

DSG-R&D Phoebus Meeting Minutes

Date: January 19, 2024

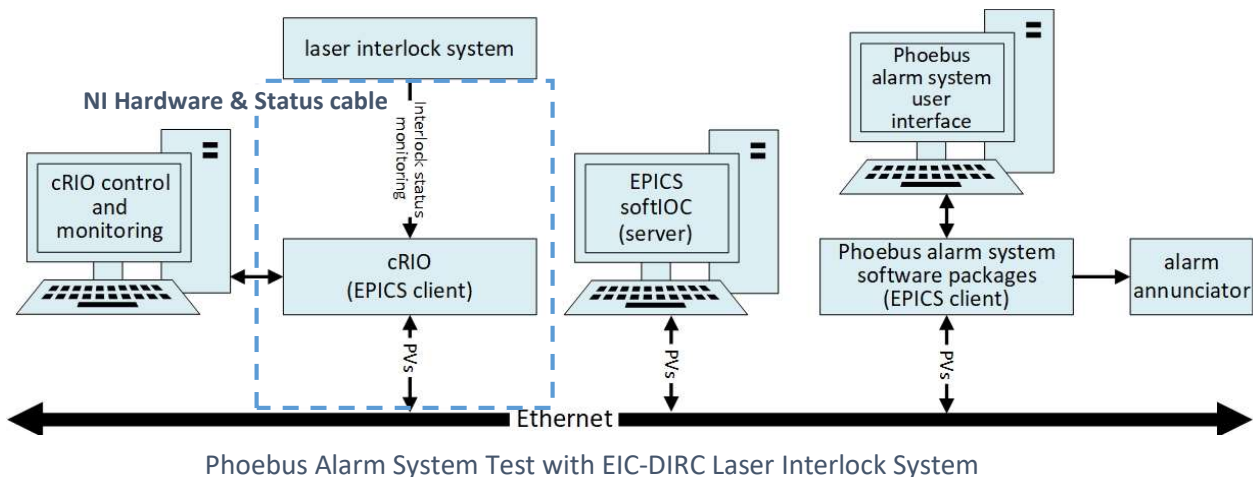
Time: 2:00 PM – 3:00 PM

Attendees: Peter Bonneau, Aaron Brown, and Marc McMullen

1. EIC DIRC Phoebus Alarm System Test - Hardware Configuration and Programming

Peter Bonneau, Tyler Lemon, and Mindy Leffel

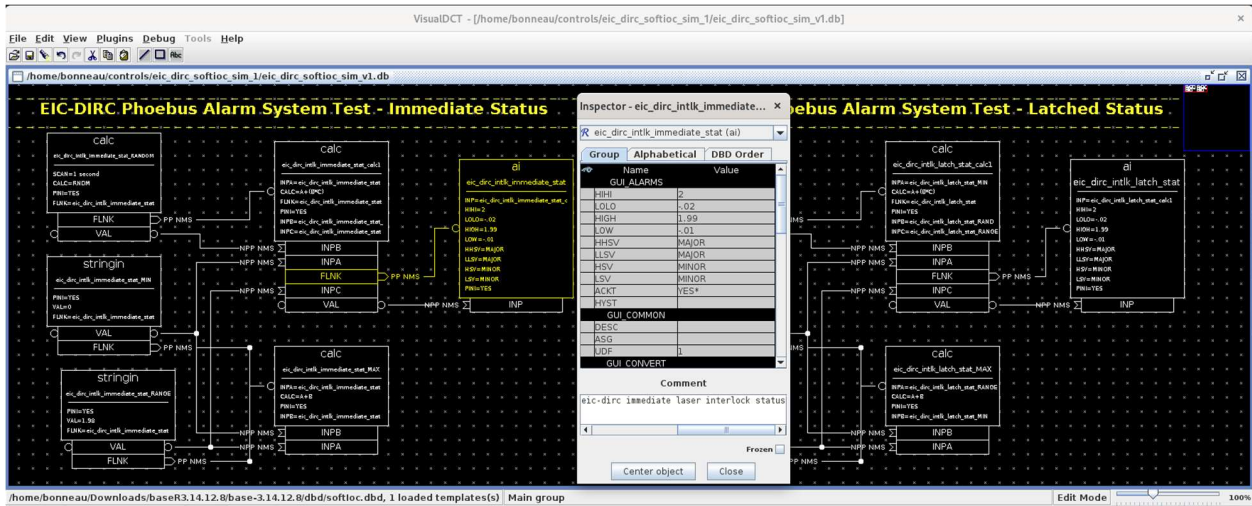
1. Discussed the hardware assembly status
 - Mindy Leffel has installed the DIN rails and other hardware to support the cRIO controller and the terminal blocks for power supply distribution
 - A multi-conductor cable will connect the laser interlock system to the cRIO
2. Reviewed the type and configuration of cRIO modules
 - An NI-9205 ADC is used to digitize the TTL laser status signals
 - Optional modules being considered for system expansion: NI-9216 RTD for temperature, NI-9485 relay module, and NI-9402 digital module to read I²C
3. Discussed the network configuration and port adapter for the Phoebus alarm system test
 - A local network configuration will be used between the cRIO controller and Linux Phoebus development computer
 - A Dell DA310u multiport adapter has been purchased for USB C - SSD and Ethernet connections with the Phoebus development computer
4. Reviewed EPICS configuration for alarm system test
 - The cRIO will be configured as an EPICS client for laser interlock process variables (PVs)
 - An EPICS softIOC (server) has been developed to connect with the cRIO network client and the Phoebus alarm system
 - Successful cRIO system test is required before Phoebus alarm system startup



2. EPICS SoftIOC for EIC DIRC Phoebus Alarm System Test

Peter Bonneau and Tyler Lemon

1. Discussed the EPICS softIOC developed and tested for the EIC-DIRC Phoebus alarm system test
 - An EPICS database has been developed specifically for EIC-DIRC Phoebus alarm system test
 - EPICS softIOC runs on the Phoebus alarm system development computer
 - SoftIOC functions as an EPICS server for the laser interlock status PVs
 - EPICS database analog input records receive the laser interlock status data via an EPICS CA connection to the cRIO client
 - SoftIOC PVs include the EPICS alarm fields with user-defined alarm limits set via the Phoebus user interface
 - The Phoebus alarm system monitors the EPICS PVs
 - Alarm system is tested by correctly reporting the laser interlock PVs that are in an alarm state



EPICS SoftIOC Database Developed with VisualDCT for Phoebus Alarm System Test with EIC-DIRC Laser Interlock

3. EIC DIRC Stability Test with Laser Interlock Signal Simulator

Peter Bonneau

1. Discussed the Linux Phoebus system stability test in progress
 - On one of the two EIC DIRC Phoebus alarm system development computers, the system has locked-up several times while running the tests using the external SSD
 - Issue is being investigated