Control System Software Environment and Integration for the TPS

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Consoles and Servers

Intranet

EPICS IOC (Input Output Controller)

Private Ethernet

Field Devices (Power Supply, Motion Controller, LXI Instruments, …etc.)

Signal Conditioning

Timing

Beamline Network, Network Attached EPICS Devices (e.g. EPICS Oscilloscope, … etc.)

Standard cPCI EPICS IOCs
- Intel CPU/Linux (fully preemptive kernel)
- High volume I/O
- High speed serial connection (GbE, … etc.)

Miscellaneous EPICS IOCs
- Pentium/XScale/ARM/PPC Linux
- Soft real-time system
- RS-232/422/485 Devices
- CCD camera server
- PLC (safety type system)
- Bunch-by-bunch feedback system interface
- Special applications

File and Name Server, Gateway, Archivers, Beam Physics Server (Modeling System), Display Managers, Database Server, Alarm Server, AP Server, Boot Server, Monitoring Services, Storage Server … etc.

EPICS/OPI

PC/Linux

Control Ethernet

cPCI EPICS IOCs

PLC-IOC

Safety Type System

Private Ethernet

EPICS Devices

Intranet

Router

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Current Status of the TPS Control System

- Accelerator system installation and system integration had started from later 2013.
- Various EPICS IOCs, purposed operation interfaces and database related applications have been established and integrated specifically for the TPS commissioning.
- Linac and transport line (Linac-to-Booster) system had commissioned from half of 2014.
- Booster ring is commissioning from the third quarter of 2014.
- Storage ring will schedule to commission from later 2014.
Thanks for your attention!

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