KEK: status

Noboru Yamamoto

KEK, EPICS group/KEKB control

at EPICS Asia 2004

KEK Accelerators and its controls
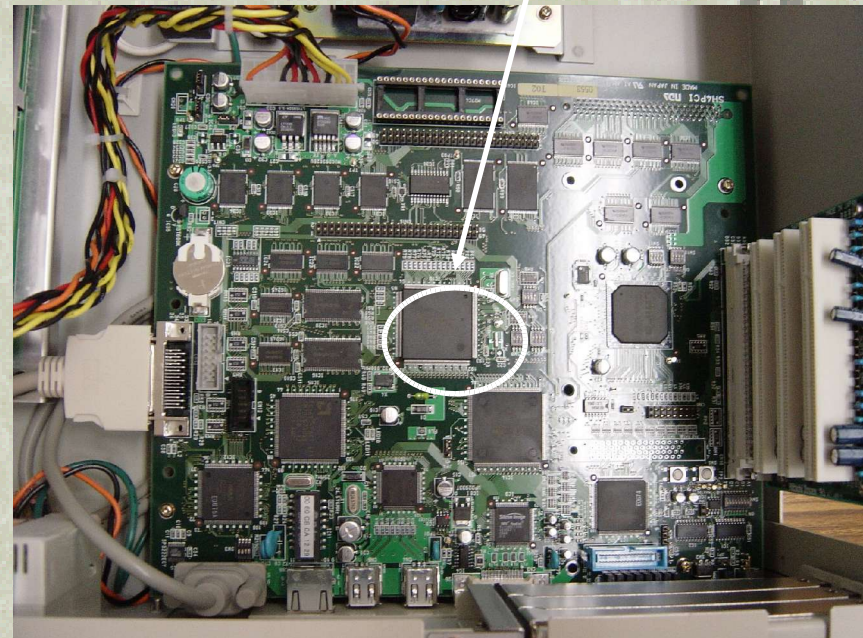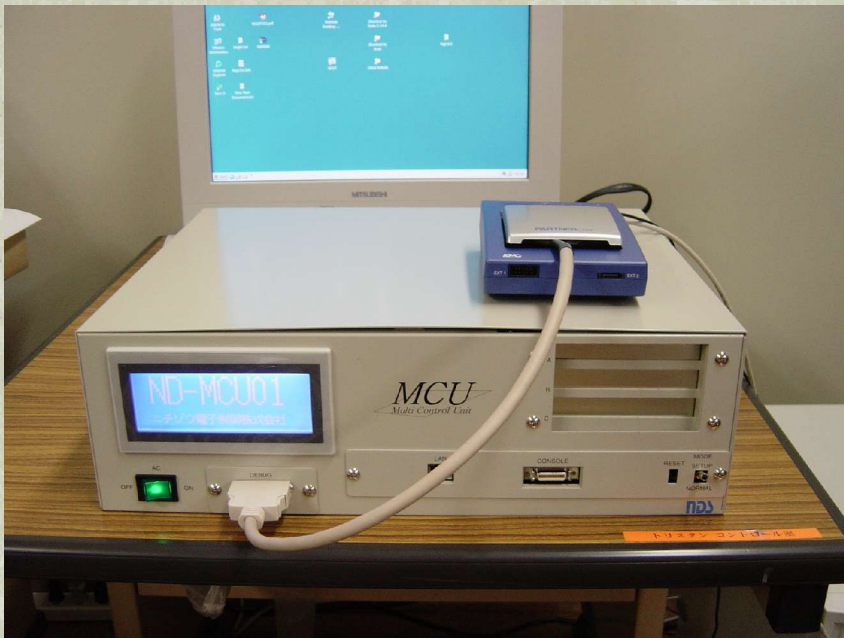
JPARC

KEKB

PS

EPICS

PF-AR

LINAC

PF

KEKB/PF-AR

- Based on EPICS
- Share infrastructure for contorls
  - Network
    - Switched FDDI Backbone/Ethenet field network
    - Moving toward GbE backbone/Fieldnetwork
      - Optical Fibre backbone
  - Host computers
    - Alpha/True 64
    - PA-RISC/HP-UX
    - Linux
    - Mac OS X(Darwin)

    - SAD/Tk, Python/Tk + CA library

MCU Made by Nichizou

MCU running μITRON

SH4 (SH7751R-200 MHz)

FLASH ROM 16MB
SDRAM 64MB

UbiquitousEPICS

EPICS related development

- NetDev
  - Framework to suppor network based devices
- EmbeddedEPICS
  - EPICS on iTRON/SH4
  - EPICS on RTEMS/SH4, x86
- MiniEPICS
  - 1 CD EPICS installation package
  - EPICS system on Knoppix
- Web client for Channel Archiver 2
  - Immitate CGIExport for Chan. Arch. 1
- Secure CA
  - Study possibility of CA over secure network

System development/improvement

- J-PARC
  - 60MeV LINAC was commissioned with EPICS based control system.
  - Setting up EPICS 3.14 envrionment.
  - Channe Archiver performance test
  - IOC network performance evaluation.
    - Force Pcore6750 had shown poor network perfora mance. -->New BSP solved this problem.
      - Stable opeartion under Fast Ethenet
      - Stil show poor performance for file transfer.
    - Preliminary test in KEKB control system shows that Force Pcore695 has reasonalbe network performance.
      - 11MByte/sec with GbE to copy file from NFS server

System development/improvement

- KEKB/PF-AR
  - Improvement fro KEKBLogger system.
    - Data chache on users directory
    - Distributed retrieve engine.
      - Share files over NFS
      - Each hosts run data retreival progam
      - Data retreival program (kblogrd) runs both big- -and little-endian machines.
  - Educate operators for development to