



# Database Workshop Report

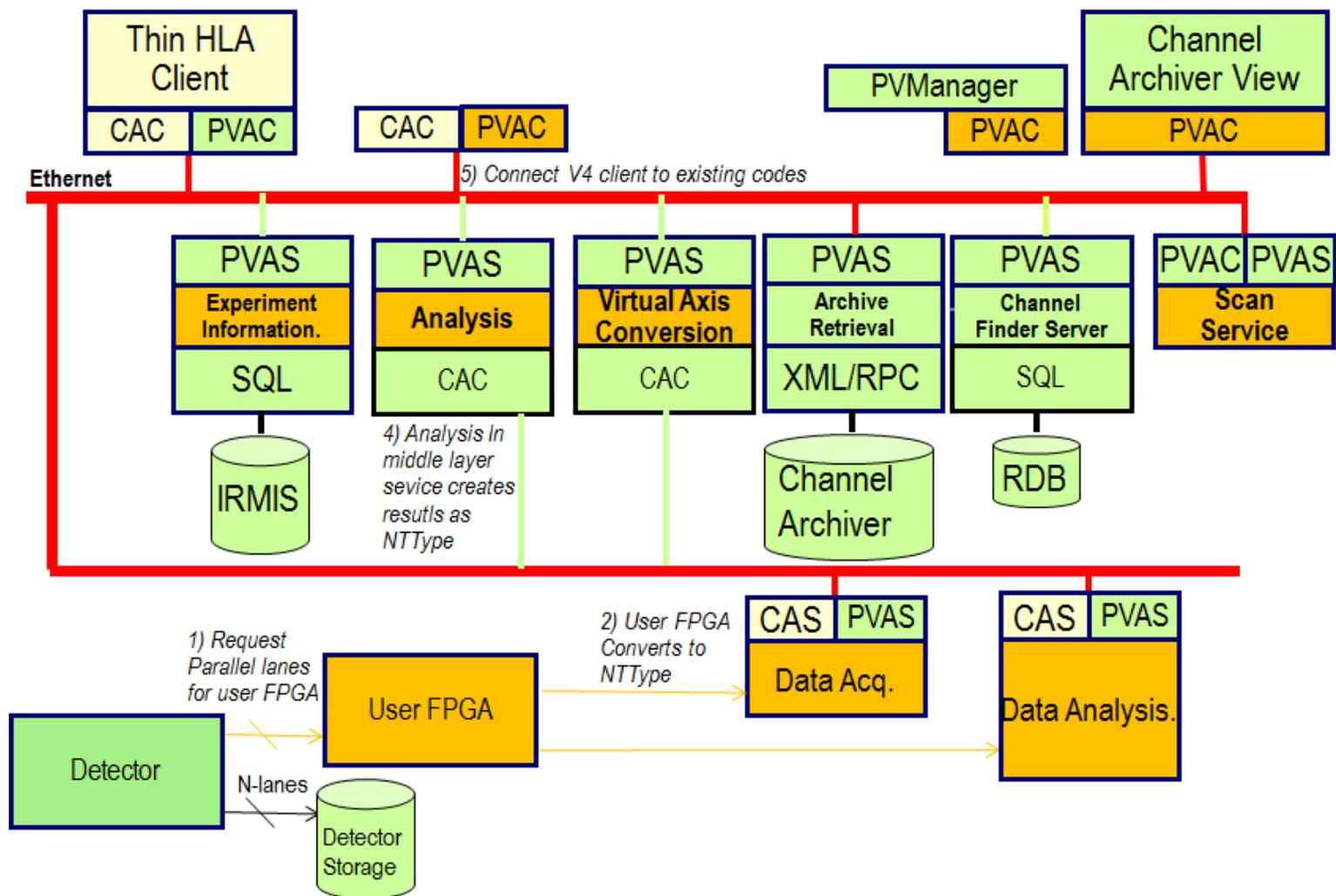
Vasu Vuppala, Ph.D.

FRIB-NSCL,  
East Lansing, Michigan, USA.



# V4 – DISCS

## Distributed Information Services for Controls System



# DISCS – Scope I

#	Data	Description
1	Logbook	Logbook entries
2	Traveler	Production, test, design data
3	Configuration	Physical and logical information about the facility and its configuration
4	Infrastructure	Cables, IOCs, Racks, Rooms etc
5	Lattice/Model	Elements and online model
6	Inventory	Spare parts, stock items
7	State	Save/restore state of machine
8	Alarm	Supervision of alarm states in the EPF, assistance to operators for diagnostics and resolution of alarm conditions



# DISCS – Scope II

#	Database	Description
9	Operations	Beam statistics, run hours, beam on target, shift summary, downtime, bypass records
10	Machine Requirements	Parameter list, system and component requirements
11	MPS	Machine state dumps for Machine Protection System
12	Results	Results from physics experiments
13	Maintenance	Preventive maintenance data, failure analysis, lifetime analysis
14	Interlocks	Interlock hierarchy information [optional]
15	Physics Apps	Physics applications
16	Unit Conversion	Current-Field Mapping



# DISCS Vision

To Develop Collaborating Services  
That Any Experimental Physics  
Facility Can Easily Configure,  
Use, And Extend For Its Design,  
Commissioning, Operation, And  
Maintenance



# DISCS Architecture

## ■ Application layer

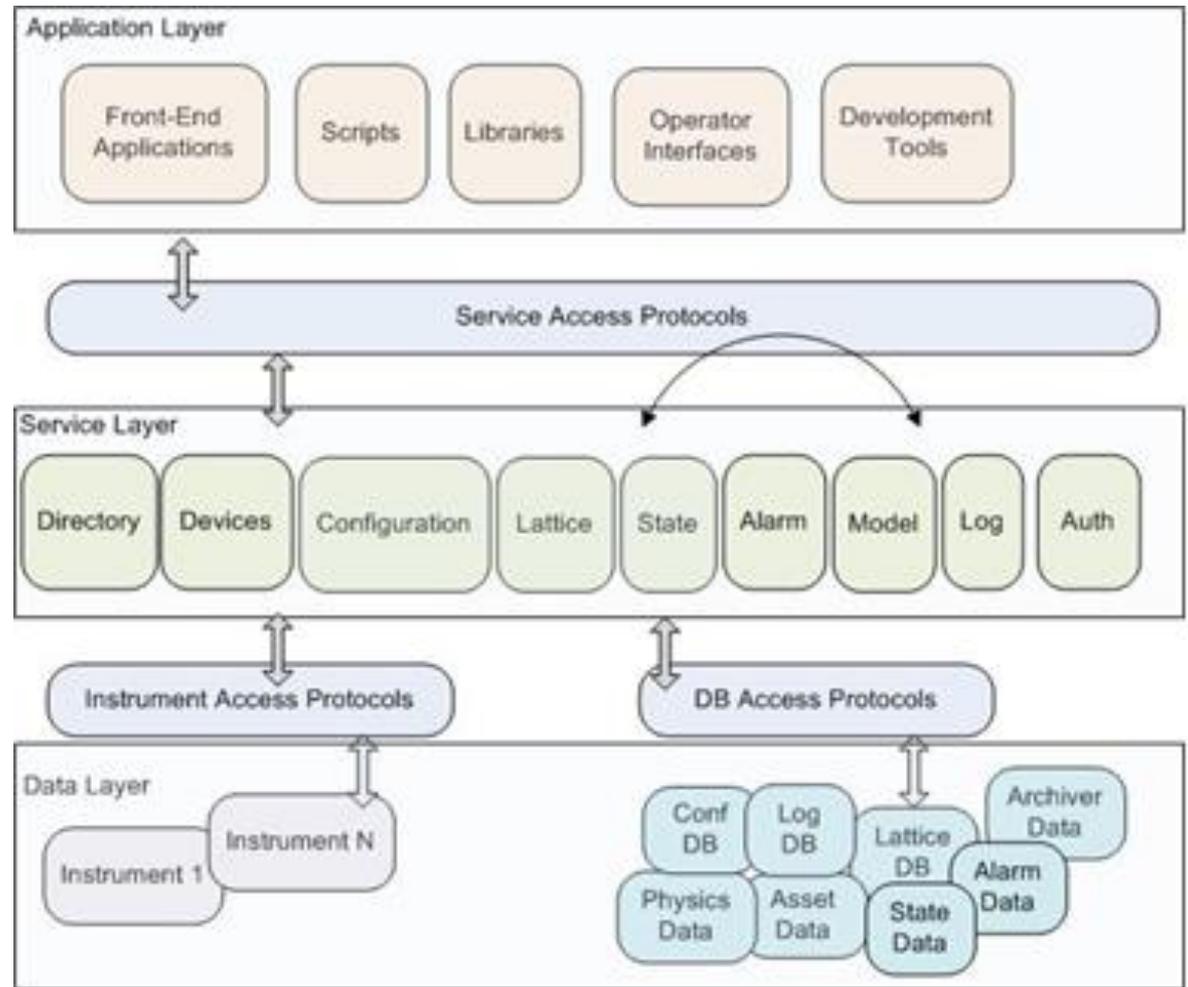
- Operator interfaces
- High-level applications
- Libraries

## ■ Service layer

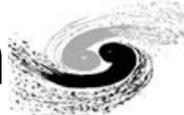
- Access to data
- Programming Interface

## ■ Data layer

- Managed data
- Instrument data
- No direct access



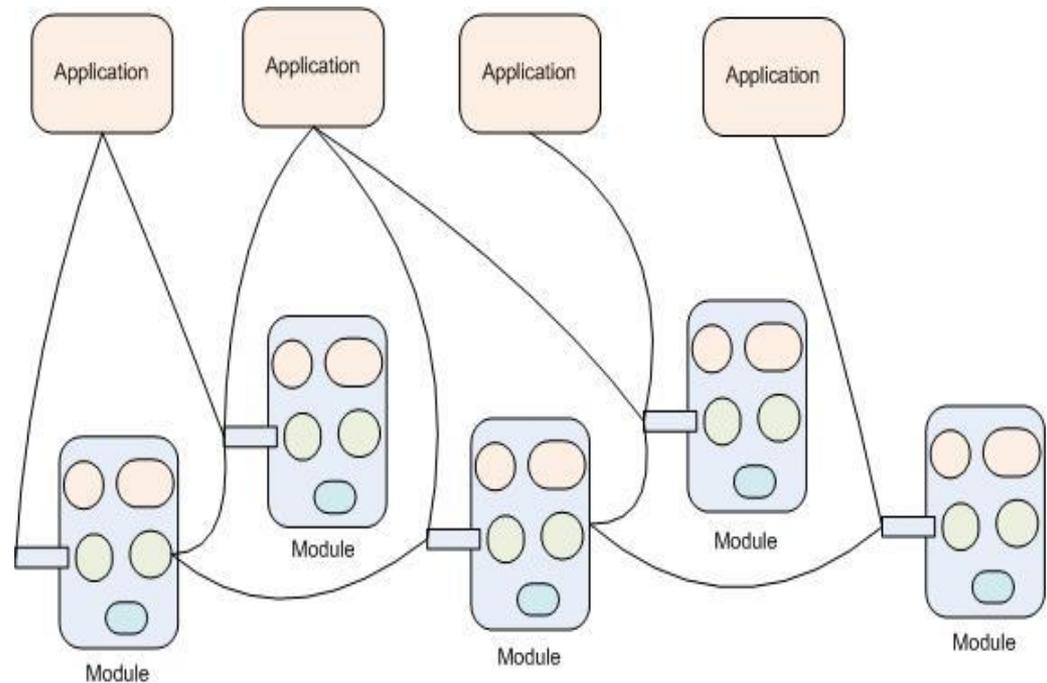
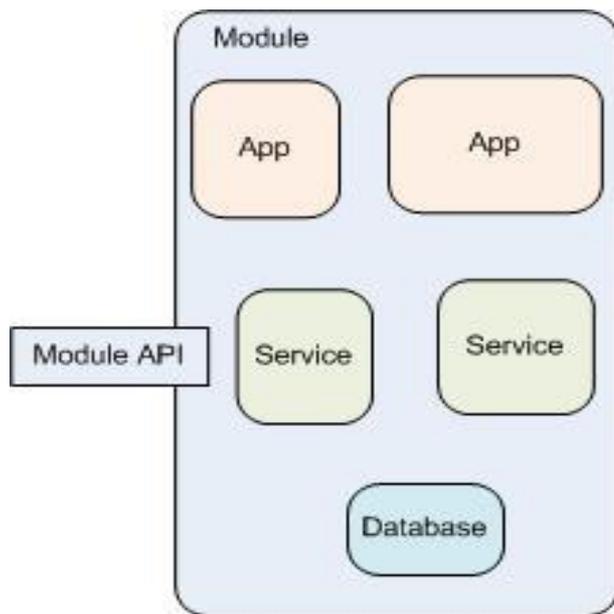
# DISCS Collaborators

- ▶ Brookhaven National Lab, US, 
- ▶ Cosylab, Sloven  *COSYLAB*
- ▶ European Spallation Source, Sweden 
- ▶ Facility for Rare Isotope Beam, US  
- ▶ Institute for High Energy Physics, China 



# DISCS Modules

- ▶ Module: An Implementation Of A Domain



# Technologies

Layer	ESS, FRIB	BNL
Data Layer	MySQL	MySQL
ORM	JPA	Django ORM
Service Layer	Java EE, Java SE	Django REST, C++ (V4)
Service Architecture	EPICS V4, REST	EPICS V4, REST
API	Java, Python	Python
Web Interface	JSF, PHP	Django
GUI	CSS	CSS
Language	Java	Python



# DISCS Status

Domain	Team	Status
Configuration	FRIB,ESS,Cosylab	In Production At FRIB
Cables	FRIB	Under Development
eTraveler	FRIB	In Production At FRIB
Lattice-Model	BNL, FRIB, ESS	Prototypes At FRIB and BNL
Logbook	BNL, FRIB	In Production At FRIB & BNL.
Inventory	FRIB	Under Development
Naming System	FRIB	In Production at FRIB
Operations	FRIB	Under Development
Save/Restore	BNL	In Production at BNL
Security	ESS, Cosylab, FRIB	Under Development
Signals (PV)	BNL	In Production at BNL, FRIB (ChannelFinder)
Unit Conversion	BNL	Under Development



# Presentations



# Logbook: Web Client

The screenshot displays the Logbook Web Client interface. The browser address bar shows the URL <https://logbook.nsls2.bnl.gov/logbook/#739>. The page title is "Olog v0.2" and the user is logged in as "User".

**Filter Log Entries**

- LOGBOOKS
  - Filter Logbooks ...
  - Controls Commissioning
  - Electronics Maintenance
  - LOTO
  - Mechanical Technicians
  - Operations
- TAGS
  - Filter Tags ...
  - Bumps
  - Inverpower Power Supplies
  - Kicker
  - Large Power Supplies
  - RF Area
  - Septums
  - Timing Systems
- CREATED FROM
  - Last min
  - Last hour
  - Last day
  - Last week
- CREATED FROM - TO
  - From
  - To

**logbook: Controls Commissioning tag: RF Area Search**

**mdavidsaver, September 24th 2013, 6:38 pm**  
Present egun timing delays, widths prior to adding collective egun delay calculator. sbm trigger: 0 ns, 160 ns mbm trigger: 0 ns, 200 ns mbm limiter: 9995.144 us, 10 us grid amp ena.: 9995 us, 10 us grid limiter: 9995.144 us, 3 us grid rf switch: ...

**mdavidsaver, September 13th 2013, 1:26 pm**  
egun permit restored.

**mdavidsaver, June 4th 2012, 5:34 pm**  
Found that the IOC for MBM LLRF controller had not correctly reloaded the PGA bit file after the power outage on Friday. Made another tweak to the logic which tries to guess if the bit file is loaded or not.

**mdavidsaver, May 21st 2012, 10:06 am**  
Thomas Pfeiffer (PPT) sent email this morning indicating that he updated the Linac RF PLC. He says: the changes in the RF PLC are done. Each modulator sum interlock will be acknowledged automatically now, if the according interlock is gone. ...

**mdavidsaver, May 15th 2012, 3:03 pm**  
Plot of RF forward powers from 9:30am to 2:30pm. Shows that the output of Kly #3 appears to be fluctuating slowly with time.

**mdavidsaver, May 7th 2012, 11:35 am**  
The trip of modulator #1 at 11:12 also caused a full reset of the modulator controller.

**mdavidsaver, April 10th 2012, 7:16 pm**  
Some data from around the time of the mod 1 shutdown. I happened to remotely read the event log about ~1 minute before. Also some archive plots of modulator and vacuum. mod-10120410-1824.txt - text dump of the modulator's internal ...

**mdavidsaver, April 10th 2012, 7:16 pm** [Show details](#)

Some data from around the time of the mod 1 shutdown. I happened to remotely read the event log about ~1 minute before. Also some archive plots of modulator and vacuum.

mod-10120410-1824.txt - text dump of the modulator's internal event log

mod-10120410-1824.png - plot showing apparent spike in vacuum pressure at the time that mod 1 shutdown. It doesn't appear the pump controller shutdown. WGIP6 doesn't show any activity.

mod-10120410-1824-2.png - Plot of some modulator voltages and currents from the same time.

**Attachments**

Annotation 1  
20120410 18:25:27.672461426 0.0 OK, OK  
Source: Channel Archiver  
Interpolated  
(18:25:24, 4.9160E-9)

Pressure

Time

LHNA(IP:3KLY)P:4 LHNA(IP:2KLY)P:4 LHNA(IP:3KLY)P:4



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# Logbook: CSS Client

The screenshot displays the Control System Studio (NLSII) interface. The main window is titled "RADIATION MONITORS - Injector" and shows a table of radiation levels for four linacs. A context menu is open over the "Area: LN-AM(RadMon)Alrm:Sum-Sts" item in the Alarm Tree on the left. The menu options include: Guidance, OPI Table View, OPI Plan View, Copy to clip-board, Send E-Mail..., Acknowledge, Configure Item, Rename Item, Duplicate PV, Move Item, Remove selected Items, Alarm Perspective, Process Variable, and Create Log Entry.

The radiation monitor data is as follows:

Linac	Location	Reading (mR/h)	Visual Status	Action
Linac #1	(kly Gall)	0.00	Green	More
Linac #2	(kly Gall)	0.01	Green	More
Linac #3	(BR Tunnel)	-0.01	Green	More
Linac #4	(BR Tunnel)	0.04	Green	More

The Alarm Log table below shows the following entries:

Description	Alarm Time	Current Sev	Current Stat	Alarm Se	Alarm Status	Alarm Value
MINOR alarm: Linac/LTB Vacuum Summary Fault	2013/09/25 16:14:00	MINOR	STATE_ALARM	MINOR	STATE_ALARM	Minor Alarm
MAJOR alarm: Booster Radiation Monitoring	2013/09/18 10:43:00	OK	OK	MAJOR	STATE_ALARM	Alarm
MAJOR alarm: Booster CFC inhibited the RF.	2013/09/24 09:50:00	MAJOR	HIHI_ALARM	MAJOR	HIHI_ALARM	1
MAJOR alarm: Booster BTS Vacuum Summary Fault	2013/09/25 16:16:00	MAJOR	STATE_ALARM	MAJOR	STATE_ALARM	Major Alarm
MAJOR alarm: BTS Bend Magnet 1 Summary Alarm	2013/09/16 15:20:00	MAJOR	STATE_ALARM	MAJOR	STATE_ALARM	HI
MAJOR alarm: LN-AM(RadMon)Alrm:Sum-Sts	2013/09/18 13:31:00	OK	OK	MAJOR	STATE_ALARM	Alarm

The Acknowledged Alarms table shows the following entries:

PV	Description	Alarm Time	Current Sev	Current Stat	Alarm Se	Alarm Status	Alarm Value
BR-BI(1)Op-Sts	invalid-ack'ed alarm: Booster diagnostic fault	2013/09/18 15:18:00	INVALID	LINK_ALARM	invalid-ack'e	LINK_ALARM	OK
BR-MG(PS)FaultSum	invalid-ack'ed alarm: Booster power supply summary fault	2013/04/02 08:19:00	INVALID	No Connecti	invalid-ack'e	No Connecti	
LTB-BI(1)InterlockT	invalid-ack'ed alarm: ICT interlock test	2013/09/06 11:37:00	INVALID	Disconnecte	invalid-ack'e	Disconnecte	
LTB-MG(PS)FaultSum	invalid-ack'ed alarm: Linac to booster power supply fault	2013/04/25 17:03:00	INVALID	No Connecti	invalid-ack'e	Disconnecte	
SR-MG(PS)FaultSum	invalid-ack'ed alarm: Power supply failure in st	2013/04/02 08:17:00	INVALID	UDF_ALARM	invalid-ack'e	UDF_ALARM	GOOD



# Logbook: pyOlog

The screenshot shows the Olog web interface. The top navigation bar includes the version 'Olog v0.2', a 'New Log Entry' button, and a user profile 'User'. The left sidebar contains a 'LOGBOOKS' section with a filter and a list of logbooks including 'PyXPDLogBook' (selected), and a 'TAGS' section with a filter and a list of tags including 'PyXPD Olog'. The main content area displays a search bar and a list of log entries. The selected entry is 'arkilic, July 30th 2013, 11:07 am'. The right sidebar shows the details for this entry, including tags 'XPDLLog' and 'XPDTag', an 'Info' section with the date and time, an 'Attachments' section with 'SetupParameters.txt', and a 'Properties' section for 'XPDprocess'.

XPDprocess	
Name	PyXPD
Description	Define process that sets up the environment for PyXPD
Type	PyXPD.entry.maskedImage.savelm
Location	pyXPD.nsls2.bnl.gov/resources
Id	190390
Attachments	SetupParameters.txt



# eTraveler – List of Travelers

## eTraveler

Welcome, liud  
[Log out](#)

Traveler Working Finished

[View traveler](#) [Edit traveler](#) [Assign a traveler to a device](#)

10 records per page

Search:

Number	Name	Description	Version	Creator	Created
LIN-CMAS53-CAV-HVI	beta=0.53 Helium Vessel Installation	beta=0.53 Helium Vessel Welding Traveler	1	Elliott	2013-09-13 09:53:51.0
LIN-CMAS29-CAV-COMP29CAV1	Completed 0.29 Cavity 1	Final checks of completed 0.29 HWR Cavity	1	Asciutto	2013-09-06 09:52:39.0
LIN-CMAS29-CAV-NXSP	Ningxia Short Plate	For Ningxia fabrication of Short Plate	1	Asciutto	2013-09-06 09:52:18.0
LIN-CMAS29-CAV-NXBC	Ningxia Beam Cups	For Ningxia fabrication of Beam Cups	1	Asciutto	2013-09-06 09:50:50.0
LIN-CMAS29-CAV-NXIC	Ningxia IC	For Ningxia fabrication of IC	1	Asciutto	2013-08-27 14:11:22.0
LIN-CMAS29-CAV-NXICS	Ningxia IC Stiffeners	For Ningxia fabrication of IC Stiffeners	1	Asciutto	2013-08-27 14:11:22.0
LIN-CMAS29-CAV-NXOC	Ningxia OC	For Ningxia fabrication of OC	1	Asciutto	2013-08-27 14:11:22.0
LIN-CMAS29-CAV-NXRFPI	Ningxia RF Port Interface	For Ningxia fabrication of RF Port Interface	1	Asciutto	2013-08-27 14:11:22.0
CTL-TEMP-TRV21	Traveler Template 2.1	Traveler used as a template.	1	vuppala	2013-08-02 18:23:35.0
CMAS53-CAVH-ASSY	CMAS53-CAVH-ASSY	beta=0.53 HWR Cavity Assembly for Vertical Testing	1	malloch	2013-07-31 14:11:52.0

Showing 1 to 10 of 92 entries

[← Previous](#) [1](#) [2](#) [3](#) [4](#) [5](#) [Next →](#)



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# eTraveler – Devices

## Integration with Configuration Module

**eTraveler** Welcome, llud  
Log out

Assign to the selected device

Search and choose the device from the following table

10 records per page Search all columns: rea3

Number	Type	Description	Serial	Modified	Modified by
SC246	CAV	Beta=0.085 quarter wave resonators (ReA3 Cavities)		2013-07-19 00:00:00	config-master.xlsx:PhysicalComponents
SC247	CAV	Beta=0.085 quarter wave resonators (ReA3 Cavities)		2013-07-19 00:00:00	config-master.xlsx:PhysicalComponents
SC248	CAV	Beta=0.085 quarter wave resonators (ReA3 Cavities)		2013-07-19 00:00:00	config-master.xlsx:PhysicalComponents
SC249	CAV	Beta=0.085 quarter wave resonators (ReA3 Cavities)		2013-07-19 00:00:00	config-master.xlsx:PhysicalComponents
SC250	CAV	Beta=0.085 quarter wave resonators (ReA3 Cavities)		2013-07-19 00:00:00	config-master.xlsx:PhysicalComponents
SC251	CAV	Beta=0.085 quarter wave resonators (ReA3 Cavities)		2013-07-19 00:00:00	config-master.xlsx:PhysicalComponents
SC252	CAV	Beta=0.085 quarter wave resonators (ReA3 Cavities)		2013-07-19 00:00:00	config-master.xlsx:PhysicalComponents
SC253	CAV	Beta=0.085 quarter wave resonators (ReA3 Cavities)		2013-07-19 00:00:00	config-master.xlsx:PhysicalComponents
SC254	CAV	Beta=0.085 quarter wave resonators (ReA3 Cavities)		2013-07-19 00:00:00	config-master.xlsx:PhysicalComponents
SC255	CAV	Beta=0.085 quarter wave resonators (ReA3 Cavities)		2013-07-19 00:00:00	config-master.xlsx:PhysicalComponents

of 19 entries (filtered from 57 total entries) ← Previous 1 2 Next →

Search a column Search all columns



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# Configuration: Component Tree

**Proteus: Configuration**

Home Configuration Devices Relationships Lattice Signals Export Admin Search Help

**Component Tree**

- FRIB
  - Accelerator-System
    - DRIFT-LINAC-Baseline
      - F1E
      - L1E
      - F1E
      - L2E
      - F2E
      - L3E
      - F3E
      - RDS
  - Experimental-System
    - Target
    - Fragment-Separator
    - ReAccelerator
      - QA-Line
      - LEBT-Line
      - RFO
      - REA-LINAC
        - L-Line
          - REA\_BTS23
            - REA\_BTS23\_FFE\_01165
            - REA\_BTS23\_TSH\_01165
            - REA\_BTS23\_PSD\_01165
            - REA\_BTS23\_IV\_01165
          - REA\_BTS24
          - REA\_BTS25
        - L-Line-Electrode
          - REA\_BTS30
          - REA\_BTS32
          - REA\_BTS33
          - REA\_BTS31
            - REA\_BTS31\_BGV\_01367
            - REA\_BTS31\_FFE\_01374
            - REA\_BTS31\_TSH\_01374
            - REA\_BTS31\_IV\_01374
            - REA\_BTS31\_PSD\_01374
            - REA\_BTS31\_QH\_01381
            - REA\_BTS31\_PSD\_01381
            - REA\_BTS31\_FFE\_01381
            - REA\_BTS31\_TSH\_01381
            - REA\_BTS31\_DCH\_01390
            - REA\_BTS31\_PSC\_H\_01390
            - REA\_BTS31\_DCV\_01390
            - REA\_BTS31\_PSC\_V\_01390
            - REA\_BTS31\_FFE\_01390
            - REA\_BTS31\_IV\_01397

**Component**

Component Properties

Name	Description	Value	Unit
ACENPOS	Accumulated Center Position	115.5309469309855	m
ALIAS	Another Name	L	
FIELDMEASURE	Field Measurement	RLDVA-1-FM.bt	
FIELDMRRAW	Field Measurement Raw	RLDVA-12-FMRRAW.xlsx	
FIELDPOLY	Field Measurement Polynomia	$-7.31116E-11x^4 + 2.52456E-08x^3 - 2.79091E-06x^2 + 5.19496E-03x + 1.83941E-03$	
LFELB	Length from Element before (c2c)	0.6781972309855495	m

Signals

Signals Local

Name	Description
L113DS	: Read Channel
L113DS_SETV	: Set Channel

Relationships

Name	Component
contained in	REA_BTS23

Alignments

Details

Installations

Travelers

Measurement

Name	Description	Value
DOC01	External Document	
FIELDMEASURE	Field Measurement	
FIELDMRRAW	Field Measurement Raw	
FIELDPOLY	Field Measurement Polynomia	

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# Configuration: Magnet Measurement

Proteus - Configuration

ctlapp-wheezy-temp:8080/conf/complst.xhtml

### Proteus: Configuration

Home Configuration Devices Relationships Lattice Signals Export Admin Search Help

Component List

Name	Type	Description	Position
REA_BT510-DV_D0964	DV	E-Deflector Plate,	964.0
REA_BT519-DV_D0970	DV	E-Deflector Plate,	970.0
REA_BT523-DV_D1155	DV	Dipole magnet, ve	1155.0
REA_BT525-DV_D1200	DV	Dipole magnet, ve	1200.0
REA_BT530-DV_D1296	DV	Dipole magnet, hc	1296.0
REA_BT530-DV_D1338	DV	Dipole magnet, hc	1338.0
REA_BT530-DV_D1362	DV	Dipole magnet, hc	1362.0
REA_BT532-DV_D1376	DV	Dipole magnet, hc	1376.0
REA_BT523-DV_D1155	DV	Dipole magnet, ve	1155.0

Component

Component Type Properties

Name	Description	Value	Unit
No records found.			

Component Properties

Name	Description	Value	Unit
ACENPOS	Accumulated Center Position	115.5309469309855	m
ALIAS	Another Name	L	
FIELDMEASURE	Field Measurement	RLDVA-1-FM.bt	
FIELDMRAW	Field Measurement Raw	RLDVA-12-FMRAW.xlsx	
FIELDPOLY	Field Measurement Polynomia	$-7.31116E-11x^4 + 2.52456E-08x^3 - 2.79091E-06x^2 + 5.19496E-03x + 1.83941E-03$	
LFELB	Length from Element before (c2c)	0.6781972309855495	m

Signals

Signals Local

Relationships

Alignments

Details

Installations

Travellers

Measurement

Name	Description	Value
DOC01	External Document	e
FIELDMEASURE	Field Measurement	±
FIELDMRAW	Field Measurement Raw	±
FIELDPOLY	Field Measurement Polynomia	±

Measurement Curve

Current (A)	Field (Tesla)
0	0.00
50	0.25
100	0.50
150	0.75
200	1.00
250	1.25
300	1.50

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# Configuration: Live Signals (PV)

Proteus - Configuration

ctlapp-wheezy-temp:8080/conf/complst.xhtml

### Proteus: Configuration

Home Configuration Devices Relationships Lattice Signals Export Admin Search Help

Component List

(1 of 2)

Name	Type	Description	Position
rea	ps		
REA_BT23:PSD_D1155	PSD	Power supply, di	1155.0
REA_BT25:PSQ_D1164	PSQ	Power supply, q	1164.0
REA_BT25:PSQ_D1165	PSQ	Power supply, q	1169.0
REA_BT25:PSCD_D117	PSCD	Power supply, cc	1172.0
REA_BT25:PSCV_D117	PSCV	Power supply, cc	1172.0
REA_BT25:PSQ_D1174	PSQ	Power supply, q	1174.0
REA_BT25:PSX1_D117	PSX1	GRID Voltage	1178.0
REA_BT25:PSX2_D117	PSX2	MCP Exit	1178.0
REA_BT25:PSX3_D117	PSX3	MCP Anode	1178.0
REA_BT25:PSQ_D1181	PSQ	Power supply, q	1181.0
REA_BT25:PSQ_D1185	PSQ	Power supply, q	1185.0
REA_BT25:PSQ_D1192	PSQ	Power supply, q	1192.0
REA_BT25:PSD_D1200	PSD	Power supply, di	1200.0
REA_BT25:PSX1_D120	PSX1	Wire Voltage	1207.0
REA_BT25:PSX2_D120	PSX2	MCP Exit	1207.0
REA_BT25:PSX3_D120	PSX3	MCP Anode	1207.0
REA_BT30:PSCD_D121	PSCD	Power supply, cc	1219.0
REA_BT30:PSCV_D121	PSCV	Power supply, cc	1219.0
REA_BT30:PSQ_D1221	PSQ	Power supply, q	1221.0
REA_BT30:PSQ_D1225	PSQ	Power supply, q	1228.0
REA_BT30:PSQ_D1245	PSQ	Power supply, q	1245.0
REA_BT30:PSQ_D1252	PSQ	Power supply, q	1252.0
REA_BT30:PSCD_D127	PSCD	Power supply, cc	1270.0
REA_BT30:PSCV_D127	PSCV	Power supply, cc	1270.0
REA_BT30:PSQ_D1272	PSQ	Power supply, q	1272.0
REA_BT30:PSQ_D1275	PSQ	Power supply, q	1275.0
REA_BT30:PSQ_D1281	PSQ	Power supply, q	1281.0
REA_BT30:PSQ_D1285	PSQ	Power supply, q	1285.0
REA_BT30:PSD_D1295	PSD	Power supply, di	1295.0

Component

Component Properties

Signals

Show Live Data

Name	Value	Unit	#
REA_BT23:PSD_D1155:V_RD	0.0	V	15
REA_BT23:PSD_D1155:ATPS_RSTS	1.0		15
REA_BT23:PSD_D1155:I_CSET	0.0	A	15
REA_BT23:PSD_D1155:RTZ_CMD	0.0		15
REA_BT23:PSD_D1155:RSSV_CSET	10.0	A	15
REA_BT23:PSD_D1155:ILK_RSTS	1.0		15
REA_BT23:PSD_D1155:RST_CMD	0		15
REA_BT23:PSD_D1155:ZOFF_CSET	0.0	A	15
REA_BT23:PSD_D1155:ON_CMD	0		15
REA_BT23:PSD_D1155:ON_RCMD	0		15
REA_BT23:PSD_D1155:I_RD	0.0	A	15
REA_BT23:PSD_D1155:TEMPLATE	GenPS-FRIB-I		15
REA_BT23:PSD_D1155:POFF_CSET	1.0	A	15
REA_BT23:PSD_D1155:ATDB_CSET	1.0	A	15
REA_BT23:PSD_D1155:I_RD_UNSC	0.0	A	15
REA_BT23:PSD_D1155:B_RD	1.4E-5	T	15
REA_BT23:PSD_D1155:I_RSET	0.0	A	15
REA_BT23:PSD_D1155:ON_RSTS	0.0		15
REA_BT23:PSD_D1155:RSMS_CSET	1000	ms	15
REA_BT23:PSD_D1155:ILKOK_RSTS	0		15
REA_BT23:PSD_D1155:VLIM_RSET	80.0	V	15
REA_BT23:PSD_D1155:VLIM_CSET	80.0	V	15
REA_BT23:PSD_D1155:ATCE_CSET			0
REA_BT23:PSD_D1155:I_CSET_UNSC	0.0	A	15

Signals Local

Relationships

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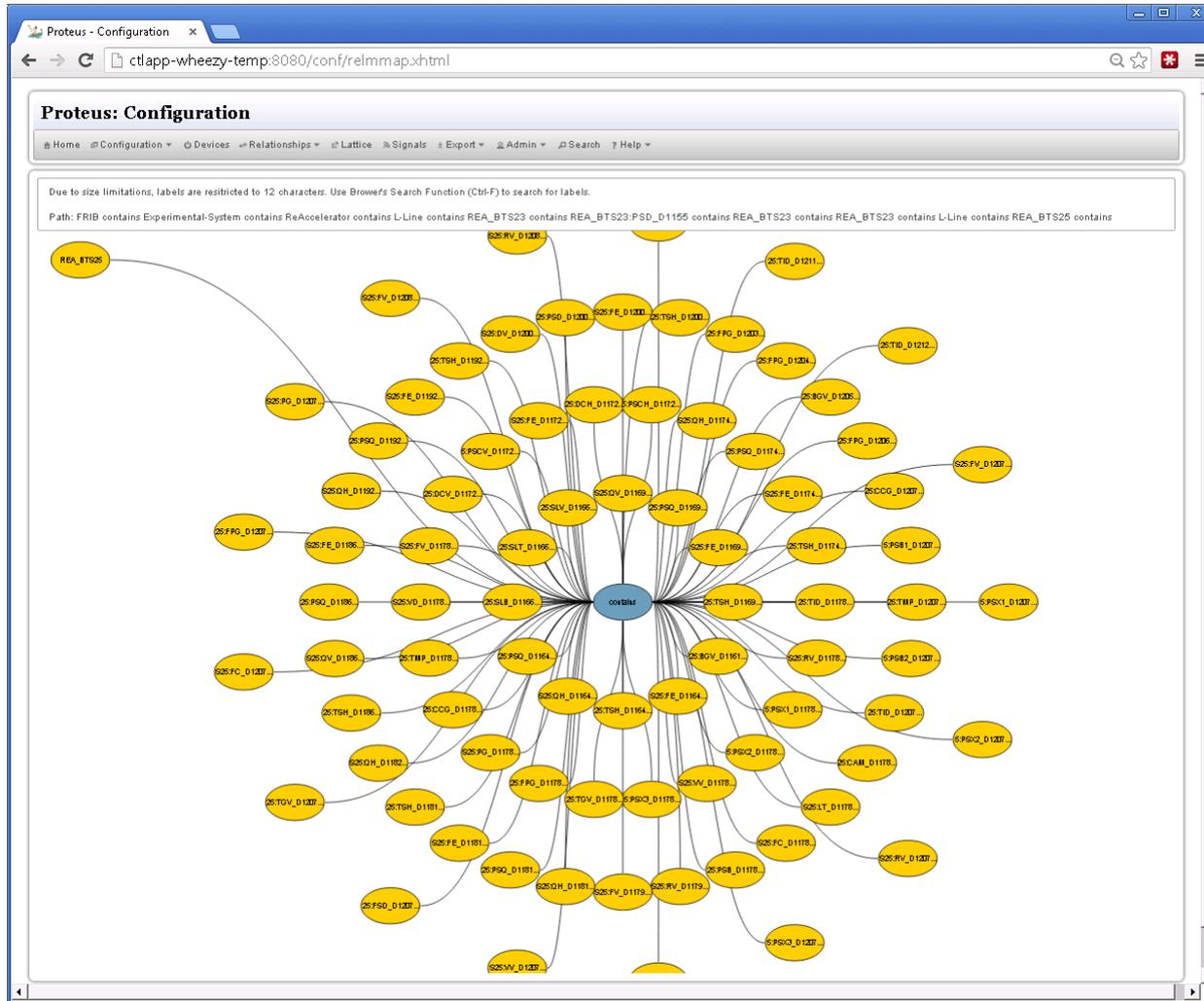


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# Configuration: Component Relationships



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# Configuration: Lattice

**Proteus: Configuration**

Home Configuration Devices Relationships Lattice Signals Export Admin Search Help

**Lattices**

Beamline	Mode	Name
REA L-Line	He A=4, Q=1, Ek=2	Reference Beam
REA L-Line	He A=4, Q=1, Ek=0	Decelerated Beam

**Elements**

Name	K1 (1/m <sup>2</sup> )	GRADIENT (T/m)	BPOLE (T)
REA_BTS23:DV_D1155			0.348894681
REA_BTS25:QH_D1164	17.14287	5.711488391	0.214180815
REA_BTS25:QV_D1169	-16.47060	-5.487508696	-0.205781576
REA_BTS25:DCH_D1172			
REA_BTS25:DCV_D1172			
REA_BTS25:QH_D1174	15.23046	5.074331351	0.190287426
REA_BTS25:QH_D1181	15.23046	5.074331351	0.190287426
REA_BTS25:QV_D1186	-16.47060	-5.487508696	-0.205781576
REA_BTS25:QH_D1192	17.14287	5.711488391	0.214180815
REA_BTS25:DV_D1200			0.348894681

**Device**

- Component Type Properties
- Signals
- Relationships
- Installations
- Alignments
- Measurement
- Details
- Travelers





# Naming Convention – Name Elements

The screenshot shows the Proteus Naming System web application. The main interface displays a table of Name Elements with columns for Status, Category, Code, and Description. A 'Name Details' pop-up window is open, showing a detailed view of the AHU (Air Handling Unit) element. Below the details, an 'Event History' table shows the creation of the AHU element.

Status	Category	Code	Description
Published	device-type	ABS	Absorber
Published	device-type	AC	Air Compressor
Published	device-type	AD	Air Door
Published	device-type	AF	After Filter
Published	device-type	AFCV	Automatic Flow Control Valve
Published	device-type	AFMS	Air Flow Measuring Station
Published	device-type	AHU	Air Handling Unit
Published	device-type	ALMS	Acid Leak Monitoring System
Published	device-type	AND	Anode

Category	Code	Description	Type	By	Date	Comment	Status	Proc By	Proc Date	Proc Comm
device-type	AHU	Air Handling Unit	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev

Status	Category	Type	Description
Published	device-type	BD	Beam Dump
Published	device-type	BEAM	Beam physics parameters
Published	device-type	BG	Bourdon Gauge
Added	device-type	BGV	Beamline Gate Valve
Published	device-type	BLD	Building
Published	device-type	BLM	Beam Loss Monitor
Published	device-type	BPM	Beam Position Monitor
Published	device-type	BPMH	Beam Position Monitor, Horizontal
Published	device-type	BPMV	Beam Position Monitor, Vertical
Published	device-type	BV	Ball Valve

Name Elements Are Parts of A Name: System, Subsystem, Device Type etc



# Naming Convention – Submit Requests

The screenshot displays the Proteus Naming System web interface. The main page is titled "Proteus: Naming System" and includes a navigation menu with options like Home, Browse, Request, Reports, Admin, Preferences, and Help. A user named "vuppala" is logged in. The "Submit Change Request" form is visible, with a table of existing entries. A modal dialog box titled "Request to Add Name" is open, allowing users to add new entries. The dialog includes fields for Category (set to "Device-Type"), Code (with a placeholder "Enter Code"), Description (with a placeholder "Enter Description"), and a Comment field (with a placeholder "Why do you want to add this name?"). A "Submit" button and a "Cancel" button are at the bottom of the dialog. The table below the dialog shows the following entries:

Status	Category	Name	Description
Published	device-type	ATU	Air Terminal Unit
Published	device-type	BCL	B Coil (e.g. Helmholtz coils)
Published	device-type	BCM	Beam Current Monitor
Published	device-type	BCS	Beam Control System
Published	device-type	BD	Beam Dump
Published	device-type	BEAM	Beam physics parameters
Published	device-type	BG	Bourdon Gauge
Added	device-type	BGV	Beamline Gate Valve

Submit Requests to Add, Modify, or Delete Name Elements



# Naming Convention – Process Requests

Proteus: Naming System Release: R003c 2013-04-23

Home Browse Request Reports Admin Preferences Help vuppala

Process  
 ✓ Approve  
 ✗ Reject  
 History

Requests to be Processed

<input type="checkbox"/>	Type	Category	Name	Description	By	Date	Comment
<input type="checkbox"/>	Add	device-type	Atest	test	vuppala	2013-06-11	test
<input type="checkbox"/>	Add	subsystem	A12	test system	vuppala	2013-05-04	testing
<input type="checkbox"/>	Modify	device-type	ALMS	ACid leak Monitoring 2	vuppala	2013-07-02	test
<input type="checkbox"/>	Add	device-type	SOLP	Solenoid, Plasma (Ion sources)	hodges	2013-08-07	Guillaume requested for use on the Ion sources
<input type="checkbox"/>	Delete	device-type	HV	Hand Valve	davidson	2013-08-08	Confused with High Voltage
<input type="checkbox"/>	Add	device-type	VT	Voltage Tap	walker	2013-08-09	Nothing in the naming convention for this signal
<input type="checkbox"/>	Add	device-type	CCMP	Cryo Compressor	walker	2013-08-09	There is only CMP for Compressor and CP for cryo pump. I thought these should be listed as a separate device.
<input type="checkbox"/>	Add	device-type	STRG	Strain Gauge	walker	2013-08-09	No device in the naming convention for a strain gauge.

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# Naming Convention - Reports

Proteus: Naming System x

← → ↻ <https://controls.frib.msu.edu/names/reports.xhtml> ☆ ✖ ☰

**Proteus: Naming System** Release: R003 2013-01-31

🏠 Home 🗂 Browse 📄 Request 📄 Reports 📄 Admin ⚙ Preferences ? Help 📄 Login

**Query Options**

Request Status  ▾

Request Type  ▾

**Report** - ☰ ✖

Category	Name	Description	Type	By	Date	Comment	Status	Proc By	Proc Date	Proc Comm
device-type	ABS	Absorber	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
device-type	AC	Air Compresso	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
device-type	AD	Air Door	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
device-type	AF	After Filter	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
device-type	AFCV	Automatic Flow Control Valve	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
device-type	AFMS	Air Flow Measuring Station	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
device-type	AHU	Air Handling Unit	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
device-type	ALMS	Acid Leak Monitoring System	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
device-type	AND	Anode	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
device-type	AP	Aperture	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
device-type	AS	Air Separator	Add	system	2013-01-01	initial	Published	pengs	2013-01-15	initial rev
		Attenuation								



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# Screenshots – Unit Conversion

The screenshot shows a web browser window titled "Unit Conversion 0.1" with the URL `localhost:8000/magnets/web/index.html#/type/install/system/ /name/Q*/cmpnt_type//serialno/id/QM1G4C24B/0/results#QM1G4C24B`. The interface is divided into several sections:

- Search for devices:** A sidebar on the left with search criteria (Search in: Installation, System, Name, Component type, Serial number) and a search button. A list of devices is shown, with the first one selected: Ser No: 1, Name: QM1G4C24B, Comp: Quad A, System: Storage Ring, Vendor: BINP, Russia, Desc: 66mm, SNGL COIL, SHORT QUAD.
- Conversion form:** A central area with dropdowns for "Source unit" (set to 'i') and "Destination unit" (set to 'b'). It includes an "Initial value" field (23.5), an "Energy" field, and a "Convert" button.
- Algorithms:** A table showing available algorithms:

Alg	Funct	Init Unit	Alg Id	Res Unit	Aux Info
b2k	input/(0.025*3.33567*energy)	T-m	0	1/m2	2
l2b	interpolating	A	3	T-m	0
- Conversion results:** A table showing the result of the conversion:

Algorithm	Initial value	Initial unit	Converted value	Converted unit	Show
l2b	23.5	A	0.013064291683867676	T-m	<input checked="" type="checkbox"/>
- Plot:** A graph titled "field" vs "x" (0 to 140). It shows "Measurement data" as a series of yellow dots and "Conversion results" as a purple dot at approximately x=20, y=0.013. A legend in the top right of the plot area identifies the data series.



# Save / Restore: Multiple Selections

MASAR Viewer

System: all

Config Filter: \*

Select Config(s)

Config Name	Config Id	
BR_RF_SC_20130426	12	BF
BR_MG_SCR_20130419	11	BF
LN_LTB_BPM_Expert_20120621	10	Ex
LN-LTB-Phasel-All_20120511	9	Lir
LN-LTB-Phasel-SBM-All_20120426	8	Lir
LN_Phase_SCR_All_20120402	7	Lir
LN_Phase_SCR_All	1	Lir
LN_Phase_SC_All	2	Lir
UTD1_Phase_SCR_All	3	Lir
UTD1_Phase_SC_All	4	Lir

Snapshot Desc: \*

Author: \*

Use time range:

From: 2013-09-23 12:03:34

To: 2013-09-23 12:03:34

Select Snapshot(s)

Config Name	apshot	
LN-LTB-Phasel-All_20120511	338	SBM 586.80n
LN-LTB-Phasel-All_20120511	335	SBM 60nm x/
LN-LTB-Phasel-All_20120511	331	Single Bunch
LN-LTB-Phasel-All_20120511	330	SBM with cha
LN-LTB-Phasel-All_20120511	327	MBM before k
LN-LTB-Phasel-All_20120511	324	SBM-kly3 cha
LN-LTB-Phasel-All_20120511	319	SBM-200MeV
LN-LTB-Phasel-All_20120511	317	SPB Ampl=0.
LN-LTB-Phasel-All_20120511	303	SBM Emit X a
LN-LTB-Phasel-All_20120511	302	Single bunch
LN-LTB-Phasel-All_20120511	296	kly1 only. SPE
LN-LTB-Phasel-All_20120511	293	MBM 17nC 0.

	PV name	Saved Value 1 (in snapshot 331)	Saved Value 2 (in snapshot 338)	Saved Value 3 (in snapshot 335)	Saved Value 4 (in snapshot 330)	Live Value 0	Delta21	Delta3
1	LN-BI{VF:5}cam1:Gain	5.0	12.0	12.0	24.0		NotEqual(7.000000)	NotEqual(7.00
2	LTB-BI{VF:1}cam1:Gain	2.0	5.0	1.0	2.0		NotEqual(3.000000)	NotEqual(-1.00
3	LTB-MG{Quad:1}:RampEnd1-SP	0.0	16.0	0.0	18.0		NotEqual(16.000000)	Equal
4	LN-RF:3{Cav}DrvPhaCtrl-SP	0.5	15.0	1.4	1.2490009027e-16		NotEqual(14.500000)	NotEqual(0.90
5	LN-RF:1{Cav}DrvVald-SP	0.5	15.0	1.4	1.2490009027e-16		NotEqual(14.500000)	NotEqual(0.90
6	LN-BI{BPM:1}Tig:AdcDelay-SP	0	1173200	0	0		NotEqual(1173200)	Equal
7	LN-RF:PB{Cav}DrvPhaCtrl-SP	18.9	29.85	9.45	23.95		NotEqual(10.950000)	NotEqual(-9.45
8	LN-RF:PB{Cav}DrvVald-SP	18.9	29.85	9.45	23.95		NotEqual(10.950000)	NotEqual(-9.45
9	LTB-BI{ES}cam1:AcquireTime	0.02	0.08	0.02	0.02		NotEqual(0.060000)	Equal
10	LN-RF:3{Cav}DrvValc-SP	0.326	0.345	0.344	0.347		NotEqual(0.019000)	NotEqual(0.01
11	LN-RF:3{Cav}DrvAmpCtrl-SP	0.326	0.345	0.344	0.347		NotEqual(0.019000)	NotEqual(0.01
12	LTB-BI{VF:1BD2}cam1:AcquireTime	1.2e-05	0.002	0.002	1.2e-05		NotEqual(0.001988)	NotEqual(0.00
13	LN-RF:3{Cav}DrvVald-SP	-8.55	-16.15	-8.9	-9.05		NotEqual(-7.600000)	NotEqual(-0.35
14	LN-RF:3{Cav}DrvPhaCtrl-SP	-8.55	-16.15	-8.9	-9.05		NotEqual(-7.600000)	NotEqual(-0.35
15	LN-BI{VF:6}cam1:Gain	24.0	20.0	20.0	24.0		NotEqual(-4.000000)	NotEqual(-4.00
16	LN-RF:BUN{Cav}DrvVald-SP	30.25	-8.1	31.2	-114.6		NotEqual(-38.350000)	NotEqual(0.95
17	LN-RF:BUN{Cav}DrvPhaCtrl-SP	30.25	-8.1	31.2	-114.6		NotEqual(-38.350000)	NotEqual(0.95
18	LN-BI{VF:3}cam1:Gain	20.0	1.0	20.0	1.0		NotEqual(-19.000000)	NotEqual(-19.0
19	LTB-BI{VF:2}cam1:Gain	5.0	4.0	0.0	5.0		NotEqual(-1.000000)	NotEqual(-5.00
20	LN-BI{VF:6}cam1:AcquireTime	0.00015	1.2e-05	1.2e-05	0.00015		NotEqual(-0.000138)	NotEqual(-0.00
21	LN-BI{VF:3}cam1:AcquireTime	0.00015	1.2e-05	1.2e-05	0.00015		NotEqual(-0.000138)	NotEqual(-0.00
22	LN-BI{VF:2}cam1:AcquireTime	0.00015	1.2e-05	0.00015	0.00015		NotEqual(-0.000138)	Equal
23	LN-BI{VF:4}cam1:AcquireTime	0.0001	1.2e-05	0.0001	0.0001		NotEqual(-0.000088)	Equal
24	LTB-BI{DIG:FC}Prescaler-SP	1	1	1	1		Equal	Equal
25	LTB-BI{ES-Ax:1}Mtr:VAL	40.0	40.0	40.0	40.0		Equal	Equal
26	LN-RF:ES{MBM}FF:AmpCtrl-SP	0.65	0.65	0.65	0.65		Equal	Equal
27	LN-BI{BPM:4}Rate:Update-SP	10	10	10	10		Equal	Equal
28	LN-BI{BPM:3}Beam:Gain-SP	100.0	100.0	100.0	100.0		Equal	Equal
29	LN-MG{SOL}:PS-07:Cmd-Pwr	ON	ON	ON	ON		Equal	Equal
30	LN-BI{BPM:2}Tig:Strig-SP	Rdy	Rdy	Rdy	Rdy		Equal	Equal
31	LN-BI{BPM:1}Tbt:GateWidth-SP	10	10	10	10		Equal	Equal

Display Snapshot(s)    Restore Machine    Compare Live Machine    Save Machine Snapshot ...    Compare Snapshots...    Export Snapshot to File ...



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# Save/Restore: Results

```
2. shengb@130-199-222-172.dhcp.bnl.gov:~/Development/unitConversion/example/nsis21...
Lattice header and description for lattice (id: 4)
-----
lattice format:      txt
lattice type:       plain
lattice name:       CD3-Oct3-12-30Cell-addID-par-plain
lattice version:    20121003
lattice version:    design
initially created by: Weiming
initially created on: 2013-07-12T12:58:48
description: This is a design lattice released on Oct 3rd, 2012 with plain format

Lattice data for lattice CD3-Oct3-12-30Cell-addID-par.txt
-----
ElementName ElementType  L      s      K1      K2      Angle
              m      m      1/m2     1/m3     rad
-----
_BEG_        MARK          0      0      0      0      0
DH05G1C30A   DRIF          4.29379 4.29379 0      0      0
FH2G1C30A    FTRIM         0.044  4.33779 0      0      0
DH1GLA       DRIF          0.31221 4.65    0      0      0
GEG1C30A     MARK          0      4.65    0      0      0
GS2G2C30A    MARK          0      4.65    0      0      0
SH1G2C30A    SEXT          0.2    4.85    0      24.1977 0
DH1AG2A      DRIF          0.085  4.935   0      0      0
PH1G2C30A    BPM           0      4.935   0      0      0
DBPM01       DRIF          0.0775 5.0125  0      0      0
QH1G2C30A    QUAD          0.275  5.2875 -0.633004 0 0
DH2AG2A      DRIF          0.145  5.4325  0      0      0
SQHG2C30A    QUAD          0.1    5.5325  0      0      0
CH1G2C30A    SQ_TRIM       0      5.5325  0      0      0
SQHG2C30A    QUAD          0.1    5.6325  0      0      0
DH2BG2A      DRIF          0.4595 6.092   0      0      0
QH2G2C30A    QUAD          0.448  6.54    1.47765 0 0
DH3AG2A      DRIF          0.19   6.73    0      0      0
SH3G2C30A    SEXT          0.2    6.93    0      -4.1557 0
DH3BG2A      DRIF          0.1825 7.1125  0      0      0
QH3G2C30A    QUAD          0.275  7.3875 -1.70755 0 0
DH4AG2A      DRIF          0.07252 7.46002 0 0 0
PH2G2C30A    BPM           0      7.46002 0 0 0
DBPM02       DRIF          0.08998 7.55    0 0 0
SH4G2C30A    SEXT          0.2    7.75    0      -20.4869 0
DH4BG2A      DRIF          0.2485 7.9985  0 0 0
CH2G2C30A    TRIMD        0.3    8.2985  0 0 0
GEG2C30A     MARK          0      8.2985  0 0 0
DH4CG3A      DRIF          0.0315 8.33    0 0 0
GS5G3C30A    MARK          0      8.33    0 0 0
BH3C30A      DIPOLE        2.62  10.95   0 0 0.10472
GEG3C30A     MARK          0      10.95   0 0 0
GS4C30A      MARK          0      10.95   0 0 0
DM1AG4A      DRIF          0.501  11.451  0 0 0
CM1G4C30A    TRIMD        0.2    11.651  0 0 0
DM1BG4A      DRIF          0.274  11.925  0 0 0
QM1G4C30A    QUAD          0.25  12.175 -0.803148 0 0
DM2AG4A      DRIF          0.2    12.375  0 0 0
SM1G4C30A    SEXT          0.2    12.575  0      -24.131 0
DFT1         DRIF          0.2332 12.8882 0 0 0
FM1G4C30A    FTRIM         0.044  12.8522 0 0 0
DM2BG4A      DRIF          0.2924 13.1446 0 0 0
PM1G4C30A    BPM           0      13.1446 0 0 0
DBPM03       DRIF          0.0839 13.2285 0 0 0
QM2G4C30A    QUAD          0.283  13.5115 1.2223 0 0
```



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# Cables – Normal View

Cable Traveler Other Another Logout FRIB

[New Request](#)
[Reload](#)
[Meta](#)
[Profile](#)
[Back to management view](#)
[About](#)

[Submit for approval](#)
[Clone](#)
[Delete](#)
[Clear selection](#)
[Wrap](#)
[Unwrap](#)
[Show](#)

[Copy](#)
[Print](#)
[Save](#)

10 records per page Search:

	Created on	Updated on	project	SSS	Cable type	Engineer	Service	WBS	Quantity	From building	room	elevation	unit	term. device	term. type	wiring drawing	label	To building
<input type="checkbox"/>	2013-09-27 16:03:04		frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1			3	m					
<input checked="" type="checkbox"/>	2013-09-27 16:03:04		frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1			3	m					
<input type="checkbox"/>	2013-09-27 16:03:04		frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1			3	m					
<input checked="" type="checkbox"/>	2013-09-27 16:03:04		frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1			3	m					
<input checked="" type="checkbox"/>	2013-09-27 15:58:12		frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1									
<input checked="" type="checkbox"/>	2013-09-27 15:58:12		frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1									
<input type="checkbox"/>	2013-09-16 09:30:16		frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1									
<input type="checkbox"/>	2013-09-16 09:25:13		frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1									
<input type="checkbox"/>	2013-09-16 09:22:51		frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1									
<input type="checkbox"/>	2013-09-13 12:05:29		frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1									

Showing 1 to 10 of 11 entries 
[Previous](#)
[1](#)
[2](#)
[Next](#)

# Cables – Manager View

Cable Traveler Other Another Logout FRIB

[Reload](#)
[Meta](#)
[Users](#)
[Switch to normal view](#)
[About](#)

To be approved [Approve](#) [Reject](#) [Clear selection](#) [Wrap](#) [Unwrap](#) [Show](#)

Rejected [Copy](#) [Print](#) [Save](#)

To be procured  records per page Search:

To be installed

Installed

	Submitted on	Updated on	Submitted by	project	SSS	Cable type	Engineer	Service	WBS	Quantity	From building	room	elevation	unit	term. device	term. type
<input type="checkbox"/>	2013-09-27 15:56:07	2013-09-27 15:56:07	<a href="#">liud</a>	frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1						
<input type="checkbox"/>	2013-09-27 15:56:07	2013-09-27 15:56:07	<a href="#">liud</a>	frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1			3	m		
<input type="checkbox"/>	2013-09-27 15:56:07	2013-09-27 15:56:07	<a href="#">liud</a>	frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1			3	m		
<input type="checkbox"/>	2013-09-27 15:56:07	2013-09-27 15:56:07	<a href="#">liud</a>	frib	24E	1P16THCP3VEX	Liu, Dong	Thermocouple Wire	T.3.13.01	1						

Showing 1 to 4 of 4 entries -- Previous 1 Next --

# Cables - Types

Cable Traveler Other Another Logout

FRIB

Copy Print Save

10 records per page

Search:

Name	Characteristics	Diameter	Function/Service	Voltage	Insulation	Jacket	Raceway	TID	Model	Comments	Spec
1/2HELA	1/2" heliax Type 461	0.63	Transformer Output Winding Cable	Comm	Solid PE	Flame Retardant PVC	Tray or Conduit	100	Andrew LDF4RN-50A, CATVR		Andrew_LDF4RN-50A.pdf
1/4HELA	1/4 in Heliac	0.345		N/A	Solid PE	Flame Retardant PVC	Tray or Conduit	100	Andrew LDF1RN-50A, CATVR		Andrew_LDF1RN-50A.pdf
1/4HELA_RFS	1/4 in Heliac	0.31		N/A	Foam PE	Flame Retardant PE	Tray or Conduit	100	RFS SCF14-50JFN Phase Stabilized		RFS_SCF14-50JFN_phase_stabilized.pdf
10C22OSTC	10 Conductor, 22 AWG, Stranded, Non Paired, overall shield, tray cable	0.3	RS-232 Applications	Comm	Semi-Rigid PVC	PVC	Tray or Conduit	100	Belden 9946		Belden9946
10PR22OS_RS232	10 Pair, 22 AWG, Twisted Pair, overall shield	0.44	Vacuum Rack Cables	300	SR-PVC	PVC	Tray or Conduit	100	Belden 8310		Belden8310.pdf
12C16TC6V	12 Conductor 16 AWG, Copper tape shield with copper drain wire, tray rated	0.596	PPS system cable	600	XHHW, EPR	CPE Low Smoke	Tray or Conduit	100	BICC Cables FREP II-XL-S600TC-16-12 with Copper tape shield with copper drain, K-2 color code		BICC-FREP-II-S600TC-16-12-CDK2.pdf
12C16TC6VNR	12 Conductor, 16 AWG, overall shield, tinned copper drain, tray rated	0.59	PPS non-rad cable	600	PVC/Nylon	PVC	Tray or Conduit	1	General Cable D1501612		General-D1501612.pdf
12C16TC6VR	12 Conductor, 16 AWG, overall shield, tinned copper drain, tray rated	0.596	PPS rad cable	600	EPR	CPE Low Smoke	Tray or Conduit	300	BICC Cables FREP II-S600TC-16-12		BICC-FREP-II-S600TC-16-12.pdf



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# Next Quarter Goals

- ▶ Online Model API
- ▶ Services Portal (from last meeting)
- ▶ Web Site (from last meeting)
- ▶ APIs and Domain Integration
- ▶ RBAC Prototype
- ▶ Cables, Operations, Calibration Releases
- ▶ Configuration Versioning, Lattice Design
- ▶ V4/CSS Integration
- ▶ Software Engineering: Requirements Backlog, Status



# Conclusion

- ▶ Made Good Progress In Logbook, Traveler, Unit Conversion, Configuration, Lattice-Model, Naming
- ▶ Many Modules Under Development (Cables, RBAC, Calibration)
- ▶ Challenges
  - ▶ Integration Among Modules
  - ▶ Standard APIs
- ▶ Not Ready for General Users

- ▶ DISCS Website:

<http://discs.openepics.org>



Thank you!

“Software is like entropy. It is difficult to grasp, weighs nothing, and obeys the 2<sup>nd</sup> law of thermodynamics i.e. it always increases..”

– Norman Augustine

