

About a PANDA-specific CSS Version

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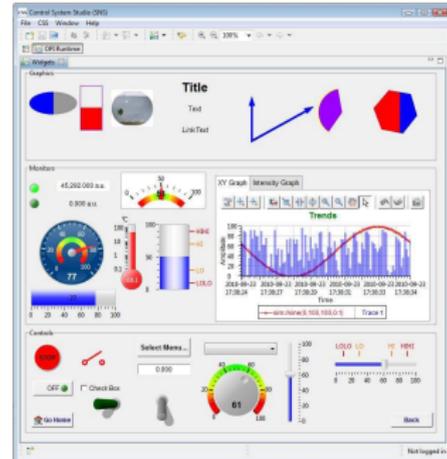
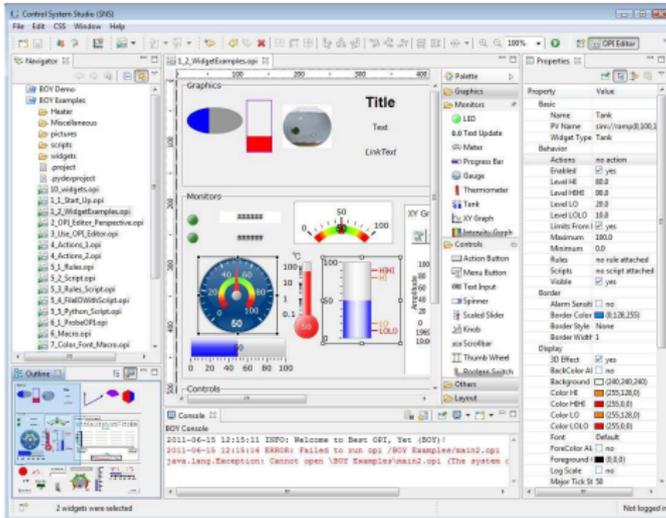
- A Collaboration between DESY, SNS, CLS, APS, BNL, ITER, DIAMOND, ...
- Integrated control system user interface
- A Toolkit based on Eclipse and JAVA
- Portable environment (Windows, Linux, OS X)
- Pluggable infrastructure

There are numerous plug-ins which provide:

- Live data access
- Historic data access
(XML-RPC, RDB, ...)
- Logbook
- EMail
- Authentication
(Kerberos, LDAP, ...)
- Authorization
- ...

- There are lots of plug-ins:
No one needs everything
- Plugin Customization:
 - Protocols
 - Hosts
 - Ports
- Control of development and release cycle
- Set policies

- Operator Interface (OPI) development and runtime environment
- Similar to EDM, MEDM, SDS, DM2K...



Rules

- Easy to make widget properties dynamic
- Directly send PV's value to a property
- Condition dependent property value
- Multiple rules per widget

Scripts

- Javascript or Python Script

Macros (c.f. EPICS tutorial)

- Format: $\$(macro_name)$ or $\${macro_name}$
- Embedded in text based properties like PV name, tooltip, rules
- Replaced at runtime
- Allows duplicating of OPIs

The Data Browser is a trending tool. It can display the values of 'live' Process Variables (PVs) as well as historic data in a stripchart-type plot.

- Live Data

For each PV, the Data Browser collects 'live' samples from the control system and plots them over time.

- Historic Data

The Data Browser queries archive data sources for historic samples to obtain data for time ranges 'before' the live sample buffer. You can configure one or more archive data sources for each PV.

Archive Search Navigator

URL: jdbc:oracle:thin:@DES... Info

| Name | Description | Key |
|------|-------------|-----|
| rdb | Oracle | 1 |

Pattern: DTL_LLRF:IOC*.Loac Search

Add... Replace search results Reg.Exp.

| PV Name | Name |
|--------------------|------|
| DTL_LLRF:IOC1:Load | rdb |
| DTL_LLRF:IOC2:Load | rdb |
| DTL_LLRF:IOC3:Load | rdb |
| DTL_LLRF:IOC4:Load | rdb |
| DTL_LLRF:IOC5:Load | rdb |
| DTL_LLRF:IOC6:Load | rdb |

DTL1 Load.css-plt

Drop in CPU Load (2010-02-11 07:57:57, 43.4)

2010/02/11 08:55:37.634202666 35 OK, OK
Source: RDB
Original

Time

DTL_LLRF:IOC1:Load DTL_LLRF:IOC2:Load

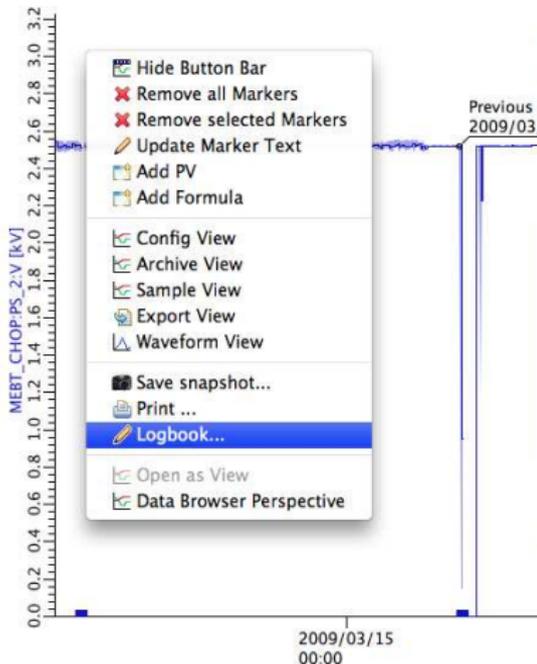
Properties Export Samples

Traces Time Axis Value Axes Misc.

| Trace | Item (PV, Formula) | Display Name | Color | Scan Period | Buffer Size | Line Width | Axis | Trace Type | Request |
|-------|--------------------|--------------------|-------|-------------|-------------|------------|-----------------|------------|-----------|
| Show | DTL_LLRF:IOC1:Load | DTL_LLRF:IOC1:Load | | 0.0 | 100 | 0 | CPU Load | Area | Optimized |
| Show | DTL_LLRF:IOC2:Load | DTL_LLRF:IOC2:Load | | 0.0 | 100 | 0 | Another CF Area | Area | Optimized |

Archive Data Sources

| Name | Key | URL |
|------------------------|-----|---|
| RDB | 1 | jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(LOAD_BALANCE=OFF)(ADDRESS=(PR |
| - All - | 1 | xnds://ics-srv-web2.sns.ornl.gov/archive/cgi/ArchiveDataServer.cgi |
| - All - (last restart) | 2 | xnds://ics-srv-web2.sns.ornl.gov/archive/cgi/ArchiveDataServer.cgi |



Logbook Entry

Create electronic logbook entry

Enter user, password, maybe edit text.
Snapshot of current plot will be attached.

User name:

Password:

Logbook:

Title:

Text:

Just got another chopper trip.
This time was different, though,
because we did this and not that,
while before we tried that and not this.

Called Jim who suggested to wiggle
the blue cable before resetting

Attached image was created by Data Browser

Attached Image...

2009/03/1 00:00

- Archive system, developed as replacement for Channel Archiver
- Stores data samples in relational database (MySQL, PostgreSQL, Oracle)
- Configuration stored in same database
- Configuration can be imported from XML or exported to XML

BEAST - Best Ever Alarm System Toolkit



The Alarm Table interface displays a list of current and acknowledged alarms. The table has columns for PV, Description, Time, Current Severity, Severity, and Status. The current alarms are listed in the top section, and the acknowledged alarms are listed in the bottom section.

| PV | Description | Time | Current Severity | Severity | Status |
|---------------------------|-------------------------------|---------------------|------------------|----------|-------------|
| RFQ_VacGV_1B:Sts | R F Q vacuum valve 1 B cl... | 2008/11/30 09:06:21 | OK | MAJOR | STATE_ALARM |
| RFQ_LLRF:ResCtrl:ResEr... | R F Q low level R F resona... | 2008/11/27 20:39:52 | OK | MAJOR | HIGH_ALARM |
| MEBT_RF:BinCh03_V_Pit_... | MEBT three power ampli... | 2008/11/28 02:22:11 | OK | MAJOR | LOLO_ALARM |
| MEBT_RF:BinCh03_I_Pit_PA | MEBT three power ampli... | 2008/11/28 02:22:12 | OK | MAJOR | LOLO_ALARM |
| FE_MPS:MOCL:Stsstatus,... | MPS Beam permit | 2008/11/26 12:16:28 | OK | MAJOR | LOLO_ALARM |
| DTL_HPRF:Xmtb4:PLC_C... | Check DTL Xmtb4 PLC par... | 2008/11/27 20:46:32 | OK | MAJOR | HIGH_ALARM |
| DTL_HPRF:Xmtb3:PLC_C... | Check DTL Xmtb3 PLC par... | 2008/11/27 20:46:50 | OK | MAJOR | HIGH_ALARM |
| DTL_HPRF:IGBT3:PPS_W... | DTL3 HP Mod Smoke Alarm | 2008/11/27 20:20:01 | OK | MAJOR | STATE_ALARM |
| CHL_ODH:AIT1_Sys:Flt | CHL ODH System Fault | 2008/11/30 08:34:30 | OK | MAJOR | STATE_ALARM |
| TGT_LWS2:Tnk_TE1710:I... | Proton beam window halo... | 2008/11/26 22:22:09 | OK | MINOR | HIGH_ALARM |
| TGT_LWS2:Tnk_TE1710:I... | Proton beam window halo... | 2008/11/26 22:22:50 | OK | MINOR | HIGH_ALARM |
| TGT_LWS2:Tnk_TE1710:F... | Proton beam window halo... | 2008/11/26 22:20:58 | OK | MINOR | HIGH_ALARM |
| TGT_LWS2:Tnk_TE1710:E... | Proton beam window halo... | 2008/11/26 22:20:47 | OK | MINOR | HIGH_ALARM |
| TGT_LWS2:Tnk_TE1710:B... | Proton beam window halo... | 2008/11/26 22:23:33 | OK | MINOR | HIGH_ALARM |
| TGT_LWS2:Tnk_TE1710:A... | Proton beam window halo... | 2008/11/26 22:23:12 | OK | MINOR | HIGH_ALARM |
| TGT_IDMP:TP_T9508:O:T | Ring Guard Temp O | 2008/11/28 04:58:11 | OK | MINOR | HIGH_ALARM |
| TGT_IDMP:TP_T9508:F:T | Ring Guard Temp F | 2008/11/28 14:21:24 | OK | MINOR | HIGH_ALARM |
| TGT_IDMP:TP_T9508:E:T | Ring Guard Temp E | 2008/11/26 22:23:26 | OK | MINOR | HIGH_ALARM |
| ICS_TimGate_BeamOn:St... | Beam off | 2008/11/26 12:43:59 | OK | MINOR | STATE_ALARM |
| DTL_LLRF:IOCI:Load | DTL_LLRF:IOCI:Load | 2008/11/26 22:17:08 | MINOR | MINOR | HIGH_ALARM |
| CCL_RCCS:CV401:Pen_R... | RCCS CV one valve open li... | 2008/11/26 19:40:31 | OK | MINOR | HIGH_ALARM |

| PV | Description | Time | Current S... | Severity | Status |
|--------------------|--------------------|---------------------|--------------|-----------|-----------|
| DTL_HPRF:IOC3:Load | DTL_HPRF:IOC3:Load | 2008/12/01 07:51:30 | MINOR | minor-ack | HIGH_A... |

- Building a PANDA specific CSS-Product with BOY, BEAST, BEAUTY, and Data Browser
- Using a PostgreSQL database
- C.f. CSS Workshop at EPICS CM fall 2011
<http://indico.psi.ch/conferenceDisplay.py?confId=334>
or CSS Website <http://cs-studio.sourceforge.net/>