



PIP2 Technical Workshop — Frontend / IOC Standards

Frontend IOC Standards: Our Environment

- Mostly Linux Based, expecting that to continue. SLF7 for central Soft IOCs different varieties for various embedded platforms
- Concentrating on EPICS 7.
- Git repositories
- Naming standard (not well publicized).

Frontend IOC Standards: Platforms

- Traditionally, Fermilab Controls have used VME bus systems and VxWorks for hardware platform. We're moving away from both of them.
- Recently lots of ethernet-connected FPGA-based SOCs
- Investigating uTCA
- PLCs — we've historically integrated a lot of manufacturers with a variety of protocols. More recently, concentrating on MODBUS/TCP.
- Displays/test suites — we're currently leaning towards Phoebus.

Frontend IOC Standards: Minimum

- Easily reconfigurable — e.g. we change your name prefix to match our standards and instances.
- Locally rebuildable from source code
- Adhere to our (TBD) standards (EPICS base version, ...) and protocols
- Fit into our deployment plans
- Test Suites

Frontend IOC Standards: Our Responsibility

- Fermilab needs to publish our standards
- Describe our IOC deployment plan
- Describe our database integration plans (e.g. ChannelFinder, some specific central database integration,...)
- Publish guidelines for what we expect in terms of demonstration GUIs and unit test deliverables.
- PLCs — there are no plans to distribute a standard PLC hardware and software bundle that has to be adhered to. But there should be some thought/agreement here.