Getting Started with EPICS
A lecture Series

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EPICS Collaboration Meeting
Tokai, Japan
December 2004
Outline

- What
- Why
- How
What

- Getting Started with EPICS lecture series
- A series of lectures aimed at a wide audience
  - From GUI users to IOC hackers
- Aimed at APS/ANL people, but most subject matter applicable to EPICS sites generally
Why

• A lot of people at the APS interact with the control system in some way. There was a widespread desire to learn more about it.
• We wanted to give people a common control system vocabulary.
• Many ‘occasional EPICS developers’ wanted to learn more. Needed help up the learning curve.
• To correct some misconceptions about EPICS.
• It appeared as a goal on Neds’ PA.
How

- Arranged and coordinated by APS Accelerator and Beamline Controls groups
- Much discussion on format, content e.t.c.
- Lectures with “powerpoint” presentations
- Presenters were from many groups
- All have been video recorded
- Recordings are or will become available on the web
- Course divided into five sessions, each aimed at a different audience
- Created a “virtual LINAC” application to give attendees their own EPICS system
Session 1 - Introduction

• Introduction to EPICS
• Introduction to the course
• What is EPICS
• What does it do
• Some concepts introduced:
  - CA
  - IOC
  - Database
• Two classes
Session 2 – Using Tools

- Using EPICS Tools
- For people who use client side tools
- Five classes
  - Overview of client tools
  - MEDM
  - Alarm Handler
  - OAG tools
  - Channel Archiver
Session 3 - Developing Tools

- Developing EPICS Tools
- For those interested in creating “EPICS-enabled” tools
- Seven sessions
  - Introduction to CA clients
  - Tcl/Tk in the OAG environment
  - IDL and Python
  - SDDS Toolkit
  - CA servers
  - Perl
  - Java and JCA
Session 4 - IOCs

- For IOC developers
- Nine classes
- Topics covered:
  - Introduction to IOCs
  - Databases
  - SNL
  - Record support
  - Device Support
  - VDCT
  - Finding, Deploying and Managing I/O support
  - ASYN
Session 5 – Special Topics

- Whatever didn’t fit in to the other sessions

Classes being scheduled:
- CA in depth
- synApps
- Motor Control
- Detectors and feedback
- Scans
- Data Visualization
- Remote Access
The Virtual LINAC

- A teaching aid
- A stand-alone application
- Runs on a soft ioc, no hardware required
- Installs from a CD
- Solaris, Linux, Mac OSX, Windows
ASD Controls and AOD BCDA are coordinating a series of lectures entitled “Getting Started with EPICS”. Starting in mid-August, the lectures will be held once or twice per week with one or two topics covered each time. The topics will be grouped into five general categories representative of how one might be involved with an EPICS control system:

- Introduction to EPICS
- Getting Started with Using EPICS Tools
- Getting Started with Developing EPICS Tools
- Getting Started with Input/Output Controllers
- Applications/Special Topics
Results

• Classes have been running since August, ~1 class/week
• Attendance has been good, from many parts of ANL
  - Min  ≈ 14
  - Max  ≈ 90
  - Mean ≈ 30
• Slides for all classes to date are available on-line (.ppt or .pdf)
• Streaming video of classes is becoming available on-line
• Positive feedback from attendees
• Web Site: