

Transverse Polarimeter upgrade Online Status

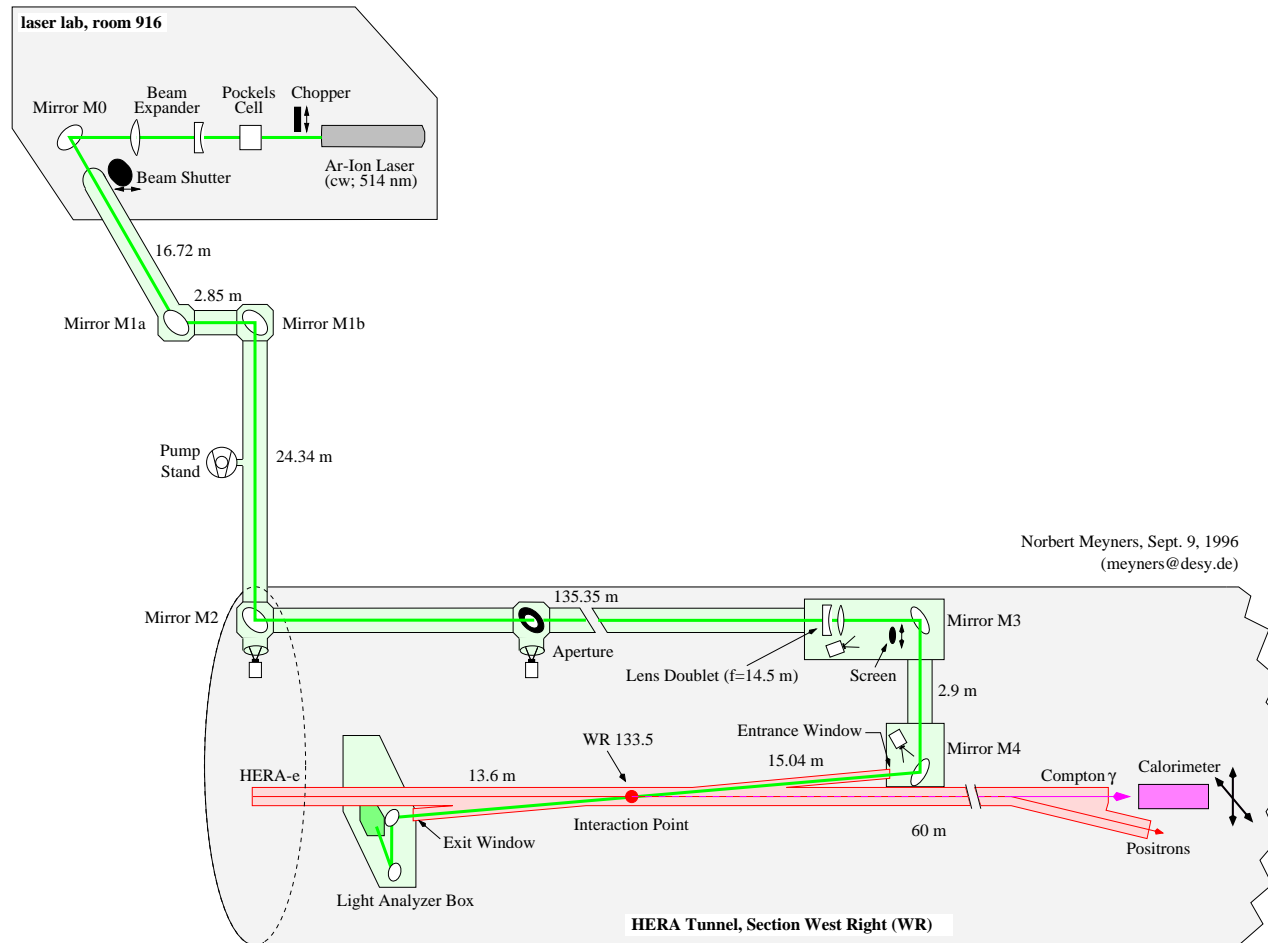
- Hardware status
 - Slow controls
 - Fast DAQ
 - Online computers
- Online software status
 - General structure
 - Auto pilot
 - User interface

Hardware status: Slow controls

All components are now connected to the new DAQ:

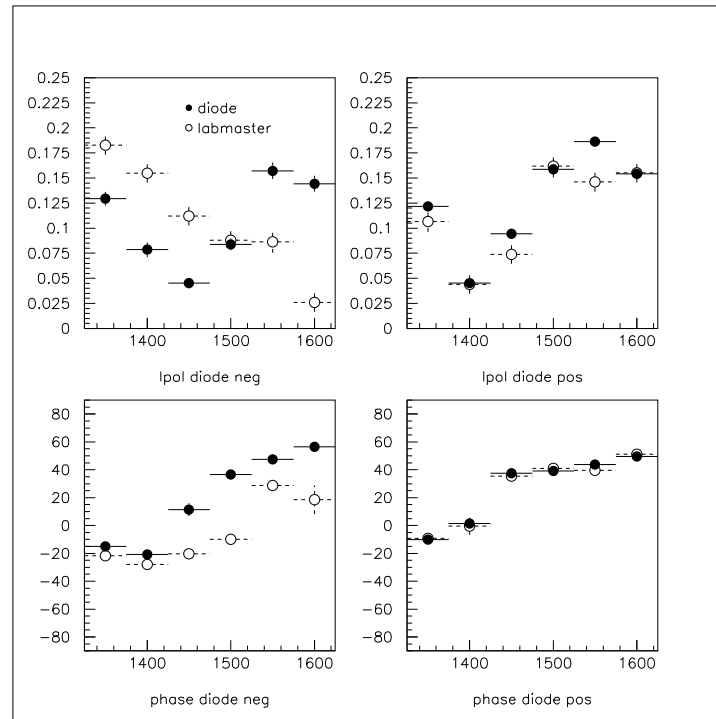
- Calorimeter positioning (x and y) RS232
- Calorimeter HV CAN-bus
- Collimators (vertical and horizontal) RS232
- Analyser-box:
 - Glan Prism RS232
 - Diode RS232
 - Power-meter (new!) RS232
- Mirror-box (M2 and M3) RS232
- Chopper IO-register
- Pockel's cell IO-register, DAC
- Laser RS232
- Sweeper (not yet tested) RS232

Location of the TPOL slow control components



Light-polarisation measurement

as a function of the pockel's cell HV



Results from studies with the Laser-system:

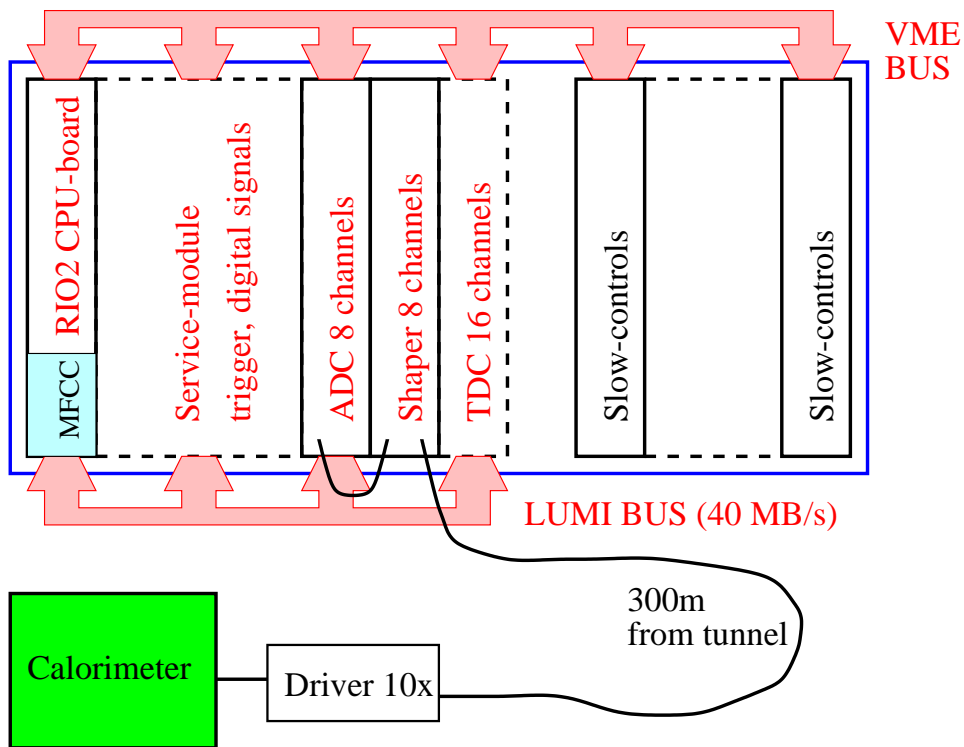
- Measurements are in agreement with the settings of last year
- Mysterious power-losses of the “transport-system” traced down to absorption/reflection in the Glan-prism

Fast DAQ

Most parts are now available, testing is still going on.

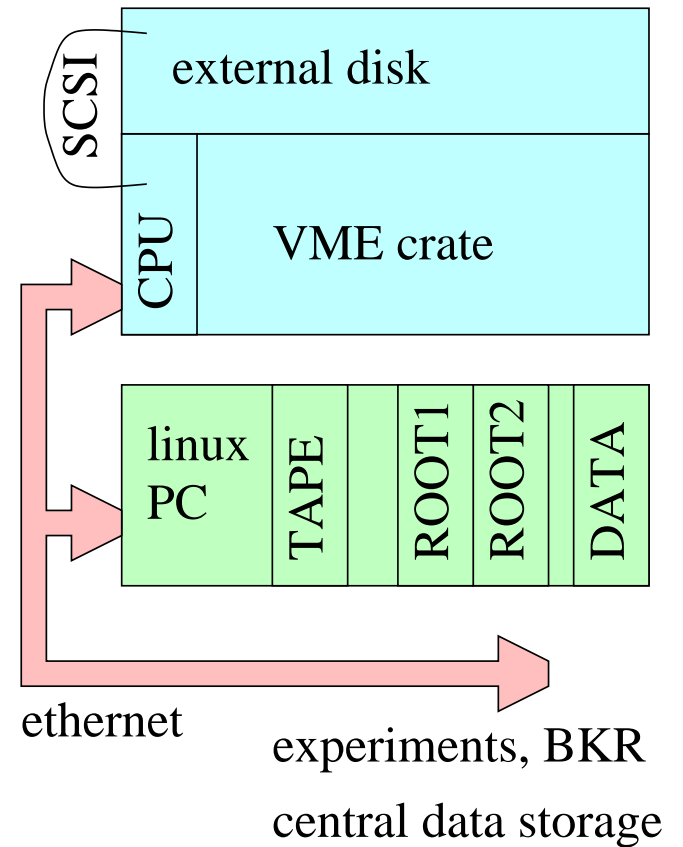
Two parts are not yet at DESY

- Service module
needed for polarisation measurement
- TDC
For monitoring only

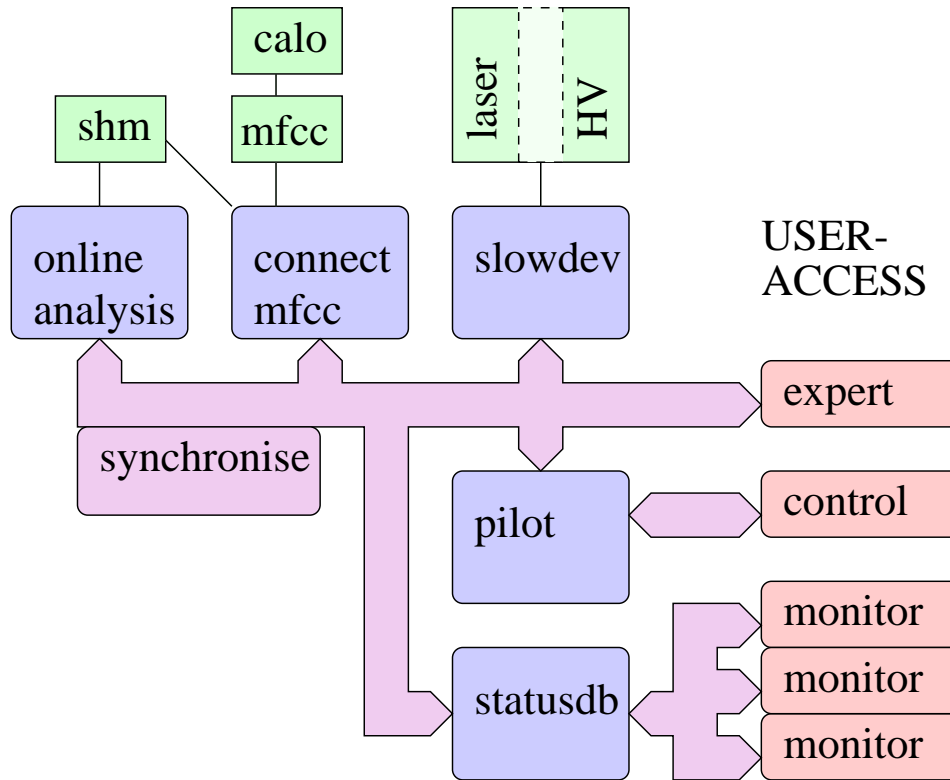


Online Computer setup

- VME CPU with one disk for hardware-access, slow controls, online-analysis
new disk has arrived
installation ongoing
- Linux PC with 3 disks and tape-drive data-handling, archiving, software-development, online monitoring
PC has arrived,
installation ongoing



Online software, general structure

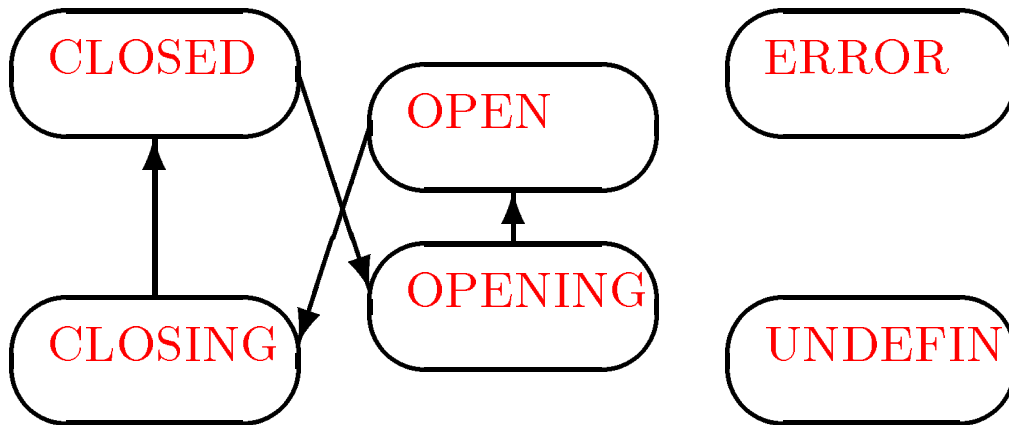


- support several monitoring processes
- access to the pilot for one controlling process
- direct access to all online DAQ processes for experts

Auto pilot

- The internal status of the pilot is represented by **finite state machines** (FSM)
- Each FSM has a set of well-defined states and well-defined paths connecting those states
- Usually several FSMs are interconnected

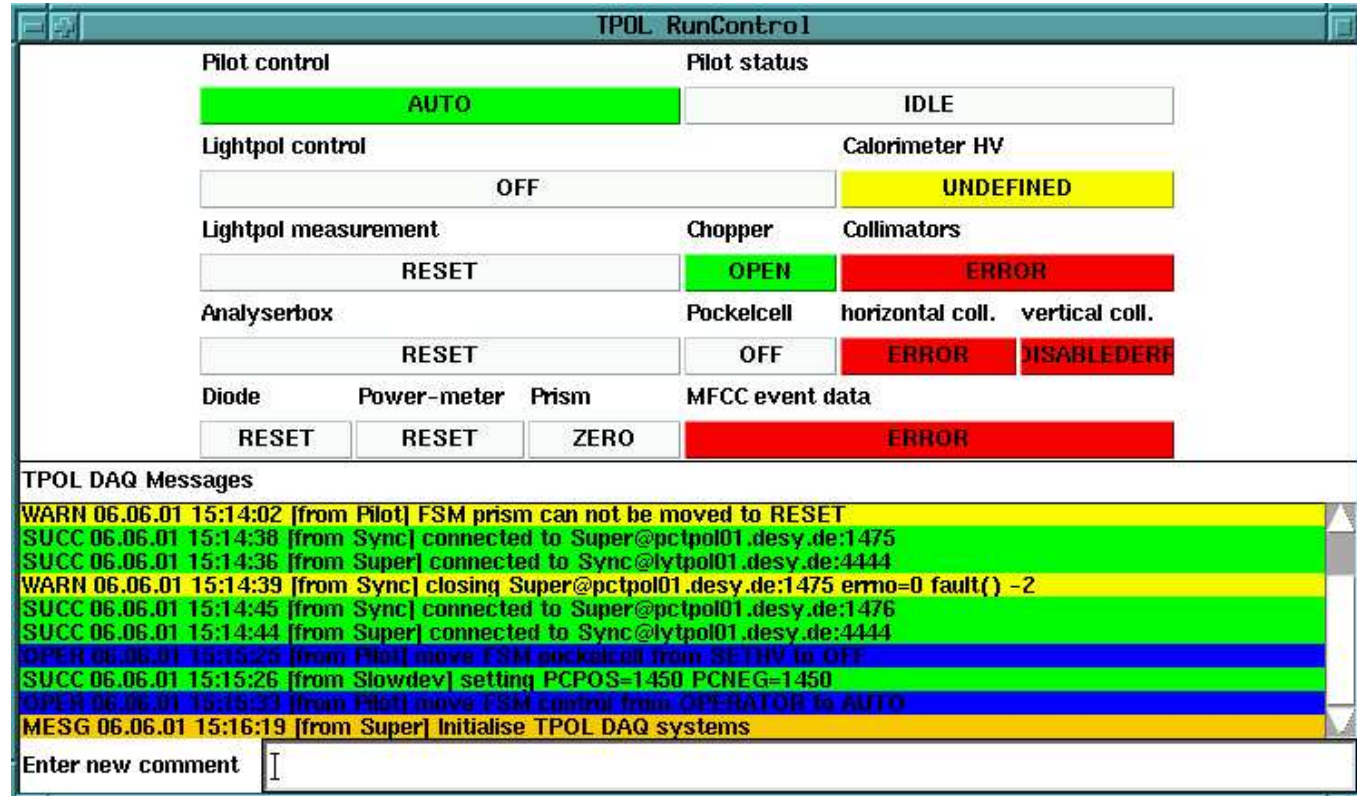
Example: FSM to steer the collimators



Interconnections to other FSMs

(horiz. coll. and vert. coll) are not shown.

User interface (control) prototype



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Final polishing will be done by a summer student

Summary

- Hardware almost ready. Last important part (Service module) currently under test in Paris.
- Final setup of online-DAQ computing will be done in the next days
- Online DAQ with three levels of user-interfaces: Monitor, Control, Expert
- Autopilot design based on finite state machines. Some algorithms already implemented (light-polarisation measurement).
- Prototype for Control-interface (java-based)
- Note: prototype for online display and expert-interface already there since last year