

EPICS Collaboration

in the JSPS Core University Program

and Brief Introduction of EPICS

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EPICS Seminar at
IHEP, Beijing China

2010-03-01

JSPS

- **Japan Society for the Promotion of Science**
 - **Organization for the Promotion of Science**
 - **Japanese version of National Science Foundation (NSF), USA**
 - **Various programs for Domestic and International Promotion of Science**

JSPS Core University Program

- **Based on the agreement between JSPS and Corresponding organization in ASIA.**
- **Started in 1977 / 27 Projects**
 - **Accelerator Science Started in 2000 as 10 years project.**
 - **2010 is the LAST seminar in this program**
- **Counter Countries**
 - **South-East Asian Countries (1977)**
 - **China (1997) CAS**
 - **Korea (2005)**
 - **India (2006) DST**

EPICS Collaborative Development in Core University Program

- Started in 2000**
- Scientists/Engineers Exchange**
- EPICS Seminars**
- Counter Countries**
 - China**
 - India**
 - Korea**
- Collaborators**
 - Thailand/Korea/U.S.A./Germany**

EPICS Seminars



And Many visitors to KEK, JAPAN

I thank JSPS for supporting the EPICS seminars and related works.

2010-03-01

EPICS-2010 in IHEP, Beijing China

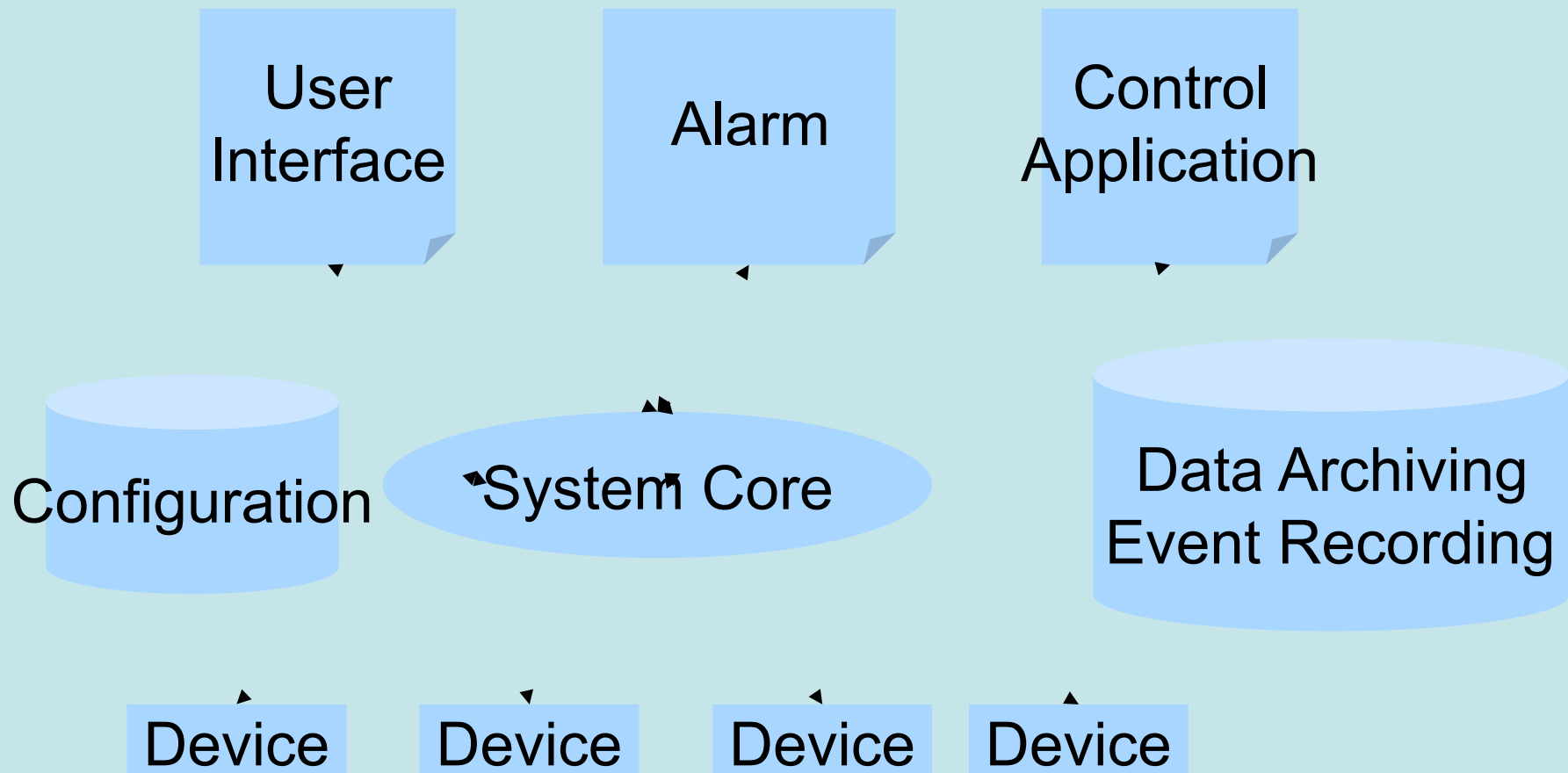
JSPS Programs- 5

What is EPICS?

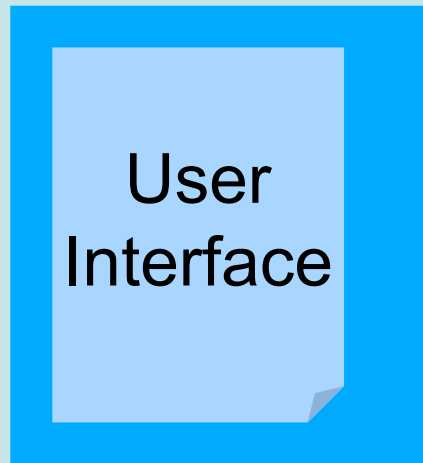
What is EPICS?

- **EPICS is:**
 - **A toolkit / Framework of software for (Accelerator) Control System.**
 - **International Collaborative effort to extend EPICS by Institutes/Laboratory using EPICS.**

Modern Control system



Modern Control system(2)



Applications running on Workstation/PC

Network distribution
•Protocol ?



Distributed Controller

- Data collector ?
- Setting Devices?
- Interface driver ?



Device

Device



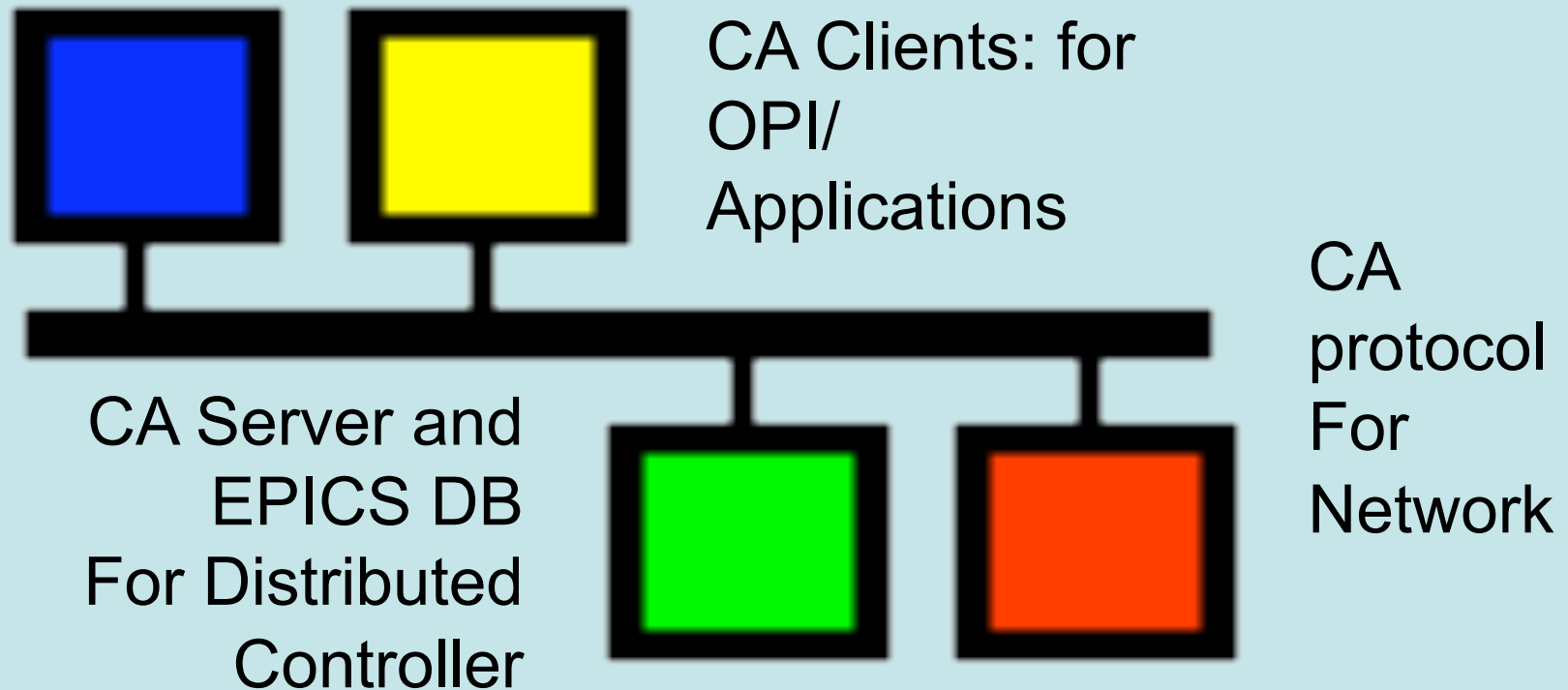
Device

Device

EPICS

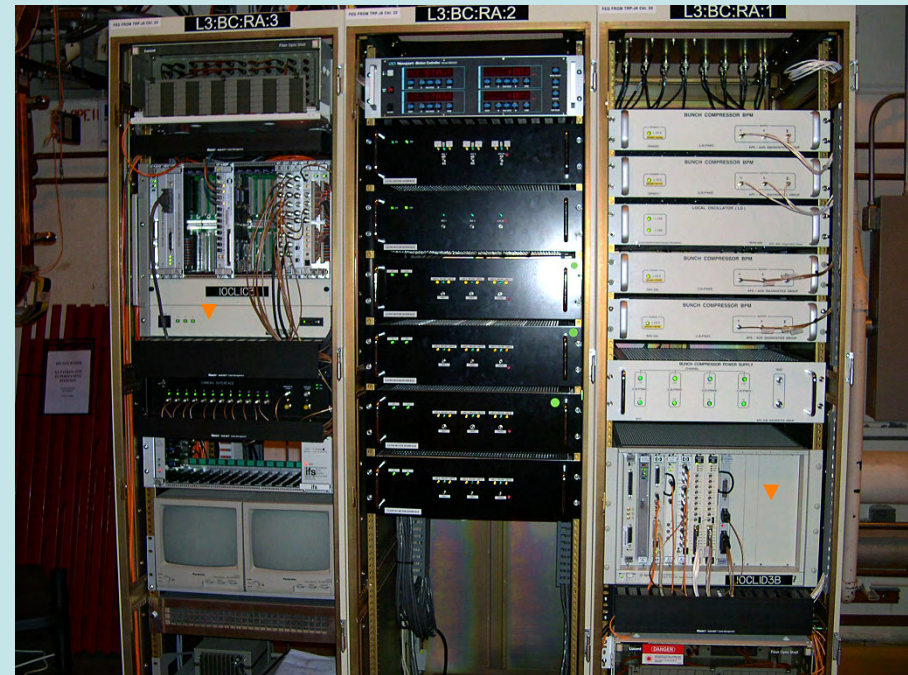
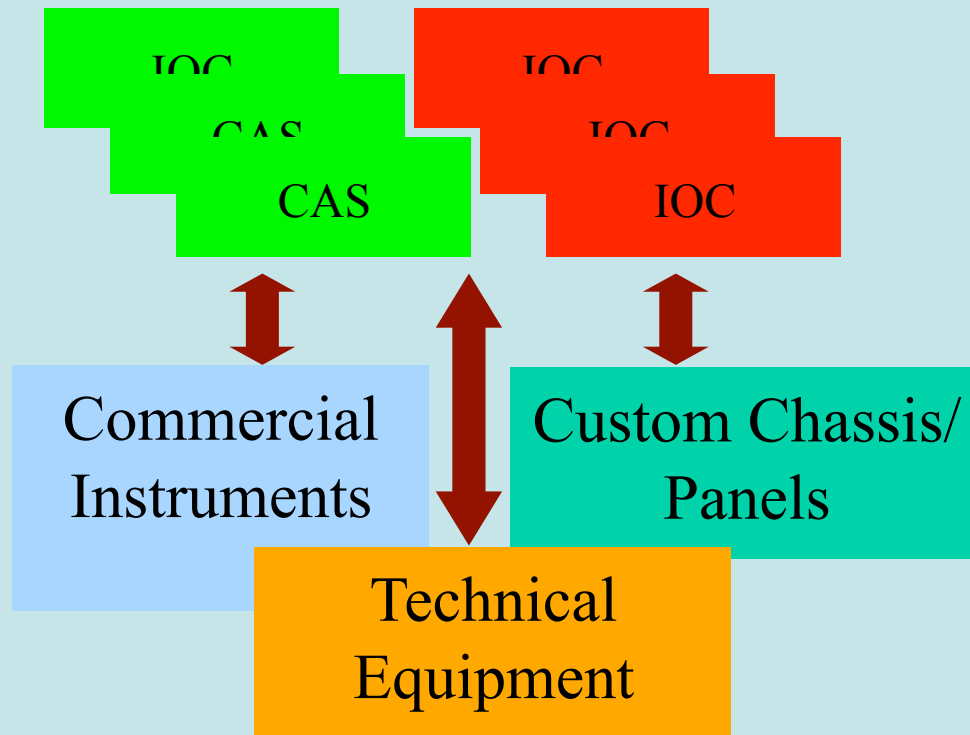
- **EPICS is a Toolkit to develop control system.**
 - **Based on Network Distributed architecture**
 - **Standard**
 - **Scalable/Easy to extend**
 - **A rich set of standard applications as a bases of your control system.**
 - **Control system without “programming”**
 - **Solves 95% of your requirement.**

EPICS



EPICS provides Software components for building a modern control system and ready to use as OPEN source.

Typical Realizations of an EPICS System



From "Getting started with EPICS" by Ned Arnold

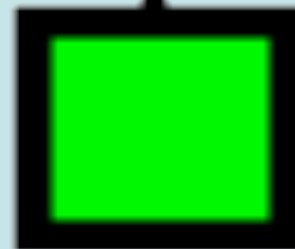
EPICS



Work Stations or PC running
Unix (incl. Linux & MacOSX)
& Windows

TCP/UDP IP
Network

PC, VME-CPU,
Embedded CPU
Running VxWorks,
RTEMS, Unix (incl. Linux
& MacOSX) or Windows



Devices



Devices

VME, PCI
GPIB/VXI-11
Serial
CAMAC
Ethernet

EPICS uses Standard technology as much as possible

EPICS collaboration

- **International Collaboration on development of EPICS software**
 - **Collaboration meeting twice a year**
 - **More the 100 participants from 30+ institutes**
 - **Also Coderathon once a year**
 - **Tech-Talk mailing list discussions**
 - **Quite Active**
 - **Web Site, slower information exchange**
 - **Information, Documentation, Code**
 - **Exchange of people**
 - **EPICS makes it easy to share software/knowledge/ people in controls**

Conclusion

- **EPICS**

- **Provides 95% of software you every need to create your control system.**
 - **EPICS also provides API to fill this 5% gap.**
- **Through Collaboration you may have help from other part of world.**
- **You will have a chance to interact people in many ways, like this seminar.**
- **Let's continue EPICS collaboration especially in Asia !!**

Thank
you!