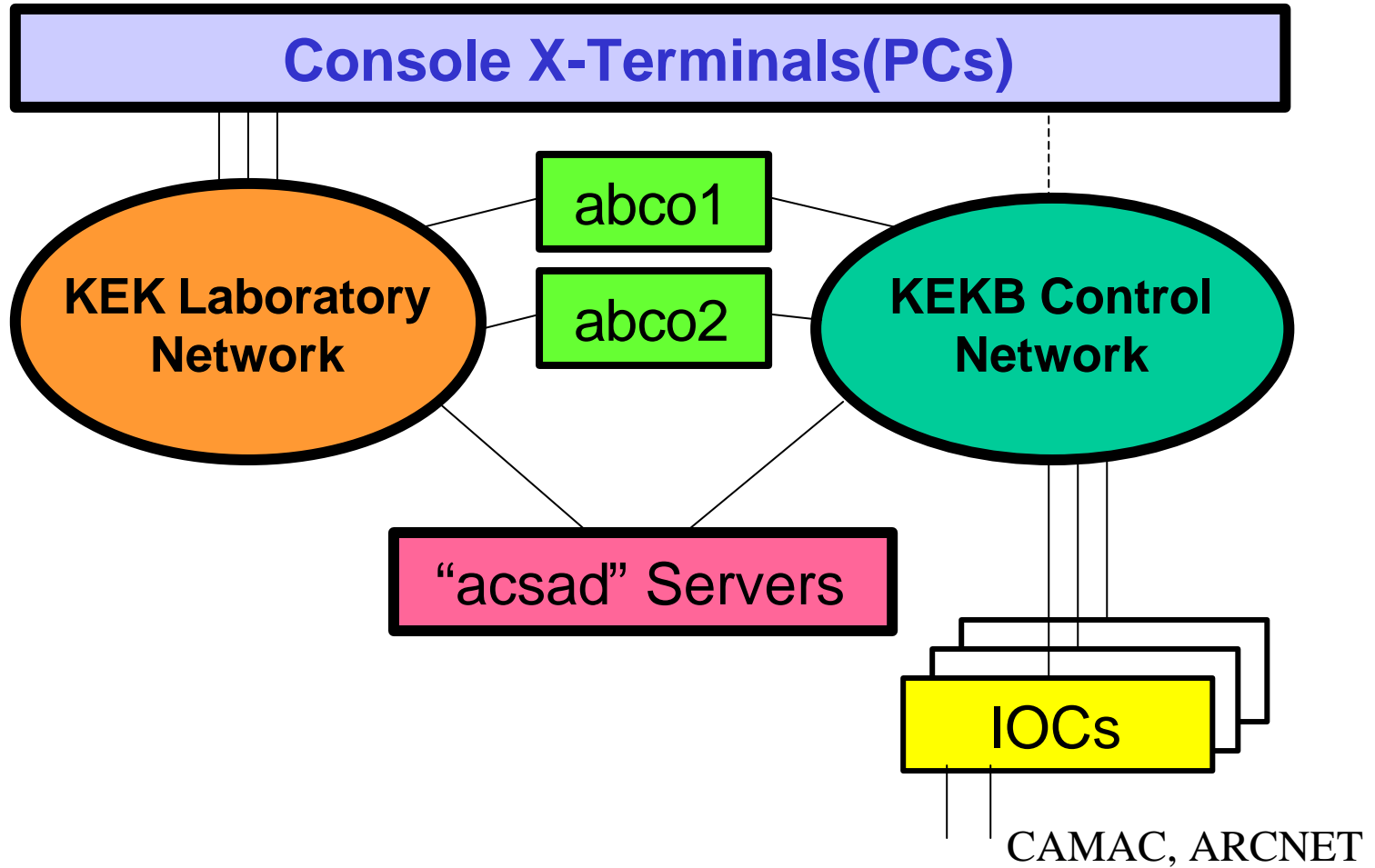# Control System for Super KEKB

KEKB Controls Group
Tadahiko Katoh

Present System

- EPICS based
- UNIX Server Workstations
  - abco1(KEKB) + abco2(PF-AR)
- Combined with PF-AR Control System
  - 94(KEKB) + 10(PF-AR) IOCs
- Network
  - FDDI Switched Network
  - 10 Base/T, 100 Base/TX Ethernet
- Fieldbuses
  - CAMAC Serial Highway
  - ARCNET for Power Supplies
  - Partially PLCs

System Configuration

Console X-Terminals(PCs)

abco1

abco2

KEK Laboratory Network

KEKB Control Network

"acsad" Servers

IOCs

CAMAC, ARCNET

Upgrade for Super KEKB

- EPICS System is Scalable
- Server Workstation Upgrade
- Network Upgrade
  - Switched FDDI to Gigabit Ethernet
  - Optical Fiber Cables have Already been Placed
- Additional IOCs and CPU Upgrade
  - ~ 30 Additional IOCs
- Fieldbuses
  - CAMAC or/and PLCs

Changes in Quantity

- RF Control
  - About twice
- Vacuum Control
  - Additional Fraction
- Beam Monitors
  - Additional Amount
- Data to be taken
  - Several Times More than Present
  - Increase of Network Traffic

Changes in Quality

- Control Interface for RF
  - CAMAC to PLCs Conversion
    - More Expensive but Simpler
  - CAMAC and PLCs Mixed
    - Less Expensive but More Complicated
- Hardness of Producing CAMAC Modules Again
  - We have to Design from the Scratch

Works to be Done

- More Accurate Estimation needed

- Model System using PLCs

Schedule

- 2002   RF Model System Design
- 2003-4 RF Model System Setup
- 2004   1st Server Upgrade
  - Network Upgrade
- 2006-7 Construction
- 2007   2nd Server Upgrade