

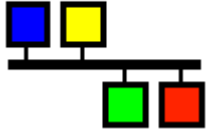
EPICS on Embedded Systems

Embedded EPICS

- Motivation
- What to do?
- Examples
- @ GSI
- Work documents

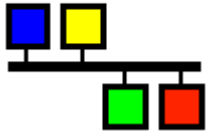


EPICS meeting on 6./ 7. October 2005



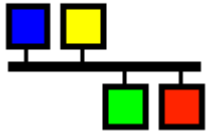
Motivation

- **EPICS** - **E**xperimental **P**hysics and **I**ndustrial **C**ontrol **S**ystem
- Basic Idea: Use as early as possible the control system data transport layer
 - **CA** Channel **A**ccess
- Embedded systems are powerful enough to run an EPICS IOC as an early “entrance point” to the Control System



What to do?

- Installation of cross compiler
- Installation of software development kit (if available)
- Download of all sources (LINUX kernel and driver)
- Compilation of the kernel plus tools (busybox for example)
- Compilation of EPICS base inside the development package
- Test the IOC on the target machine



Examples

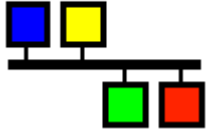
- **μCDIMM**

- Embedded IOC Applications at the APS (see: FR-2-1-0-EmbeddedEPICS.pdf)
- Desy development (see: FF)

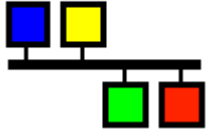
- **microIOC by cosylab (PC104 microIOCforEPICS.pdf)**



http://www-linux.gsi.de/~marc/index.php?option=com_docman&task=cat_view&gid=37&Itemid=37



- Two Projects:
 - **TRB** HADES board (**TDC R**eadout **B**oard)
 - Real use in an existing setup
 - ml403 Virtex 4 evaluation board
 - Future DAQ test setup



Work documents

- <http://www-linux.gsi.de/~marc/>
 - Document download section
 - Links
 - Calendar
- <http://wiki.gsi.de/cgi-bin/view/Epics/WebHome>
 - Documentation page
- <http://www.aps.anl.gov/epics/index.php>