Light Calibration System Control and DAQ

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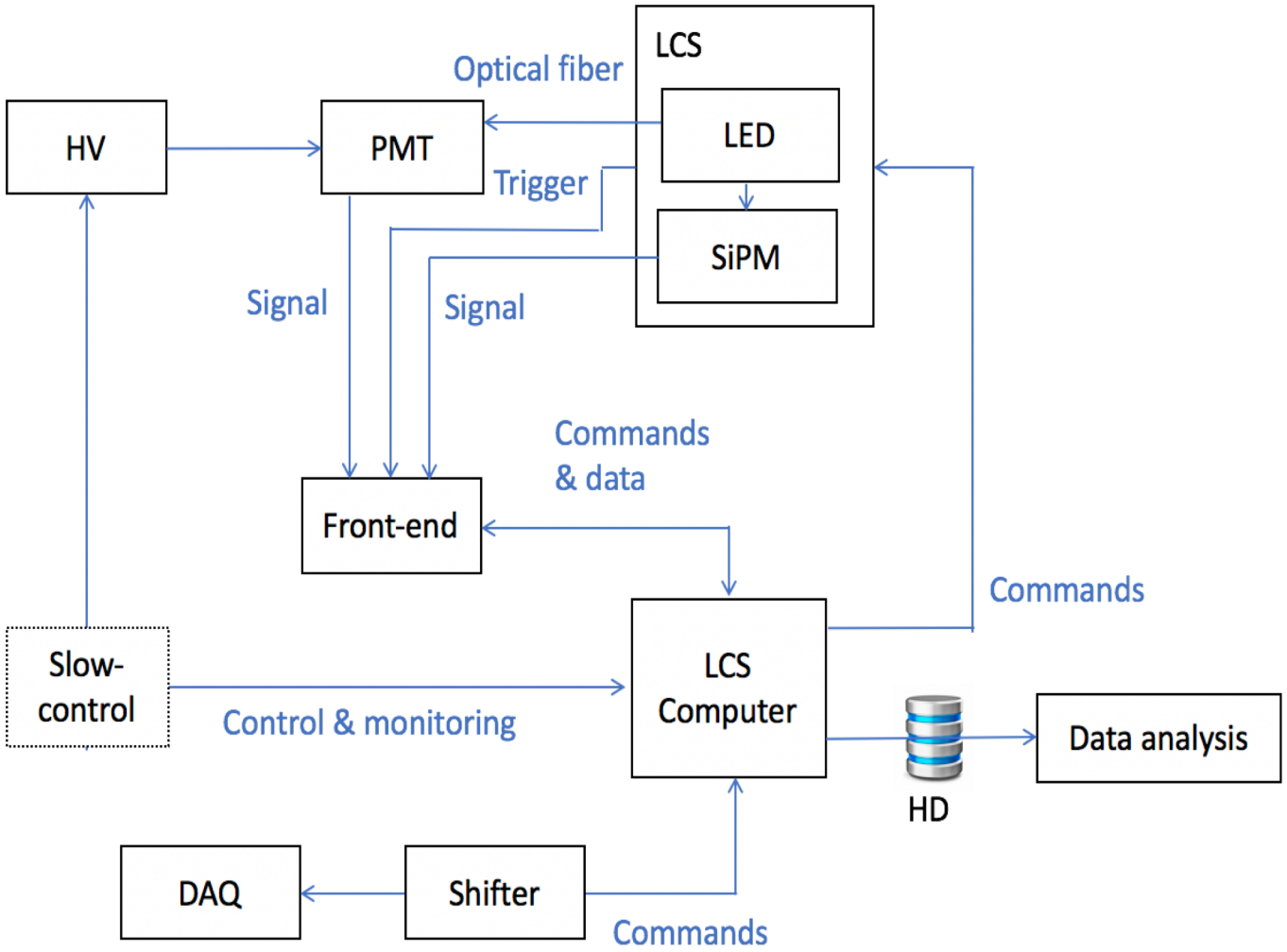
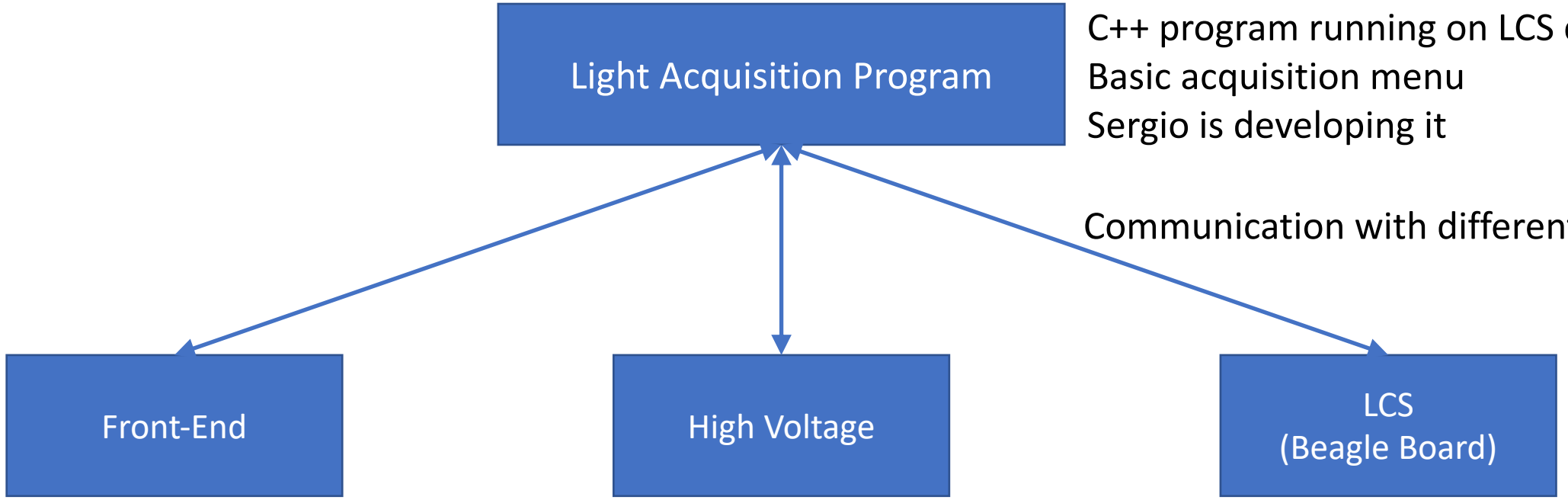
CIEMAT

Light Calibration System



- Hardware components ready for shipment
- LCS computer:
  - Provide requirements (Cent OS 7)
- On-going work:
  - Light Acquisition Program
  - Visualization

Light Acquisition Program (LAP)



C++ program running on LCS computer
Basic acquisition menu
Sergio is developing it

Communication with different systems

Protocol: UDP
Configuration file
Contact: Jaime and Cayetano

Protocol: DIM
Variables
Contact: Xavier and Manuel (CERN)

Protocol: SSH
Commands
Contact: Juan

Light Acquisition Program – Front-End communication

Proposal of commands to be sent:

- Configuration: text file with the following parameters:
  - Channels to be acquired
  - Operation mode:
    - Calibration: external trigger provided by the LCS
    - Light trigger
  - Sampling rate
  - Acquisition window length
  - Number of events (windows)
  - Light trigger configuration: trigger logic, threshold levels, and coincidence window (to be defined)
- Start acquisition
- Stop acquisition

Visualization

- Event display for 311 charge readout as example
- Run as independent process on any machine of the online cluster (LCS computer in out case)
- During normal running DAQ sends events to all connected event display clients (charge readout/light readout). During calibrations, similar thing to be done.
- Interactive mode where one can define which channels are displayed.
- Data format to be defined