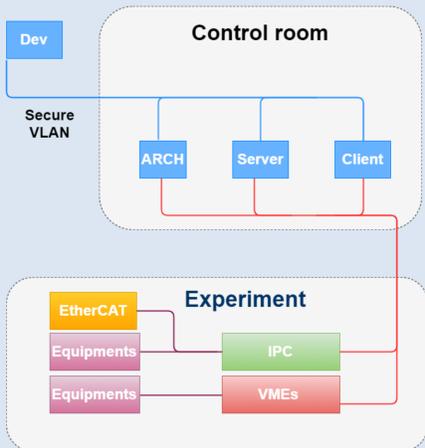


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Abstract

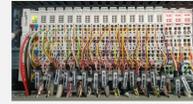
CEA Irfu Saclay is involved as partner in the ESS accelerator construction through different work-packages: controls for several RF test stands, for cryomodule demonstrators, for the RFQ coupler test and for conditioning around 120 couplers and the tests of 8 cryomodules. Due to the high number of components it is very crucial to automatize the conditioning. In this paper will be described how the control of these test stands was made using the ESS EPICS Environment and homemade EPICS modules. These custom modules were designed to be as generic as possible for reuse in future similar platforms and developments. The hardware solution relies on the IOxOS FMC ADC3111 acquisition card, Beckhoff EtherCAT modules and the MRF timing system.

Network architecture



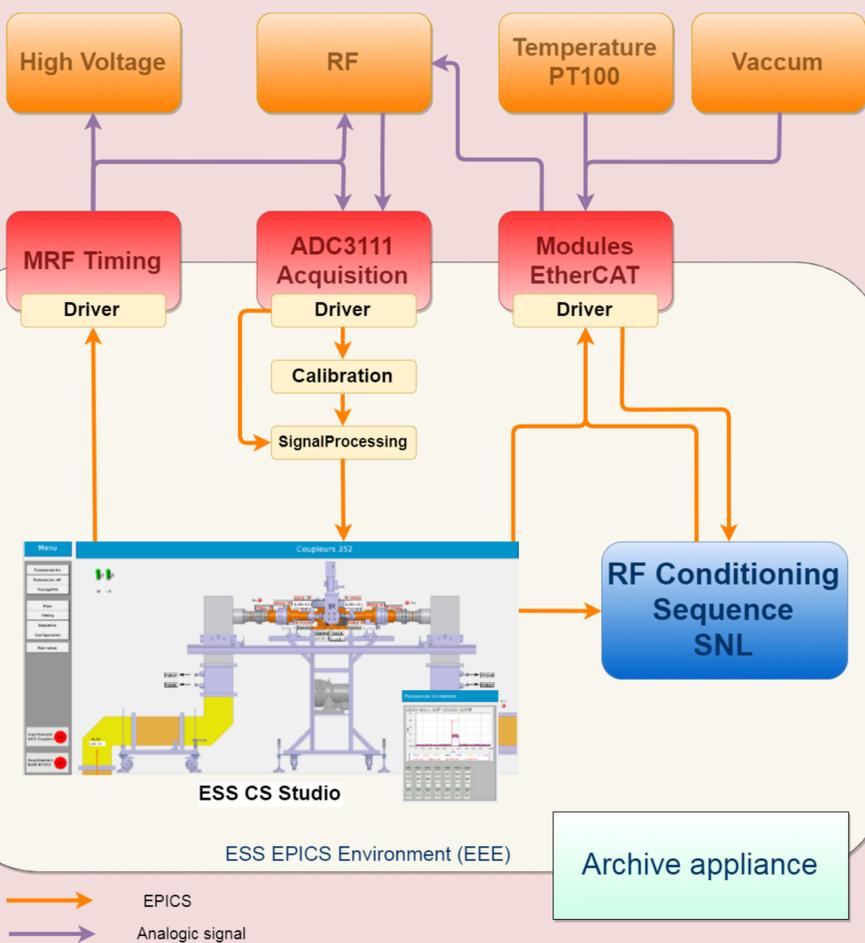
Hardware solution

- **Beckhoff EtherCAT modules**
 - Interlock
 - Measurement
 - Treshold
- **IOxOs VME64x IFC1210 + ADC3111**
 - RF Power
 - Photomultiplier
 - Electron Pick-up
- **MRF Timing System, VME64x EVG230 + EVR230RF**
 - Timing Synchronization
- **IPC Kontron**
 - Control of equipments (modbus, ethernet...)



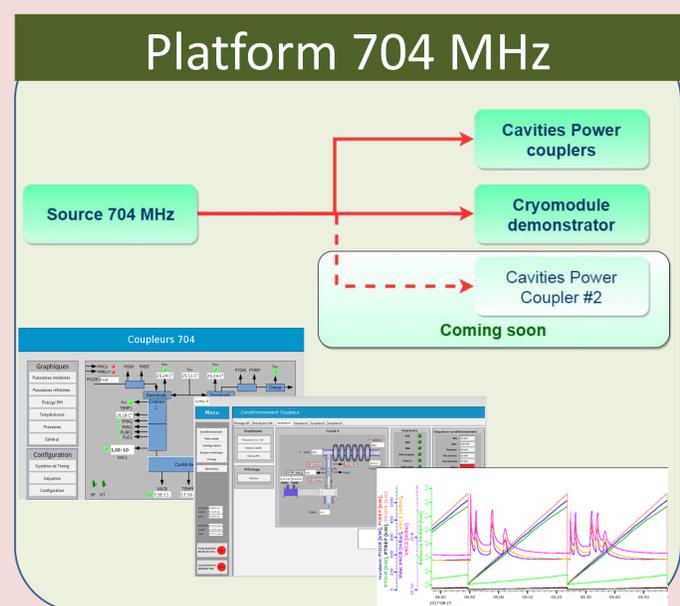
Global test stands architecture

This is the common hardware and software architecture of all the test stands installed at Saclay. EPICS Modules have been developed to be generic and reusable. For now it has been used on 2 platforms.



Applications

Platform 704 MHz



Platform 352 MHz pulsed

