

# DESY August '06 Trip Report

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# Performance Against Goals

- Goals: 1) Have control systems discussions, 2) gain more experience with DOOCS control system, 3) resolve Fermi DOOCS issues, and 4) address issues with development outside of DESY.
  - Gain experience with DOOCS through additions/modifications within DOOCS, HOM system.
- Actual: Good balance between HOM work and general control systems discussions. Fermi DOOCS issues resolved (for now), no DESY specifics discussed.
  - Discussions with the various DESY groups separately.

# What Went Right

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- Discussed interesting control systems concepts
- Resolved key Fermi DOOCS issues
- Got some HOM measurements

# What Went Wrong

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- HOM measurements not correct
  - charge? -- not checked.
  - structure to get charge from toroids
- Did not find time to go through build environment specifics – the specific things I do to get DOOCS to build at Fermilab.

# Summary list of Controls Concepts encountered

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## 1. Log Book

- not so “control system” but could be part of the “framework”.
  - ❖ i.e. automatically record server development – restarts/version change
- edit – go back and “add”

## 2. High Availability – mix HOM BPM system with more traditional

## 3. Front-end environment complexity/sophistication

- Is OO undesirable?

# Summary list of Controls Concepts encountered - continued

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## 5. (Meeting) Specifications

- IRM/Classic is best example I know.

## 6. TRACE-type facility.

- At least in front end and probably middle layer.

## 7. Software Timing synchronization

- 64 bit counters or (GPS) timestamp

## 8. DAQ - Device data collection/synchronization service

- data rates/data capacity
- compare “complexity/sophistication” of various

# Summary list of Controls Concepts encountered - continued

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## 9. Controls processing

- How much is allowed at GUI level and what are the limitations/restrictions.

## 10. Plotting

# Summary list of Controls Concepts encountered - continued

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## 11. Applications Framework (CSS and more)

- Mention of Fermi interest
- There is now (new) a nice summary by Emma Shepard at  
<http://css.desy.de/epics/office/content/e198/e253/e321/e344/CSSDesignMeeting-summaryByEmmaShepherd.doc>
- How far reaching (or restrictive) should this be?
- A lot of mileage from Matlab.
- Debugger must be included.
- Laptop operation
- Remote operation

## 12. Movement toward heterogeneous system –



# Summary list of Controls Concepts encountered - continued

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## 13. System Hierarchy – clear structure (with middle layer servers)

- CEBAF experience – front ends getting data from each other.
- Primitives to support structure

# Summary / Important Points

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- Successful trip
  - Goals met (except de-DESY-ing DOOCS)
- Timing system can help with data synchronization
- System hierarchy – clear structure of layers – is more important than having a homogeneous control system.



# Questions & Comments