

# Online Commissioning

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Stu Fuess

*Using the commissioning needs of the ICD detector group to drive development of Online components, identify:*

- *Needed infrastructure pieces*
- *Needed complete applications*
- *Time scales*
- *Assignments*

*Today, concentrate on identifying the applications which need to be developed*

# Applications

- ***Controls***

- **Low Voltage Power Supply control**
- **High Voltage Power Supply control**
- **Calorimeter pulser control**
- **ICD LED pulser control**
- **D0 Clock control**

- ***Data Acquisition***

- **Trigger framework control / monitor**
- **L3 (plus control / monitor)**
- **COOR (plus control / monitor)**
- **COMM\_TKR (plus control)**
- **TAKER**
- **Data Logger (plus control / monitor)**

- ***Data Monitoring***

- **Data Distributor (plus control / monitor)**
- **EXAMINE**

# Low Voltage PS Control

- *Requirements:*

- Provide a GUI which runs on a control room node allowing complete control and monitoring of all of the low voltage power supplies associated with the ICD commissioning needs

- *Depends upon:*

- Front end IOC hardware installation
- 1553 cabling
- EPICS 1553 support
- Hardware database, and EPICS derivatives
- Rack monitor

# High Voltage PS Control

- *Requirements:*

- Provide a GUI which runs on a control room node allowing complete control and monitoring of all of the high voltage power supply channels associated with the ICD commissioning needs

- *Depends upon:*

- Front end IOC hardware installation
- EPICS HV support
- Hardware database, and EPICS derivatives

# Calorimeter Pulser Control

- ***Requirements:***

- Provide an API by which the Calorimeter pulser can be controlled
- Provide a Control Room GUI interface to this API

- ***Depends upon:***

- Front end IOC hardware installation
- 1553 cabling
- EPICS 1553 support
- Hardware database, and EPICS derivatives

# ICD LED Pulsar Control

- ***Requirements:***

- Provide an API by which the ICD LED pulser can be controlled
- Provide a Control Room GUI interface to this API

- ***Depends upon:***

- Front end IOC hardware installation
- 1553 cabling
- EPICS 1553 support
- Hardware database, and EPICS derivative

# D0 Clock Control

- ***Requirements:***

- Provide an API by which the D0 Clock can be controlled
- Provide a Control Room GUI interface to this API

- ***Depends upon:***

- Front end IOC hardware installation
- EPICS Clock support
- Hardware database, and EPICS derivative
- Clock installation

# Trigger Framework

- ***Requirements:***

- Provide an API for communication with the Trigger Framework (presumably via the TCC)
- Provide a GUI which runs on a Control Room node for controlling and monitoring the Trigger Framework (TRGMON)

- ***Depends upon:***

- TCC installation and operation
- Client / Server package (?)

## Level 3

- ***Requirements:***

- **Provide an API for communication with Level 3 (presumably via the Supervisor)**
- **Provide a GUI which runs on a Control Room node for controlling and monitoring Level 3**

- ***Depends upon:***

- **L3 installation and operation**
- **Client / Server package (?)**

# COOR

- ***Requirements:***

- **Provide a Server capable of:**
  - *Management of detector configuration*
  - *Management of run state configuration*
  - *Communication with:*
    - **Trigger framework**
    - **Level 3**
    - **Data Logger**
    - **COMM\_TKR**
    - **TAKER**
    - **Control & Monitoring client**
- **Provide a Control & Monitoring Client GUI for the Control Room**

- ***Depends upon:***

- **... everything that it communicates with**
- **Client / Server package**

# COMM\_TKR

- ***Requirements:***

- **Provide a Server capable of receiving and processing download requests**
- **Provide a Client GUI for the Control Room**

- ***Depends upon:***

- **Client / Server package**
- **various EPICS functions with related dependencies**

# TAKER

- ***Requirements:***

- Provide a run control client interface to COOR

- ***Depends upon:***

- COOR
- Client / Server package

- ***Options:***

- Merge **D0** run control with **DART** run control

# Data Logger

- ***Requirements:***

- **Provide a Server capable of:**
  - *Processing of (multiple streams of) event data*
  - *Processing of partition files*
  - *Communication with:*
    - **COOR**
    - **Level 3**
    - **Control & Monitoring client**
    - **Data Distributor**
- **Provide a Control & Monitoring Client GUI for the Control Room**

- ***Depends upon:***

- **... everything that it communicates with**
- **Client / Server package**

# Data Distributor

- ***Requirements:***

- **Provide a Server (or component of the Data Logger) capable of:**
  - *Management of client requests*
  - *Acquisition of event data from Data Logger*
  - *Distribution of event data according to requests*
  - *Communication with:*
    - Data Logger
    - COOR (?)
    - EXAMINE clients
    - Control & Monitoring client
- **Provide a Control & Monitoring Client GUI for the Control Room**

- ***Depends upon:***

- **Client / Server package**

# EXAMINE

- ***Requirements:***

- **Provide a mechanism in which events are requested from the Data Distributor, received, processed, and the resulting processed information is made accessible to a Control Room GUI application. One possible scenario is to have both an EXAMINE Server (which does the processing) and an EXAMINE Client (which provides the GUI interface)**

- ***Depends upon:***

- **Client / Server package**

# Assignments!

## • *Controls*

- |                          |                |
|--------------------------|----------------|
| • LV PS control          | + Stan, Jeff   |
| • HV PS control          | Russell        |
| • Cal pulser control     | ?, Fritz       |
| • LED pulser control     | ? (Cal. Group) |
| • D0 Clock control       | ? (ICD Group)  |
| • Downloading (BLS, etc) | Laura, Fritz   |
|                          | ? (Cal. Group) |

## • *Data Acquisition*

- |                         |          |
|-------------------------|----------|
| • TCC control / monitor | Philippe |
| • L3 control / monitor  | Gordon   |
| • COOR                  | Scott    |
| • COMM_TKR              | Alan     |
| • TAKER                 | Scott    |
| • Data Logger           | Lars     |

## • *Data Monitoring*

- |                    |       |
|--------------------|-------|
| • Data Distributor | Gerry |
| • EXAMINE          | Jae   |