

ANKE/PAX Workshop

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***DAQ - software development
for ANKE/PAX***

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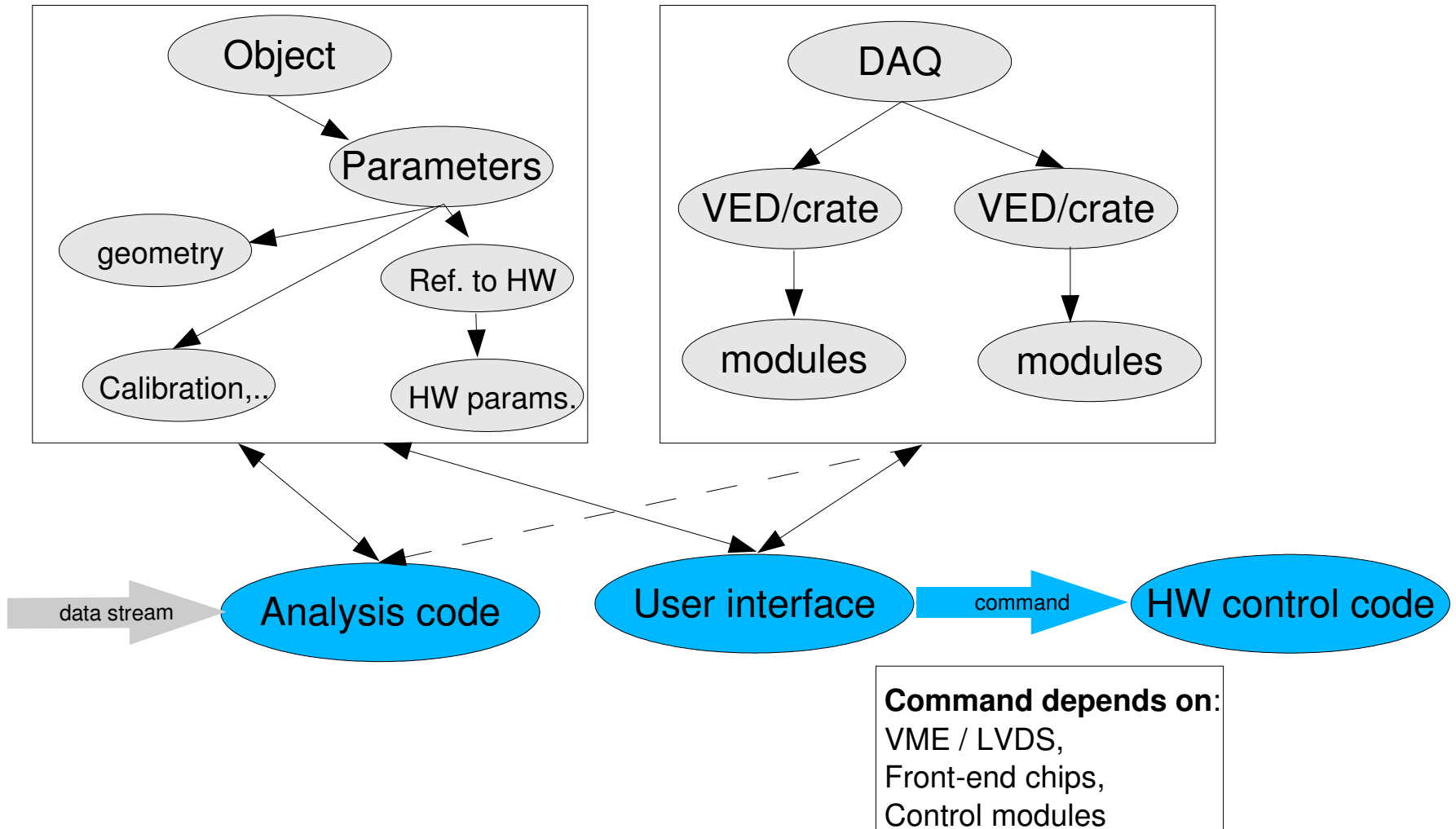
Needed software

for STT fast read-out system (new LVDS bus hardware and for LVDS/VME test stations:

- description of setup
- code to control hardware
- graphical user interface

ANKE software for other detectors will be kept yet as it is .

Setup description



Status of software development for fast read-out system

- – done ● – partially done ● – to be done

ADC tests

- prototype was tested by L.Barion

Sequencer programming

- library prepared by S.Chiozzi, to be checked with hardware

Common mode correction

- ZEL took responsibility, debugging will be required with a detector and α -source

Server functions

- **read-out**
- hardware control:
 - VA32TA2 front-end board:
 - **read-out, initialization**
 - **calibration**
 - **test procedures**
 - MATE3 front-end board

Client functions

- **configuration description, client libraries for calibration and tests, GUI, trigger control**

Event decoding

- **EMS filter for VA32TA2 front-end boards**, must be checked for few ADCs, possibly extended for LVDS TDCs. Later must be re-written for new descriptions.

Status of software development (continue)

Hardware:

LVDS bus crate

&

VME crate

ADCs

Ferrara Trigger module

TDCs

IO register[s]

Scalers

It is necessary to provide common synchronization of read-out of LVDS and “ANKE like” subsystems (P.Wuestner will take care of it).

November run

LVDS read-out system: **1 available** (for seq.software, calibr. procedure development)

1 more needed (for server software, STT final calibration)

VME test station: **1 available** (electronics checks and tuning),

1 more needed (detector tests)

Software

Very poor man solution

- *emssh* scripts for initialization and data read-out
- primitive code to prepare script arguments,
- scripts for calibration and primitive tuning,
- ANKE run control Tcl/Tk GUI,
- user “command line” interface to control trigger.
- configuration files are saved by user, no any automation for that
- configuration files used in *RootSorter* will be exactly as it was before, to escape modification of off-line code.

November run

Poor man solution

To “very poor men solution” added:

- GUI to prepare and execute *emssh* script for initialization of front-end electronics (new configuration files, but *RootSorter* will use old yet!)
- GUI to perform test pulse calibration.

November run

Team and main tasks:

- P.Wuestner – DAQ debugging, SYNCbus solution, help in test stations support, help in implementation of software for HV power supplies
- L.Barion – code development for ADC sequencer (with support of S.Chiozzi), *emssh*/C-functions for calibrations and tests, common mode tests, simple analysis code for laboratory tasks
- W.Erwen/U.Clemens (ZEL) – Vertex ADC hardware and XILINX software upgrade
- M.Nekipelov – setup description, GUI, on-line monitoring
- S.Trusov – setup description, “user” server functions, EmsFilter of *RootSorter*, “client” code for initialization and calibration, electronics and detector tests and tuning support, ...
- A.Ramseger – detector tests
- D.Oellers, S.Barsov – detectors test and calibration

Volunteers strongly welcomed!