Beamline Controls and Data Acquisition Group
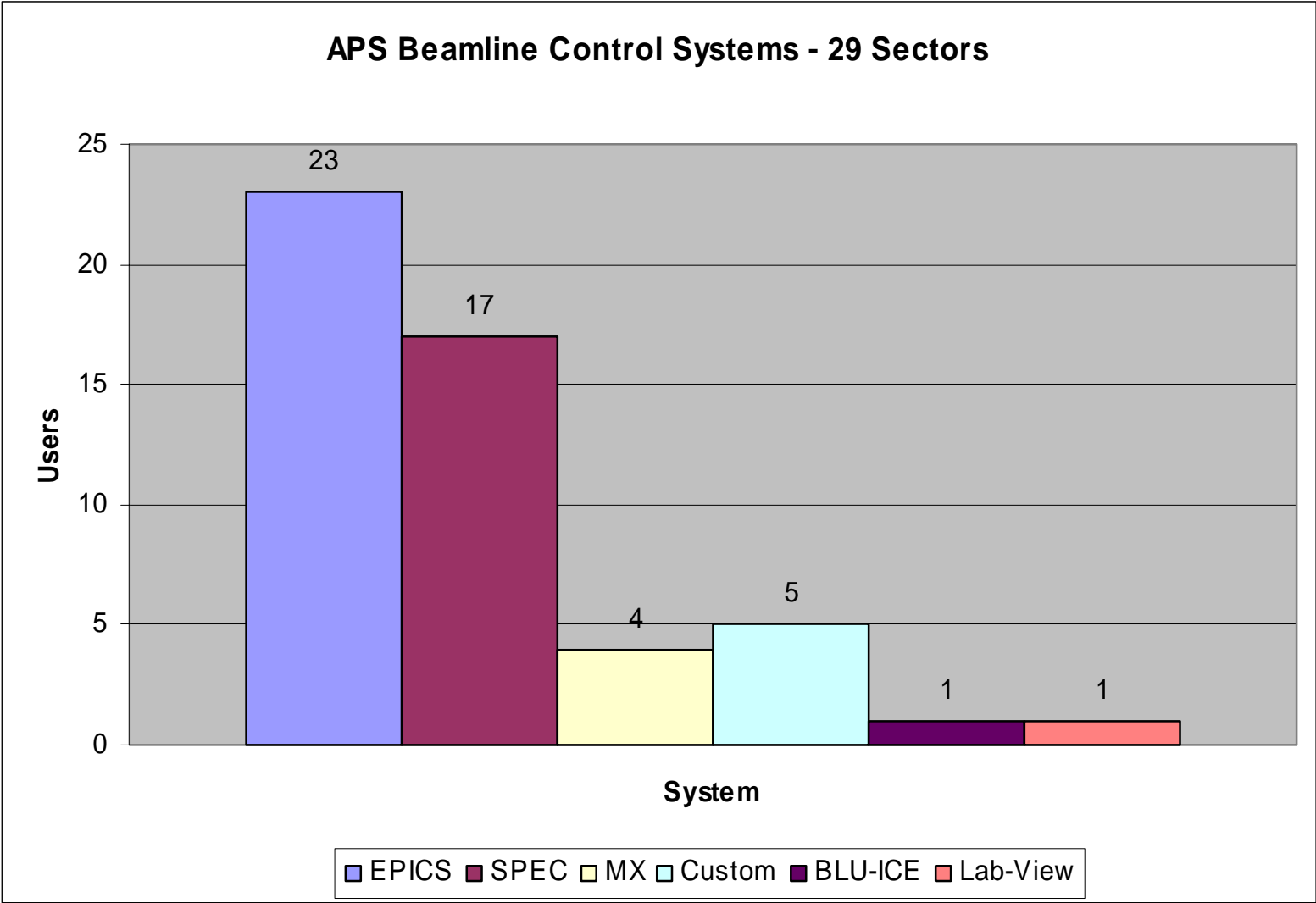
John Maclean

Argonne National Laboratory

Introduction

- **SPEC Support**
- **EPICS, synApps developments**
- **Low cost ioc**
- **EPICS training**

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APS Beamline Control systems

APS Beamline Control Systems - 29 Sectors

SPEC Support

- **Maintenance contract with CSS**
  - Please contact Gerry Swislow for help
- **We can help with SPEC installation**
- **Testing SPEC with EPICS 3.14**
  - Thanks to Jonathan Lang
  - Looks promising
- **Hope to hire a SPEC support person**
  - Write macros
  - Modify existing macros – e.g. use ESRF code
  - Central repository of macros
  - Make sure SPEC - EPICS interface works well
- **SPEC Source license?**

EPICS 3.14

- **IOCs now Operating System Independent**
  - formally only vxWorks
  - now add Linux, Windows, Solaris, RTEMS, Mac OSX
- **Data array transfers can be any size (formally 16K bytes)**
- **Now "open source"**
  - Released under "EPICS Open" license
- **We have hard copy documentation**
  - See Carlotta Lukowski

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synApps

- **synApps developer meeting held in September 2003**
  - Representatives from BCDA, CAT developers, ASD controls, NSLS
  - 12 Action items arose. All but one complete or in progress (one impractical)
- **synApps now under "EPICS Open" license**
- **New format web pages now available**
- **Nightly "snapshots" of CVS repository available on gateway machines**

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synApps - roadmap

- **R4.6**
  - For use with EPICS 3.13.9
  - Available now

- **R4.7**
  - Minor enhancements
  - For use with EPICS 3.13.9
  - Available March

- **R5.0**
  - For use with EPICS 3.14.5
  - Target release date, end of February

- **R5.1**
  - For use with EPICS 3.14.5
  - Incorporates "asyn" support

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Coming soon….the Ebrick

- **EPICS Brick**
  - Low cost IOC
  - in collaboration with Eric Norum, ASD controls
- **PC104, Linux, EPICS 3.14**
- **3 available serial ports**
- **24 digital I/O lines**
- **16, 16 bit analog inputs**
- **4, 12 bit analog outputs**
- **Parallel port, 2 USB ports**
- **$900**
- **Beamline controls meeting to come**

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EPICS training

- **ASD controls & BCDA**
- **This spring**
- **Aimed at a wide audience**
- **Tool Users -** *Non-programmers that want to interact with an EPICS system with existing tools*
- **Tool Builders -** *Programmers that want to write custom applications to interact with an EPICS system*
- **IOC Application Developer -** *Using EPICS iocCore and selected hardware to develop a control system using EPICS*
- **Plan to make classes available on DVD and streaming video**
- **Please contact me with EPICS questions you would like answered**

Conclusion

- **Planning to improve support for SPEC**
- **Developing synApps to take advantage of EPICS 3.14**
- **Low cost ioc being developed**
- **EPICS training this spring**

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