miniEPICS

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2. EPICS – Examples for Small-scale Applications

- **ATF-RFGUN**
  - **Linux-IOC on a PC for PLCs (Yokogawa FA-M3)**
  - **Linux-IOC on a CC/NET (for CAMAC modules)**
    - **「マルチバンチ・フォトカソードRF電子銃の制御システム」**
      荒木栄、他；第１回加速器学会(船橋、2004.08)

- **FFAG加速器**
  - **Linux-IOC on PCs for PLCs （設計）**
    - **「150MeV-FFAG加速器の制御システム」**
      湯浅由将、他；第２８回リニアック研究会(東海、2003.08)

小規模な加速器制御にLinux-based EPICS を導入する試みはもう始まっている

1. Motivation #1 – for EPICS Beginners

- **Documents for Beginners**
  - **Not so many documents for beginners**
    - **Many Reference manuals for professionals**

- **Installation Problems of EPICS Tools**
  - **Too many tools, no selection guidance**
  - **Installation procedure is time consuming**
    - **Install necessary tools one-by-one base**
    - **(in general) Need to compile sources**

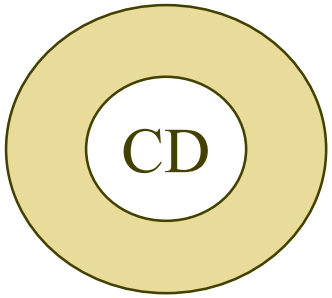
To start with EPICS, one need helps of EPICS experts ..

1. Motivation #2 - J-PARC

- **In J-PARC**
  - **Various hardware tests at a company**
    - **DTL-Q PS is >100kg & Company is 500km away**
  - **Encourage self-study of EPICS**
    - **Not many members experienced EPICS (especially JAERI side)**
  - **Questions from Companies**
    - **“What is EPICS ?”**

2. miniEPICS – Idea and Goal

- **EPICS package "miniEPICS" for small systems**
  - **Can start EPICS with one PC (Linux)**
  - **I/O is network device (PLC with a network port)**
  - **Basic tools are pre-installed (medm,vdct,etc.)**
  - **Include good samples and documents**
- **installation CD**
  - **Non-expert can start EPICS without helps**
  - **After installation, run immediately with dummy records**
  - **Tune-up config. files for real PLC signals**
- **Aims**
  - **For small-scale accelerators and experiments**
  - **Self-study of EPICS and Personal hobby**



2. miniEPICS – Tools and Components (Tentative)

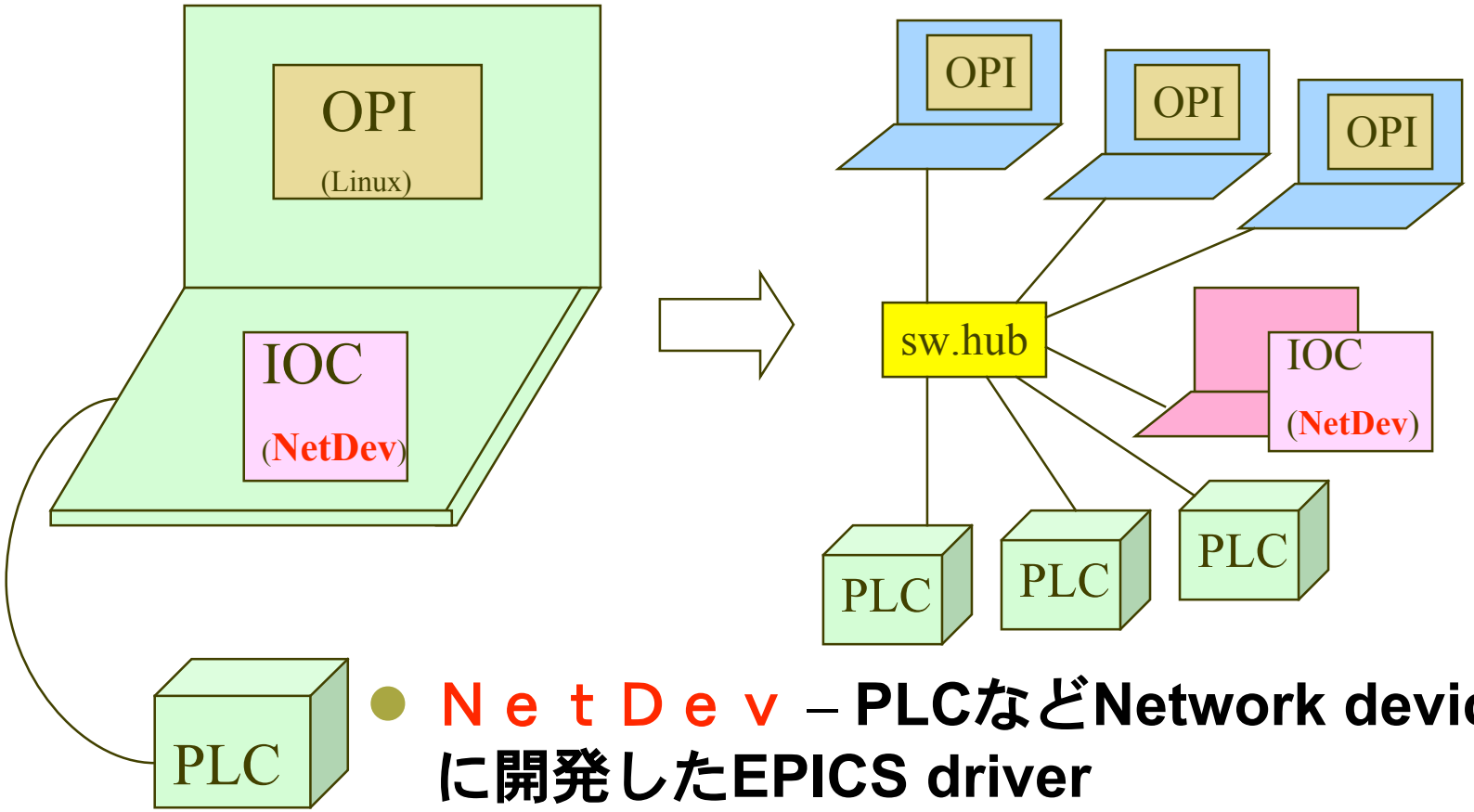
	Now developing with	Future ideas
OS	RedHat9.0 EPICS 3.14.4	FedoraCore 2 Windows+Cygwin
OPI /tool	Medm – GUI editor Vdct – Database config. tool Channel archiver – logger	Edm – extensible GUI editor
OPI /lang		Java (jca) Python
IOC /drv	NetDev – PLC(Yokogawa)	NetDev – PLC(MelsecQ) CC/NET (CAMAC) LAN/GPIB

Enhancement on Network devices

2. miniEPICS – Status

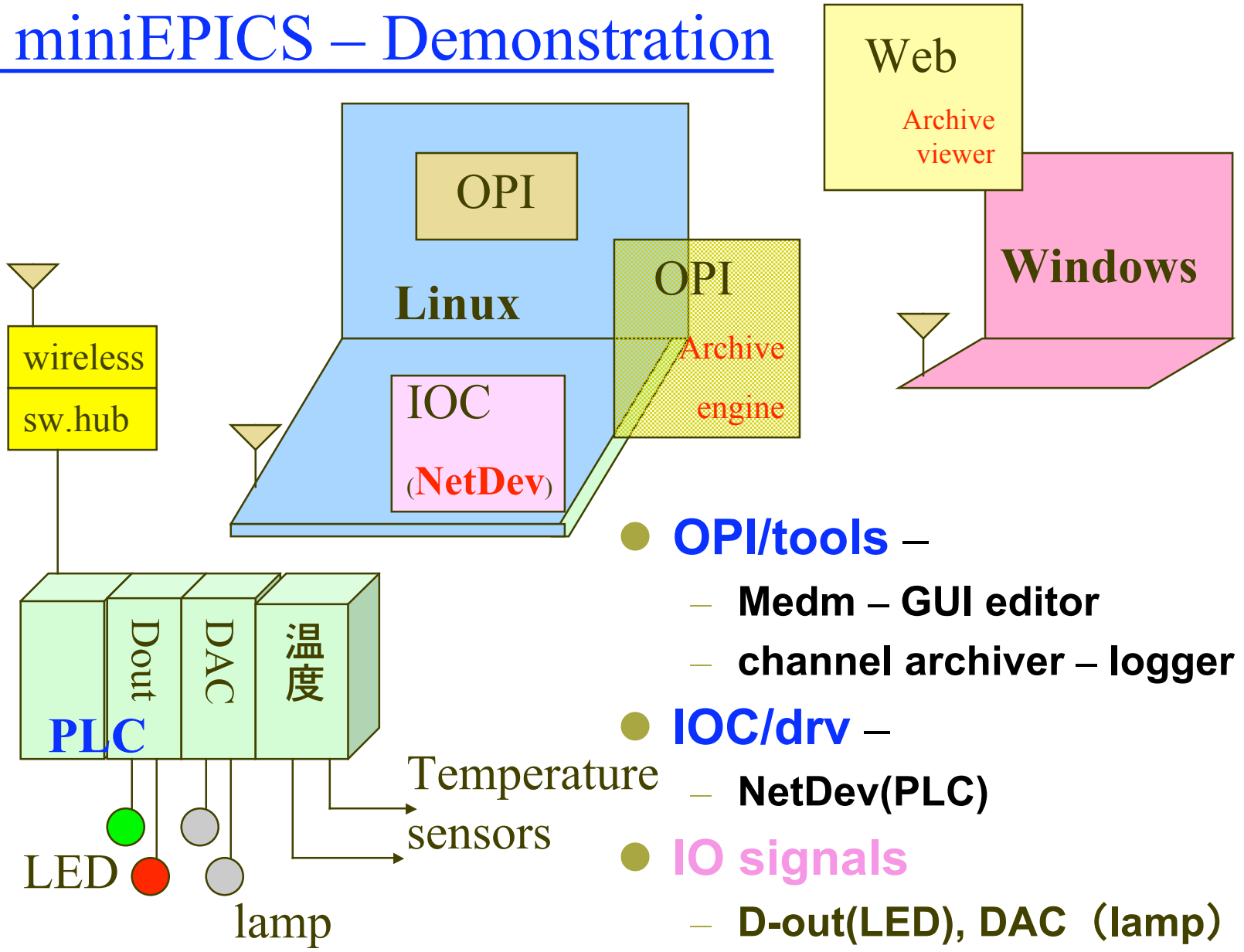
- **Status**
  - **(Oct.03) Idea was shown in EPICS2010 at KEK**
  - **(Feb.04) start internal Web-page (install memo)**
    http://www-cont.j-parc.jp/members/kami/memo/epicsinstall/
  - **(Jun-Jul.04) experience with A T F**
    - **Will be presented by Araki-san on Dec.10(Fri)**
  - **(Sep.04) demonstration at a Physics meeting Japan**
  - **(?) prepare documents, samples, and so on ..**
- **Coming presentation/demonstration**
  - **(Dec.04) small-accelerator meeting (KEK)**
  - **(Mar.05) PCaPAC (Hayama, Japan)**

3. miniEPICS – PLC and “NetDev” driver



- ＮｅｔＤｅｖ – PLCなどNetwork device用に開発したEPICS driver
  - # Realtime性は要求されないのでLinuxが利用可能
- 最小システムから段階的な拡張が可能

3. miniEPICS – Demonstration



- **OPI/tools –**
  - **Medm – GUI editor**
  - **channel archiver – logger**
- **IOC/drv –**
  - **NetDev(PLC)**
- **IO signals**
  - **D-out(LED), DAC（lamp），温度**

Conclusions

miniEPICS is under development

- To make an install CD ready to use
- For small systems and/or self-study of EPICS
- Use PLC with a Network port
- Now we come to the level of demonstration with 1 Linux PC + PLC

Enjoy demonstration at the Coffee room