FETS Control & Monitoring

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Control & Monitoring Requirements

- measure all beam-line and source parameters
- display parameter values on demand
- record and archive all parameter values
- control relevant parameters
- enable easy configuration (.INI files)
- provide warning/alarm/error indication

Types of Monitoring

- direct current/voltage readout
- instrument interface (RS232, GPIB etc) control and readout
- interface with ISIS control system (Vsystem from Vista Control Systems)

Acquisition Hardware

- reconfigurable I/O (RIO) with LabVIEW on RTOS
- RIO modules have variable acquisition-rates, ranges etc and FPGA for data conditioning
- data is streamed over network to PC client(s) for viewing and storage

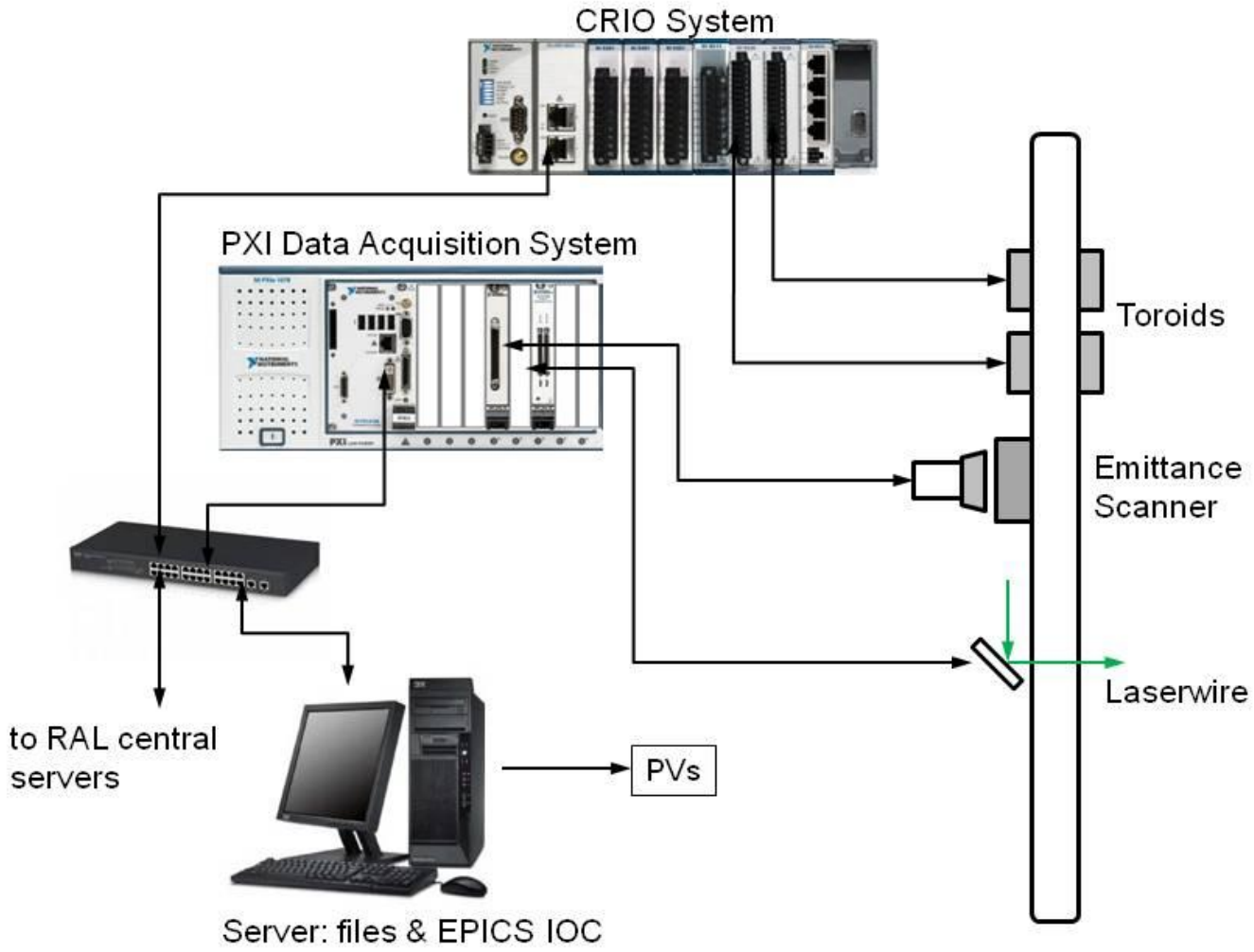
Control Hardware

- PXI-based acquisition and control system
- control for more ‘interactive’ experiments

(laserwire, emittance scanner etc) and setting of parameters (toroid current etc)

- logging of all actions, results, errors…

Overall System



Parameters to Measure…

- require for each beam-line element or diagnostic a list of parameters to monitor or control
- similar for the source