY 127 ?) systems, high voltage in case VMAX and last point of IV (VEND) are close. $VEND + VSTEP < VMAX$
 - Maximum current is reached
 - In both cases the DAQ error count is increased by 1
- If the total number of DAQ errors exceeds 100 the module is excluded from further tests.
- What to do with modules that didn't pass all the test even if it is due errors in the test system?

I2C errors

- There were a number of I2C errors due not “optimal” (hardware) I2C bus configuration. Can be corrected by replacing resistors.
- Two kind of errors
 - The I2C device (PLL, MUX,APV) are not correctly responding to the command of the FEC/CCU. This is flagged by the FEC and the FEC generates an error message.
 - The read-back value of the I2C is not the same as the set value. This is flagged by the mainMonitor program
- Both errors will increase the error counter for the specific device. If there are too many errors (set in the settings.xml) the module is excluded from the tests.
- After a hard reset the PLL starts an auto-calibration cycle. To be sure it is done use a pll init after a hard reset (sets the pll init flag in the i2c descriptor, see TIB scenario file).

LtStruct software status

- Two (binary identically) programs
 - mainMonitor for long term module test
 - structMonitor for long term sub structure test
- mainMonitor should works same as the current version of the mainMonitor beside some improvements. At the moment beta test in Firenze (soon Paduva)
- structMonitor under test in Karlsruhe and UCSB
- To be done
 - automatic tuning (laser , timing)
 - Integration of the DefAna package (both)
 - Final structure for root , data base (StructMonitor)
 - Multi FED + MUX (6 double sided rods)

remote "control"

- When running during night and weekend one want to monitor the system.
 - login and check the logfile
 - More piratical:
Use VNC . This works even with a modem connection. Check security issues if you have to login outside your university network (not trusted networks).
- This should sufficient so I don't consider implementation of SMS or e-mail notification etc.