Panel Discussion on EPICS

W. McDowell
Argonne National Laboratory

Session M3B, a Panel Discussion on the Experimental Physics and Industrial Controls System or EPICS, took place the afternoon of Monday, October 30. This session was assembled due to the widespread interest in EPICS in the controls community and the use of EPICS around the world. The object was to present a balanced look at this popular product. To meet this criterion the panel selection was made to include a variety of points of view. There were EPICS developers, EPICS users, a commercial vendor of EPICS and an independent reviewer of control systems. The panel members were:

Matthias Clausen, DESY
Robert Dalesio, LANL
Martin Kraimer, ANL
Steven Lewis, LBL
William McDowell, ANL (Chairman)
Peregrine McGehee, Canada-France-Hawaii Telescope Corporation
Tim Mooney, ANL
Mark Rivers, U of Chicago
Arun Sheth, Kinetic Systems
Jiri Navratil, CTU
William Watson, CEBAF

The format of the session was as follows:

- A brief Introduction (McDowell).
- A 15 Minute overview of EPICS (Dalesio).
- A 5 to 10 Minute talk from each of the panel members.
- Open Discussion with the conference attendees.

The presentations can be summarized as follows:

EPICS is a set of software tools and applications originally developed by Argonne National Laboratory and Los Alamos National Laboratory for the purpose of building distributed control systems to operate devices such as Particle Accelerators, Large Physics Experiments, Telescopes, etc. Present and future development is being done cooperatively by Argonne (ANL), Los Alamos National Laboratory (LANL), Lawrence Berkeley National Laboratory (LBNL), the Continuous Electron Beam Accelerator Facility (CEBAF), DESY (Deutsches Elektronen-Synchrotron) and the Telescope community.

An appropriate summary of the discussion is that the purposes of EPICS are:

- To provide a fast, easy interface to supervisory control, steady-state control and data acquisition through a table-entry database.
- To provide an Operator Interface (OPI) to all control system parameters through an interactive display editor.
- To provide a means of logging data through a table-entry archiving file. To allow for the management of alarms through a table-entry alarm file.
- To provide sequential control through a state definition language that has convenient routines for database interface.
- To allow data acquisition (channel-access) routines that interface the control system data with data analysis, adaptive control algorithms and any other functions not provided in the control system.

To learn about EPICS, information can be found at:

https://www.aps.anl.gov/asd/controls/epics_home.html