Stanford Linear Accelerator Center

May 2001 EPICS Collaboration
Meeting Trip Report

Complex Networks,
Tool Upgrades,
Base Upgrade Plans
EPICS in Complex Networks

- BESSY II Beamline Control
- Channel Access Gateway
- PV Name Server
EPICS Tool Upgrades

- XCAS – API above CAS Library
- EDM - Extensible Display Manager
- VDCT – Visual DB Configuration Tool
- Strip Tool
XCAS – API for CAS Library

- C++ Layer above PCAS
- Supports common EPICS fields
- Hide GDD (Gruesome Developer Devourer)
- Hide Other Ugly Server Routines
- Look more like a virtual IOC
Extensible DM (EDM)

- Supports many standard widgets and editing aids, macros, dynamic symbols
- Select color by color or name
- Adding color rules (ala CALC record)
- “PV” can be EPICS, Vsystem, CALC, but no CDEV
- Still no design or user documentation
Visual DB Config Tool (VDCT)

- Rapid DB Development (RDD)
- GDCT GUI Features, Java 2
- Hierarchical (groups)
- DB File Parser
  - Comments, record/field order preserved
  - Find “dead” links
  - Can edit .db files using other tools
- Future – CAPFAST-like Hierarchy, XML, More static graphics for doc, Printing, etc
Strip Tool

- History
  - Current -> Archive Record -> Archived Data
- Fast, Specialized “Archive Browser”
- Menu Driven History Data Processing:
  - Average, Tail of Raw, Sharp, Spline
- End Points, Redraw, Y Panning
- Log Scale, Auto Range, Current Value
Misc – SLS Timing System

- APS Event System
- Master Timing IOC
- Event Generator -> Event Receivers
- 50M Events/sec (20 ns resolution)
- EVGs cascaded to create event circuits
- Master Timing IOC debugging
misc – SLS magnet control

- 500 60W to 1MW power supplies
- DSP controllers (50 kHz loops)
- Also DAC and ADC
- Download waveforms and DSP program
- 100 records per PS (all diags in records)
- Flash memory for bumpless reboot
- IP used for VME to PS interface
Base Upgrade Plans

- Version 3.14
- Version 3.15 and 3.16
- Probably be no Version 4!
Version 3.15 and 3.16

- Replace GDD (Gosh Darn Data)
- IOC CA Server (rsrv) -> PCAS
- Periodic monitors (client deadbands later)
- dbStaticLib -> new link support
- Dynamic HW link modification ("@" hack in the INP field)
- Allow more checking during DB configuration
- Allow for more frequent releases
- 3.16 – remove limit on names and strings