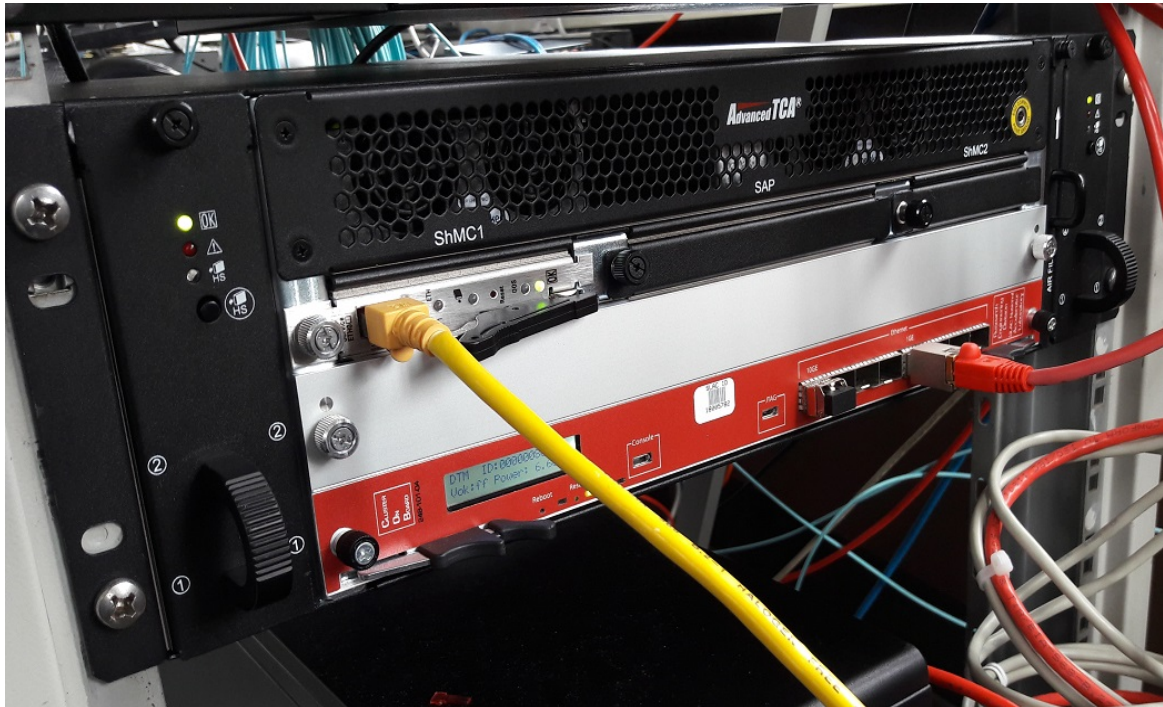BERGISCHE
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WUPPERTAL

ATLAS RCE test stand meeting, 02.11.2017

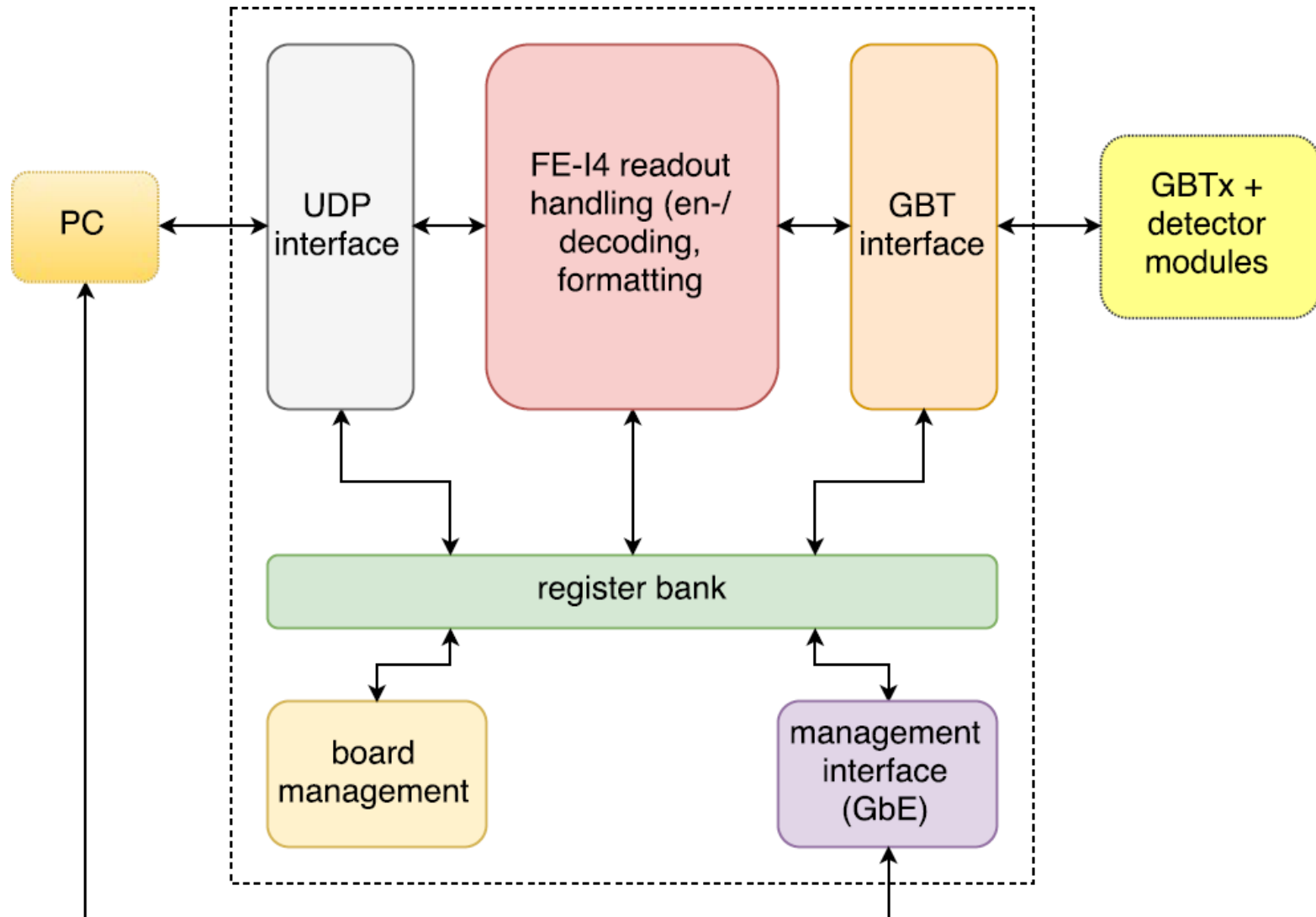# Wuppertal ATCA setup & firmware development

ATCA Shelf

- Installation of Pentair-Schroff 2-slot ATCA shelf happend last week:
- COB+RTM
  is installed and
  already usable.
- Optical interfaces
  to be connected:
  - 2 SFP+ for DPM0
  - 1 SFP+ for 10G
    Ethernet

- Checked already some tools from RCE SDK (dsl_identify etc.)

Firmware development

- Currently porting Kintex Ultrascale firmware into SLAC framework for easy integration into RCE firmware.
- General approach: FELIX-like system with Ethernet-based data transport to PC running Yarr-software.
- TX core:
  - serial ports (AXI stream, AXI-lite, trigger generator)
- RX core:
  - GBT-FPGA v5 wrappers for surf/ruckus framework
  - FE-I4 decoding and simple event builder

Firmware block diagram

Summary

- ATCA development can now start actively.
- Firmware porting already under progress.
- Questions:
  - GBT only supported with new DTM? Status?
  - Documentation about interfaces/protocols in the surf-framework including software:
    RSSI, DMA on Zynq etc.