



APS-U High-Level Application Architecture Design and Status

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Argonne National Laboratory

Oct 2019 EPICS Collaboration Meeting
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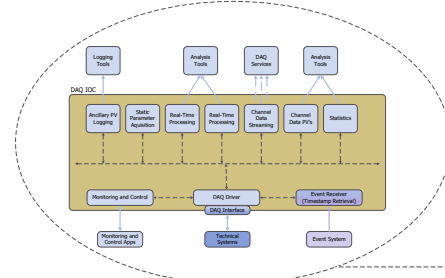
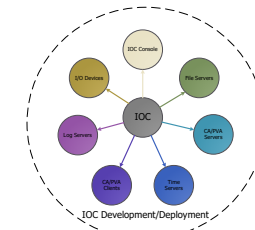


Content

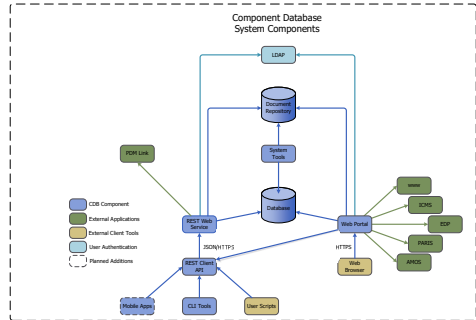
- APS-U Controls Software Structure
- Component Database (CDB)
- Traveler System
- Cable Management
- Naming
- Controls System Environment Management
- Infrastructure Monitoring
- System Integration



-



- ☐ What is in place
- ☒ What is available
- ☐ What is planned



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- Component database (CDB)
- Electronic traveler (eTraveler)
- Cable management system

- EPICS directory service
- Naming system
- Infrastructure monitoring
- EPICS Gateway



Component Database (CDB)

- CDB component information “domains”: Catalog, Inventory, Machine design, location, MAARC (Measurement and Analysis Archive)



Argonne
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Component Database Portal

Username: Not Logged In
Role: User
View: Default
Project: All

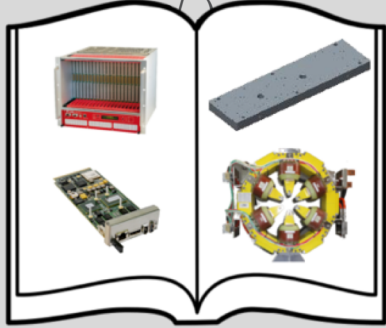
Browse Catalog Inventory

Search Login About

Vocabulary

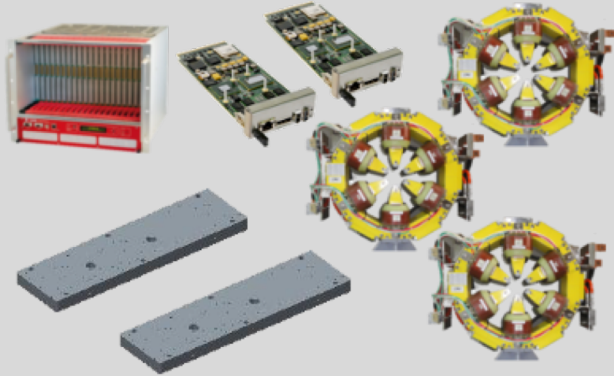

Catalog

(each unique *type* of component or component design or COTS item + properties/drawings/specifications)




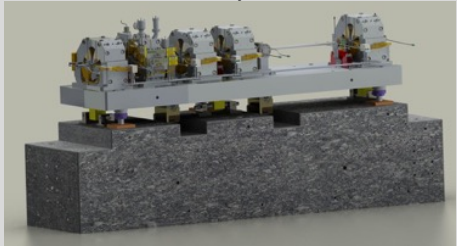
Inventory

(each unique *instance* of component procured or fabricated) + properties/serial #/QR code/travelers/pictures/...)




Machine Designs


(A group of catalog components to perform a particular function + inventory items to build it + Properties/pictures/locations/




Shop Laptops by Type




2-in-1s




Built for Power




Gaming




Solid State Drives




ON SALE




Less Than \$500



Windows



Computer Savings
Save up to \$150 on select Windows computers.
Graduate to the next stage with a new computer.
Minimum savings is \$30.
[Shop these computers](#)



MacBook Savings
MacBook Pro
Save up to \$250 on select models.
Minimum savings is \$50.
[Shop MacBook Pro](#)

Component Database (CDB)

- Web port as main gate

Component Database Portal

Username: Not Logged In
 Role: User
 Reset Session
 View: Default
 Project: All

Browse ▾ | Catalog | Inventory | Machine Design - Housing | MAARC

Search | Login | ? About

Choose a Technical System

- APS-U Test Stands
- Controls/Instrumentation
- Diagnostics
- Front Ends**
- Generic Functions/Placeholders
- Lattice Elements
- Magnets
- Mechanical/Beamlines
- Mechanical/Insertion Devices
- Power Systems
- RF

Functions

- All
- Absorber
- Bellows**
- Beryllium Window
- Cable
- Collimator
- Diagnostic
- Frontend Component
- Mask
- Mirror
- Photon Monitor

Assy	Primary Image	Name	Model Number	Alternate Name	Description	Inventory
		BELLOWS ASSEMBLY	4102030204-114000-02		EXPERIMENTAL FACILITIES; 1 MRAD CANTED UNDULATOR FRONT END; VACUUM SYSTEM; BELLOWS/SPOOLPIECES; BELLOWS ASSEMBLY	BL1
		BELLOWS ASSEMBLY	U2520104-120000-00	IM1 Electrical Feedthru Bellows	FRONT ENDS & INSERTION DEVICES FRONT ENDS HIGH HEAT LOAD FRONT ENDS (HHLFE) HHLFE VACUUM COMPONENTS	BL1-1 BL1-2
		BELLOWS ASSEMBLY	4102040113-101000-00		EXPERIMENTAL FACILITIES; IXS-CAT FRONT END; BELLOWS/SPOOLPIECES; BELLOWS ASSEMBLY	Unit: 1 Unit: 2 Unit: 3 Unit: 4 Unit: 5
		BELLOWS ASSEMBLY	4102030204-113000-01		EXPERIMENTAL FACILITIES; 1 MRAD CANTED UNDULATOR FRONT END; VACUUM SYSTEM; BELLOWS/SPOOLPIECES; BELLOWS ASSEMBLY	BL1
		BELLOWS ASSEMBLY	U1520206-203000-00		INFRASTRUCTURE & ENABLING TECHNOLOGIES; FRONT END UPGRADES; HIGH HEAT LOAD INLINE UNDULATO...	BL1-1 BL1-2
		BELLOWS ASSEMBLY	4102040113-230000-00		EXPERIMENTAL FACILITIES; BEAM LINE FRONT ENDS; COMPONENT ASSEMBLIES; SECTOR 29 MAIN LAYOUT; BELLOWS ASSEMBLY	BL1
		Bellows Template			Template for the front end bellows	Unit: 1
		HHLFE GRID XBPM Detector Bellows Weldment	U2520106-154000		FRONT ENDS & INSERTION DEVICES; FRONT ENDS; HIGH HEAT LOAD FRONT ENDS (HHLFE); HHLFE DIAGN...	BL1-1 BL1-2
		IM1 ELECTRICAL FEEDTHRU BELLOWS ASSEMBLY	U2520104-120000	Intensity One Upstream Bellows	FRONT ENDS & INSERTION DEVICES; FRONT ENDS; HIGH HEAT LOAD FRONT ENDS (HHLFE); HHLFE VACUU...	BL1 BL1-2

Catalog Item: DMM Quadrupole

Component Database Portal

Username: Not Logged In
 Role: User
 Reset Session
 View: Default
 Project: All

Browse ▾ | Catalog | Inventory | Machine Design - Housing | MAARC

Search | Login | ? About

Catalog Item Details

Name: DMM QUADRUPOLE U2520106-154000-00

Model Number: U2520106-154000-00

Alternate Name: DMM QUADRUPOLE ASSEMBLY

Project: APS-U

Description: QUADRUPOLE ASSEMBLY STEEL POLES, COIL, EPOXY/PROTECTOR VACUUM CHAMBER, COIL FEED

Technical System: Magnets

Function: Quadrupole

More Info | Return

Gallery

Properties

Type	Tag	Value	Units	Dynamic	Actions
Frontier Template (XSLT)		APS-100000			
Frontier Template (XSLT)		APS-100000-1000-000			
Image	FRONT VIEW				
Image	UPSTREAM VIEW				
Image	ISD VIEW				

Elements

Element Name	Combined Item	Model Number	Required	Owner	Status	Actions
COIL	DMM QUADRUPOLE COIL ASSEMBLY	U2520106-154000-00	Yes	owner	ISS	
YONE	YONE DMM QUADRUPOLE U2520106-154000-00	U2520106-154000-00	Yes	owner	ISS	

Instances

Item	Primary Image	Inventory Item	Tag	QTY	Serial Number	Description	Location	Actions
DMM QUADRUPOLE ASSEMBLY		DMM QUADRUPOLE ASSEMBLY		1		The 2nd Quadrupole of DMM VIB out for vacuum protection	214	

Item Membership

Part ID	Part Name	Description	Owner	Status	Actions
DMM QUADRUPOLE ASSEMBLY	CONCEPTUAL DESIGN & DEVELOPMENT (P&ID) ACCELERATOR CONCEPTUAL DESIGN AND R&D ACCELERATOR PERFORMANCE R&D MULTIPLE R&D DMM MAGNET ASSEMBLY		owner	ISS	

Log Entries

Date	User	Log Entry
2010-01-01	john	More from 374 to 500 by page 20-01-01-01-01

Libera Brilliance+ (APS Model)

Component Database Portal

Username: Not Logged In
 Role: User
 Reset Session
 View: Default
 Project: All

Browse ▾ | Catalog | Inventory | Machine Design - Housing | MAARC

Search | Login | ? About

Component Details

Name: Libera Brilliance+ (APS Model)

Model Number: Customized Unit for APS

Description: BPM Processor

Type: Diagnostics

Category: Diagnostics

More Info | Return

Gallery

Properties

Type	Tag	Value	Units	Dynamic	Actions
Image					
Document (Upload)	Reduced Scope Spec				
Purchase Request	Controls Unit P&ID	F5-321013			

Sources

Name	Part Number	Cost (\$)	Description	Manufacturer	Vendor
Instrumentation Technologies B-Tools					

Instances

QR ID	Tag	Location	Description	Owner	Group	Actions
000 000 047	Control's Unit	L2112		ap	CTL	


Design Membership

Name	Description	Owner	Group	Actions
S27 RTFB Teststand (std)		nda	CS	
S27 Integrated orbit feedback prototype		carver	PSC-PA	

Log Entries

Component Database (CDB)

Inventory Item:



Component Database Portal

Username: nda
Role: Administrator
Reset Session
View: nls
Print: All

Browse Catalog Inventory Machine Design - Housing MAARC

Search Administrative Settings Logout About

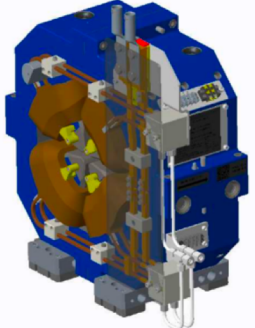
Catalog Item Details

Name: Q1 Production Magnet
Model Number: U2330101-10000
Alternate Name:
Project: APS-U Production
Description: Q1 250mm Quadrupole Magnet with vanadium perpendicular pole tips
Technical System: Magnets
Function: Quadrupole
Created from template: N/A

Edit Delete More Info Permalink Return

Gallery

+ Add



Log Entries

+ Add

Properties

+ Add

Type	Value
Image	
Purchase Requisition	First Production Units
PdMLink Drawing	
Image	
Document (ICMS)	SOW
Document (ICMS)	ESD
Image	
Document (ICMS)	ICD
PdMLink Drawing	

eTraveler Templates

+ Add

Component Discrepancy Traveler
Quadrupole Magnet Q1 Incoming Inspection Traveler

Assembly Listing

Sources

Name	Part
Danfysik	

Inventory

+ Add + Create Many Edit All Track Spares

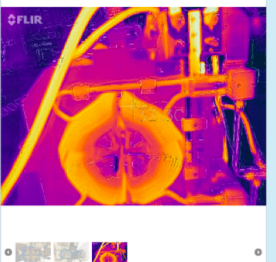
More Info	Primary Image	Tag	Serial Number	Description	Location	Status	Actions
		DQ101	100 011 001	DQ101	Q1 250mm Quadrupole Magnet - First Article	314	Inspected/Tested/Certified
		DQ102	100 011 002	DQ102	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 1	Received
		DQ103	100 011 003	DQ103	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 2	Received
		DQ104	100 011 004	DQ104	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 1	Received
		DQ105	100 011 005	DQ105	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 1	Received
		DQ106	100 011 006	DQ106	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 1	Received
		DQ107	100 011 007	DQ107	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 1	Received
		DQ108	100 011 008	DQ108	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 1	Received
		DQ109	100 011 009	DQ109	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 1	Received
		DQ110	100 011 010	DQ110	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 2	Received
		DQ111	100 011 011	DQ111	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 2	Received
		DQ112	100 011 012	DQ112	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 2	Received
		DQ113	100 011 013	DQ113	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 4	Received
		DQ114	100 011 014	DQ114	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 1	Received
		DQ115	100 011 015	DQ115	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 1	Received
		DQ116	100 011 016	DQ116	Q1 250mm Quadrupole Magnet	335 → 335-Rack B → 335-B-Shelf 1	Received

Q1 Production Magnet - [DQ108]

Tag: DQ108
QR ID: 100 011 008
Catalog Item: Q1 Production Magnet
Serial Number: DQ108
Project: APS-U
Description: Q1 250mm Quadrupole Magnet
Location: 335
Location Details: 335
Status: Received

Edit Delete More Info Permalink Return

Gallery



Log Entries

+ Add

Properties

+ Add

Type	Value
Image	
Purchase Requisition	First Production Units
PdMLink Drawing	U2330101-100000
Image	
Document (ICMS)	SOW
Document (ICMS)	ESD
Image	
Document (ICMS)	ICD
PdMLink Drawing	

eTraveler Instances

+ Add + Create Binder

Title	Description	Created By	Updated By	Created From Template
DQ108	batchold	mjl		Quadrupole Magnet Q1 Incoming Inspection Tra


Assembly Listing

Item Membership

Catalog Item Properties

Type	Tag	Value
Image		
Purchase Requisition	First Production Units	P7-187061
PdMLink Drawing		U2330101-100000
Image		
Document (ICMS)	SOW	APBU_179275
Document (ICMS)	ESD	APS_170278
Image		
Document (ICMS)	ICD	APBU_179837
PdMLink Drawing		U2330101-100000.DSW

Related MAARC Items



CDB 100 011 008

82 Q1 Magnets

Component Database (CDB)

- **Machine Design:**
a place holder or "address"
 - A reference to a Catalog Item
 - A reference to an Inventory Item
 - It's own properties, history, etc.



- **Mobile App:**
 - Android support as of now
 - iOS under development



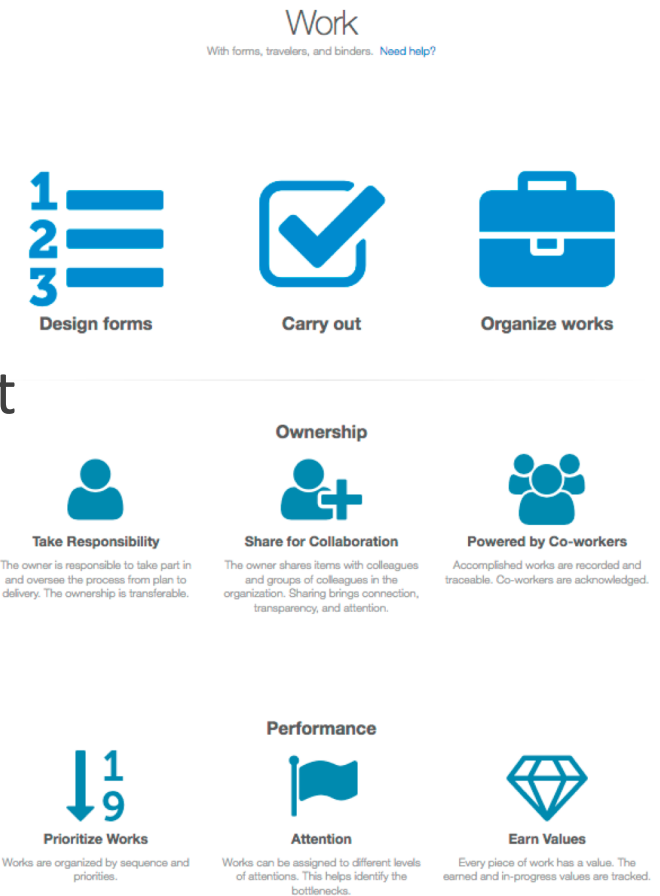
Component Database (CDB)

- Summary usage at APS-U
 - In production deployment
 - More than 730 catalog items
 - Over 2500 inventory items
 - New functions under development including performance improvement



Traveler System

- Electronic traveler system to replace traditional paper-based approach
- Assisting
 - receiving inspection
 - characterization of incoming equipment
 - tracking accelerator component processing workflow
 - quality assurance inspection
 - recording of test results
 - Assembly
 - Installation
 - etc.



Traveler System

- New functions
 - Reporting
 - Discrepancy
 - Step numbering
 - Status and version controls
(under active development)



Traveler System

- Reporting

Clone

Add to binder

Generate report

Reload all tables

All public travelers

My travelers

Archived travelers

Reload table

Select all

Select none

Archive

10

records per page

Search:

				Title	Status	Devices	Tags	User defined keys	Shared with	Shared groups	Created	Deadline	Filled by	Updated	Estimated progress
<input type="checkbox"/>				Dress Rehearsal Receipt Inspection	active		Receiving Inspection	Date; Total; Damaged; Accepted; Verified; Payment			5 minutes ago		G	4 minutes ago	6 / 6
<input checked="" type="checkbox"/>				Acceptance Criteria and Critical Dimensions for HHLFE Exit Mas Assembly	active		ACL Inspection;	Braze_Verify; No_Damage;			5 minutes		G	2 minutes	14 / 15
<input checked="" type="checkbox"/>				Acceptance Criteria and Critical Dimensions for HHLFE Exit Mas Assembly											2 / 15
<input type="checkbox"/>				Dress Rehearsal Receipt Inspection											0 / 6

Traveler Report

Generated on Friday, November 2nd 2018, 3:43:31 pm

Format control

☒ system defined keys

☒ user defined keys

☒ input labels

☒ Title

☐ Devices

☒ Status

☒ ACL

☒ BarCode

☒ Braze_Verify

☒ Comments

☒ Engineer

☒ H_Aperture

☒ Inepector

☒ Knife_Inner_D

☒ Knife_Outer_D

☒ No_Damage

☒ Nonconformance

☒ Notified

☒ Reciept

☒ SN

☒ V_Aperture

Copy

Print

Save

All

records per page

Search:

Title	Status	label	ACL	label	BarCode	label	Braze_Verify	label	Comments	label	Engineer	label	H_Aperture	label	Inepector	label	Knife
Acceptance Criteria and Critical Dimensions for HHLFE Exit Mask Brazed Assembly	active	CERTIFIED RECIEPT INSPECTOR		CERTIFIED RECIEPT INSPECTOR		Verify there is no braze in the aperture	true	COMMENTS:		ENGINEER		Horizontal Aperture: [inches]		CERTIFIED RECIEPT INSPECTOR		Knife edge Inner Diameter: [inches]	
Acceptance Criteria and Critical Dimensions for HHLFE Exit Mask Brazed Assembly	active	CERTIFIED RECIEPT INSPECTOR	true	CERTIFIED RECIEPT INSPECTOR	true	Verify there is no braze in the aperture	true	COMMENTS:		ENGINEER	true	Horizontal Aperture: [inches]	4.996	CERTIFIED RECIEPT INSPECTOR	true	Knife edge Inner Diameter: [inches]	6.539

Showing 1 to 2 of 2 entries

← Previous

Next →

Oct 2019 EPICS Collabo

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Traveler System

- Discrepancy

Discrepancy log

sequence	Discrepancy Details	Reported by	Actions to be taken	Justification for Actions to be taken	Documented by	On
1	Damaged terminal in shipping	Dariusz	Rework at Argonne	Could be fixed easily	D	7 days ago

Add discrepancy log

Traveler

S1/S3 Sextupole Magnet Incoming Inspection
Traveler Clone 2.0 clone clone

Discrepancy log

Traveler

Visual Inspection

Vacuum Chamber Gauge Inspection



Traveler System

- Step numbering

3 Rotating Wire and Survey Measurement

3.1 The rotating wire measurement will locate the magnetic center of the magnet.

3.2 Select the system to be utilized for the measurement:

3.2.1 ☒ RW1

☐ RW2

*history: changed to **RW1** by gcurescu Thursday, September 19th 2019, 10:55:35 am;*

notes: 0 

3.3 Calibrate the rotating wire geometry, if applicable:

3.3.1 ☐ Calibration Complete

☒ Not Applicable

*history: changed to **Not Applicable** by gcurescu Thursday, September 19th 2019, 10:55:37 am;*

notes: 0 

Q135 Magnet Rotating Wire and Survey Measurements

Traveler

1 General Notes and Supporting Documentation

2 Discrepancy Traveler Instructions

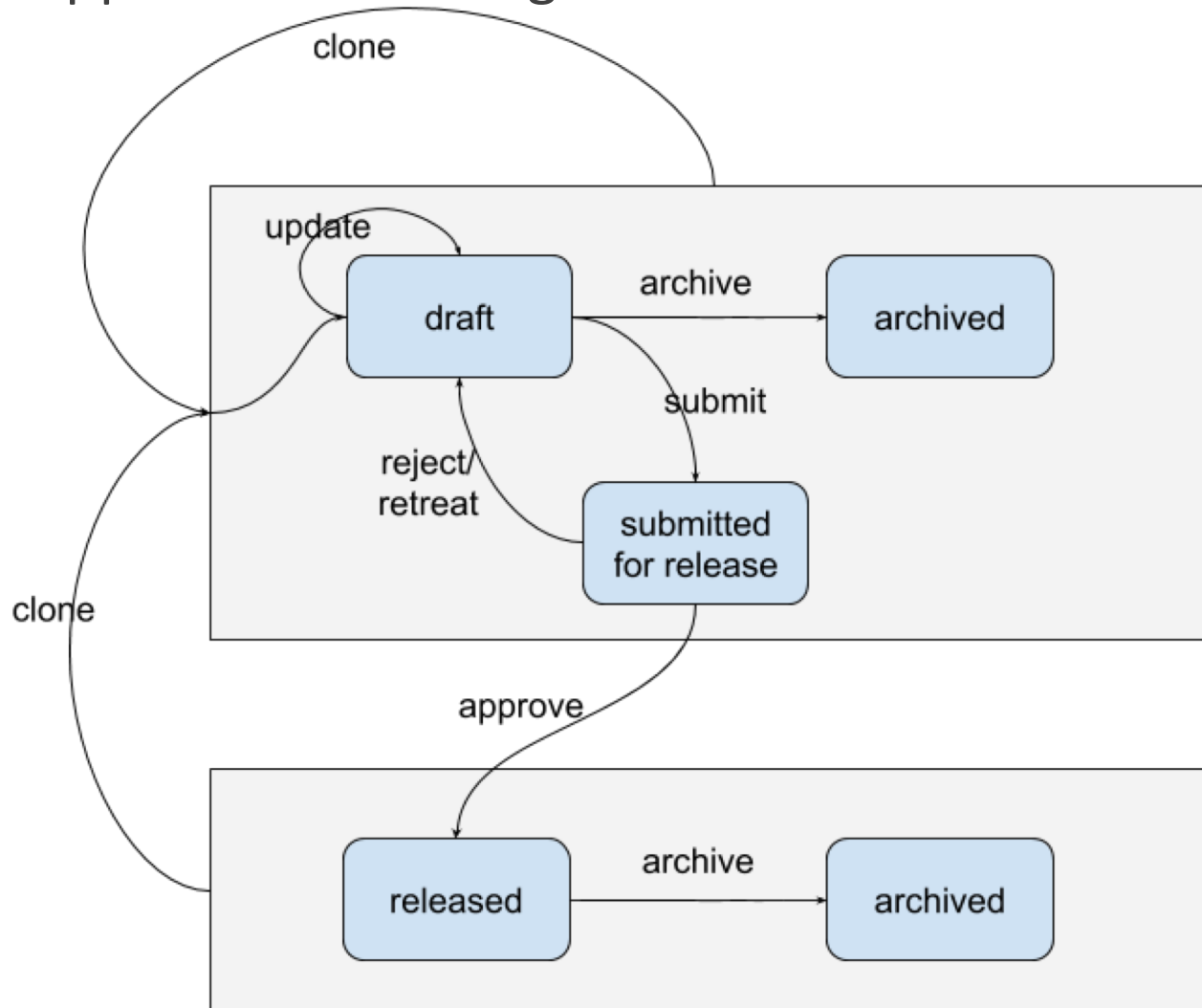
3 Rotating Wire and Survey Measurement

4 Final Approval



Traveler System

- Status Support & versioning



Traveler System

- Summary usage at APS-U
 - In production deployment
 - More than 160 template forms
 - Over 800 instances
 - New functions under development
 - Status support
 - Versioning system
 - ...



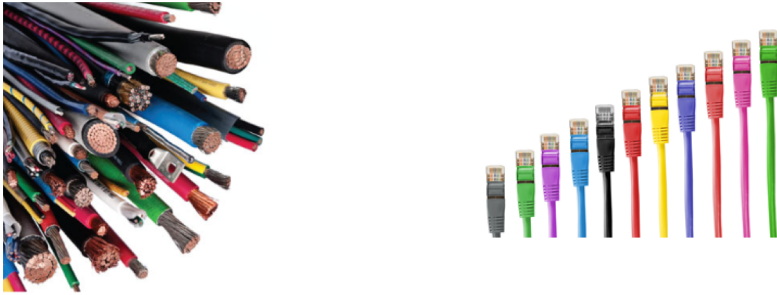
Cable Management

- Started with a community survey
 - COTS & tools developed by community
 - Resulted in 2 separate tool for cable management, raceway & routing tool
 - Cable management to be developed in house
- Extend CDB catalog, inventory, and machine design domains
 - cable catalog
 - cable inventory
 - cable design



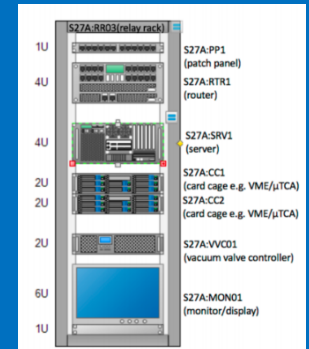
Cable Management

CDB Enhancements for Cable Plant Planning and Management



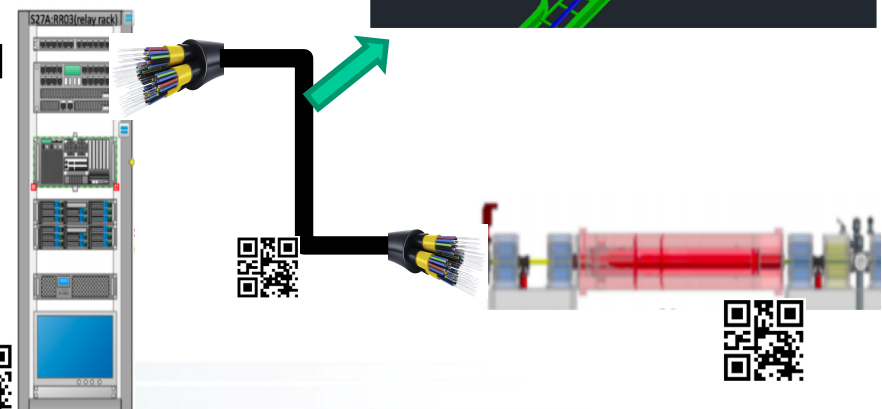
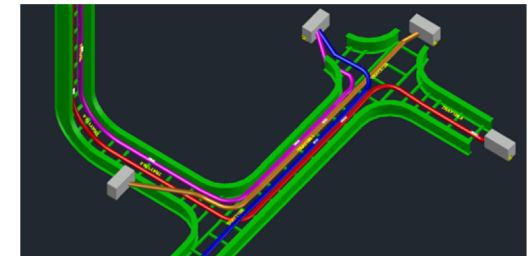
Core CDB Functionality

- Component Catalog
- Inventory Tracking
- Machine Design



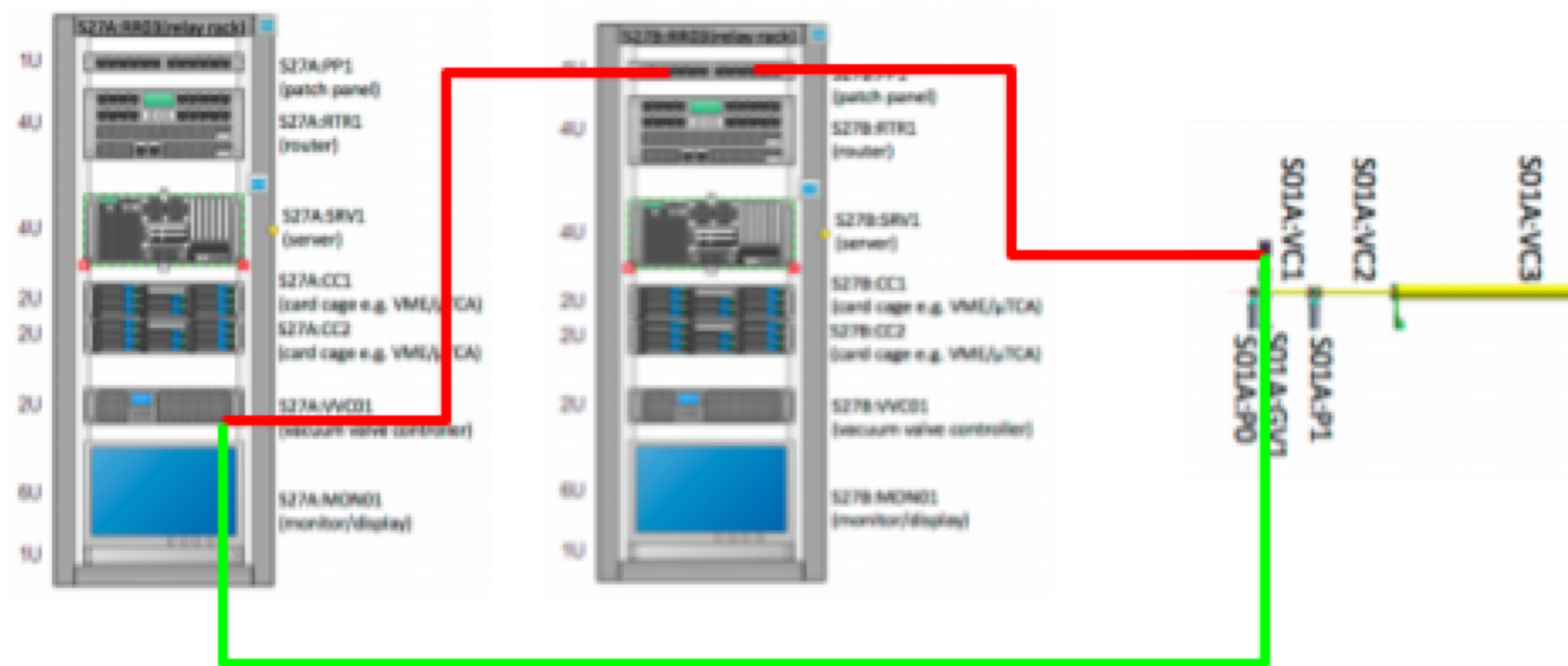
New CDB Cable Functionality

- Provides catalog of predefined cable types
- Tracks inventory by QR id using mobile devices
- Facilitates evolving cable plant design
 - high level design using “placeholders” (e.g., rack to device) jumpstarts cable routing effort
 - Endpoints later refined to component/port level
- Coordinates integration with external cable routing and raceway design tool
- Supports planning and tracking of “bundles” and “dark fiber”
- Manages “virtual cables” with circuit of multiple physical cable segments



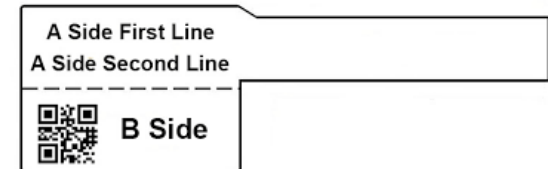
Cable Management

- Virtual Cable



For example: connection between the vacuum valve controller and the gate valve (green). Actual cable circuit connection via patch panel (red).

Naming



APS: Naming System

Release: 0001 2010-02-01

Home | Browse | Request | Reports | Admin | Preferences | Help

Login

Introduction

Because the APS-U accelerators are moving into the fabrication/assembly/installation stage, it is important for consistent naming conventions to be used throughout the project. The intent of this application is to dictate the rules to be adhered to when naming devices in the storage ring. These rules are generic in nature, and shall be applied in principle to the other machines as well. It is essential that every component have a unique and, hopefully, easily recognizable name.

Every ASD and XFD group, except for magnets, must interface with the control system. For this reason all device names were developed keeping in mind their actual function, such as controlling or monitoring some device in the ring. Even though magnets are not directly interfaced to the control system, their power supplies are, therefore, a magnet will have the same name as its associated power supply.

P	y	N	N	#	:	D	D	D	D	-	X	X	-	n	n	:	(T	B	D)
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

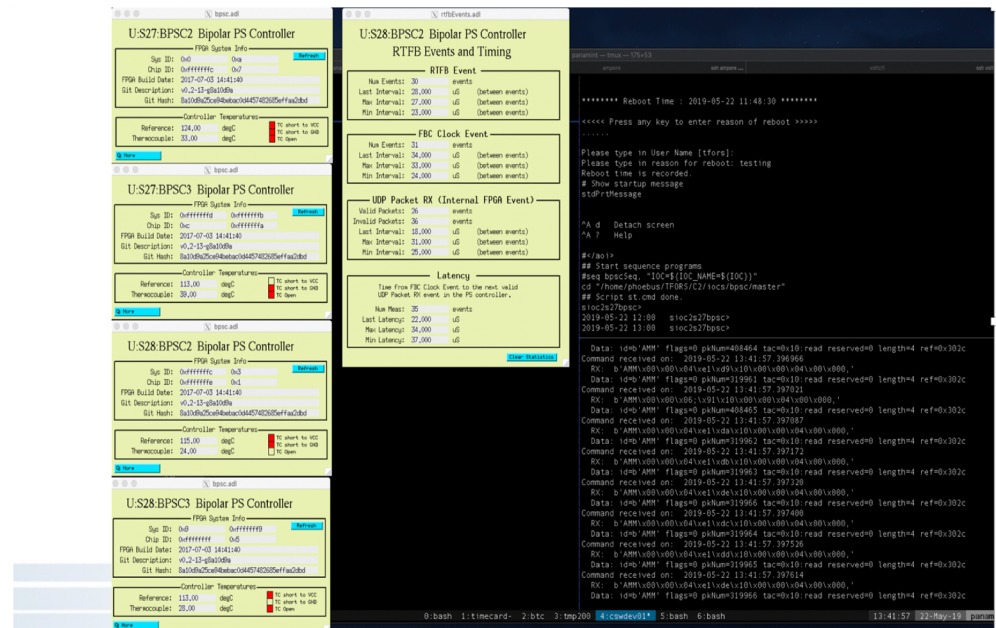
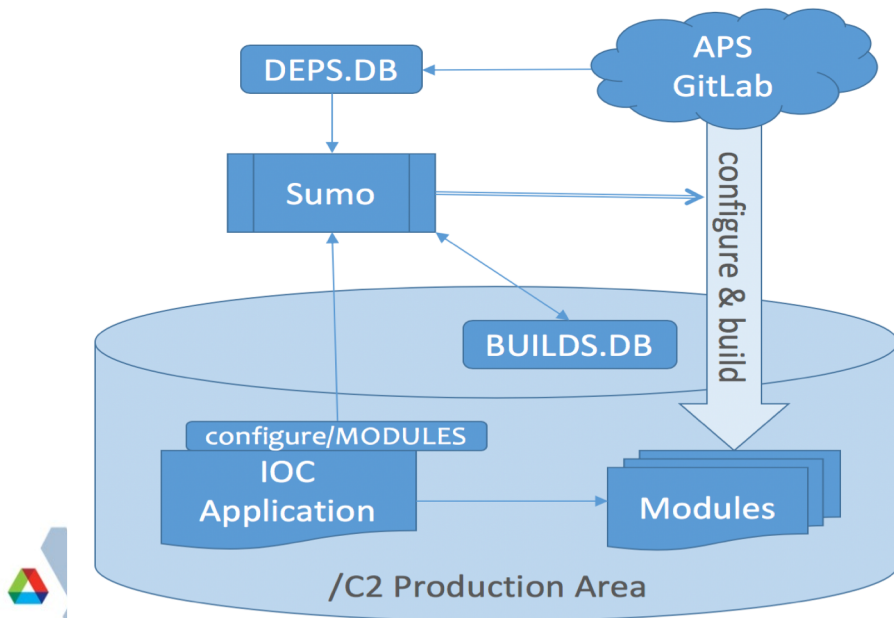
System
Device
Signal

Examples

- Naming examples of APS-U lattice structure with magnet.
- Naming examples of APS-U lattice structure with vacuum and diagnostics.
- Naming examples of APS-U racks.

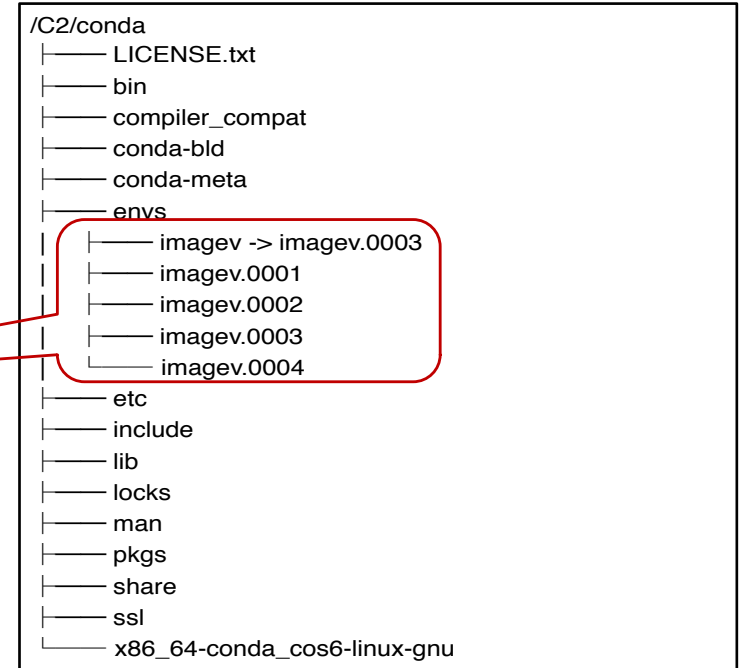
Controls System Environment Management

- **IOCs:** *'Sumo' automates IOC modules configure/build*
 - Sumo (HZB/BESSY) to build IOC support modules from source on demand
 - All source comes from APS' GitLab server
 - IOC applications will specify needed support modules and versions
 - Sumo is used similarly to create private module build areas while the application is still being developed
 - Where appropriate we hope to include PLC, FPGA, and DSP code in the same environment
 - We are developing against an EPICS 7 release

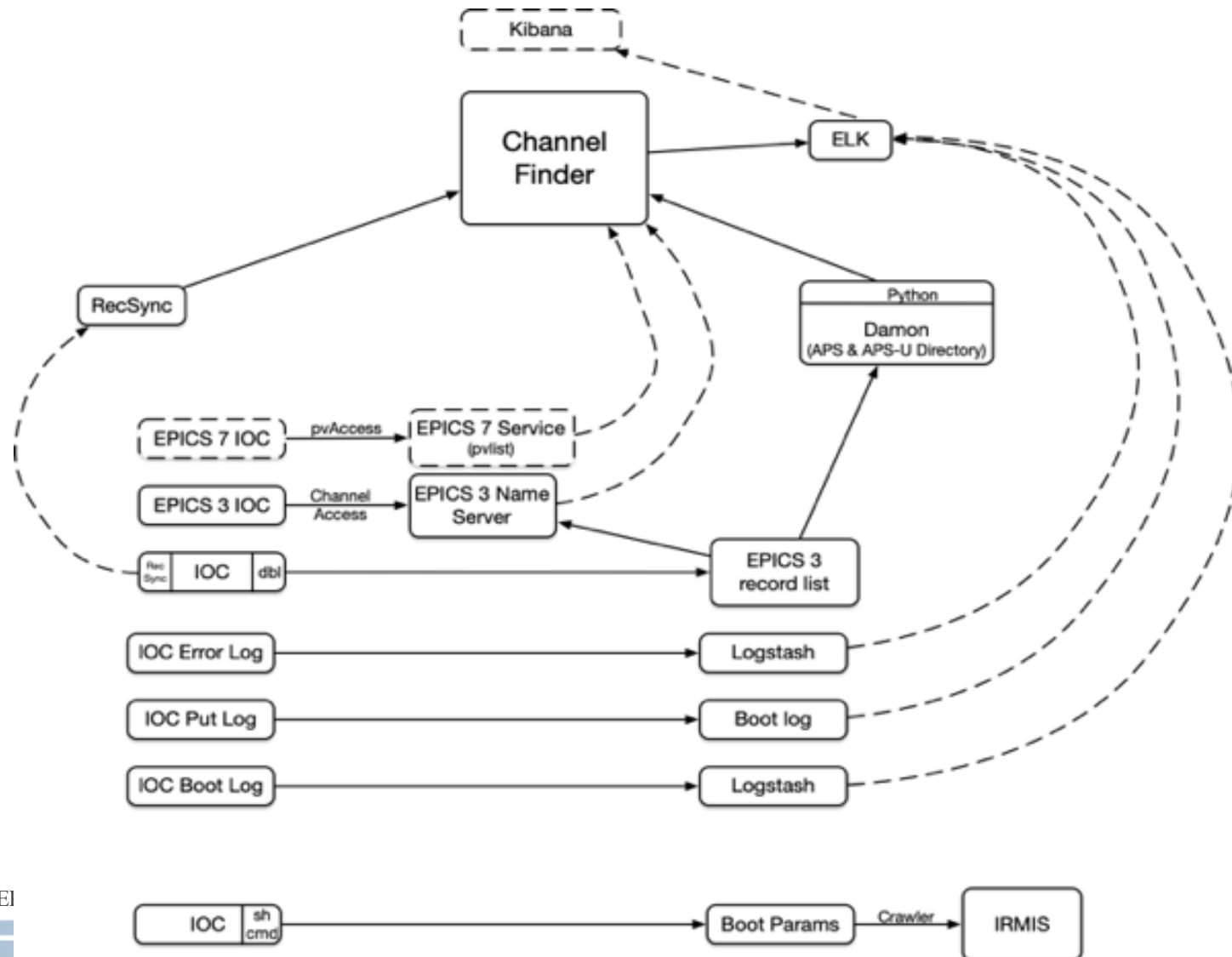


Controls System Environment Management

- **High Level Applications: 'Conda'**
provides an environment management system to deploy applications along with their dependencies for easy update/roll back capabilities
 - Multiple Conda environments can be defined for a given application
 - All required packages will be in a local repository (local Conda package repository)
 - Conda was originally developed specifically for python, but can be applied to any language build environment



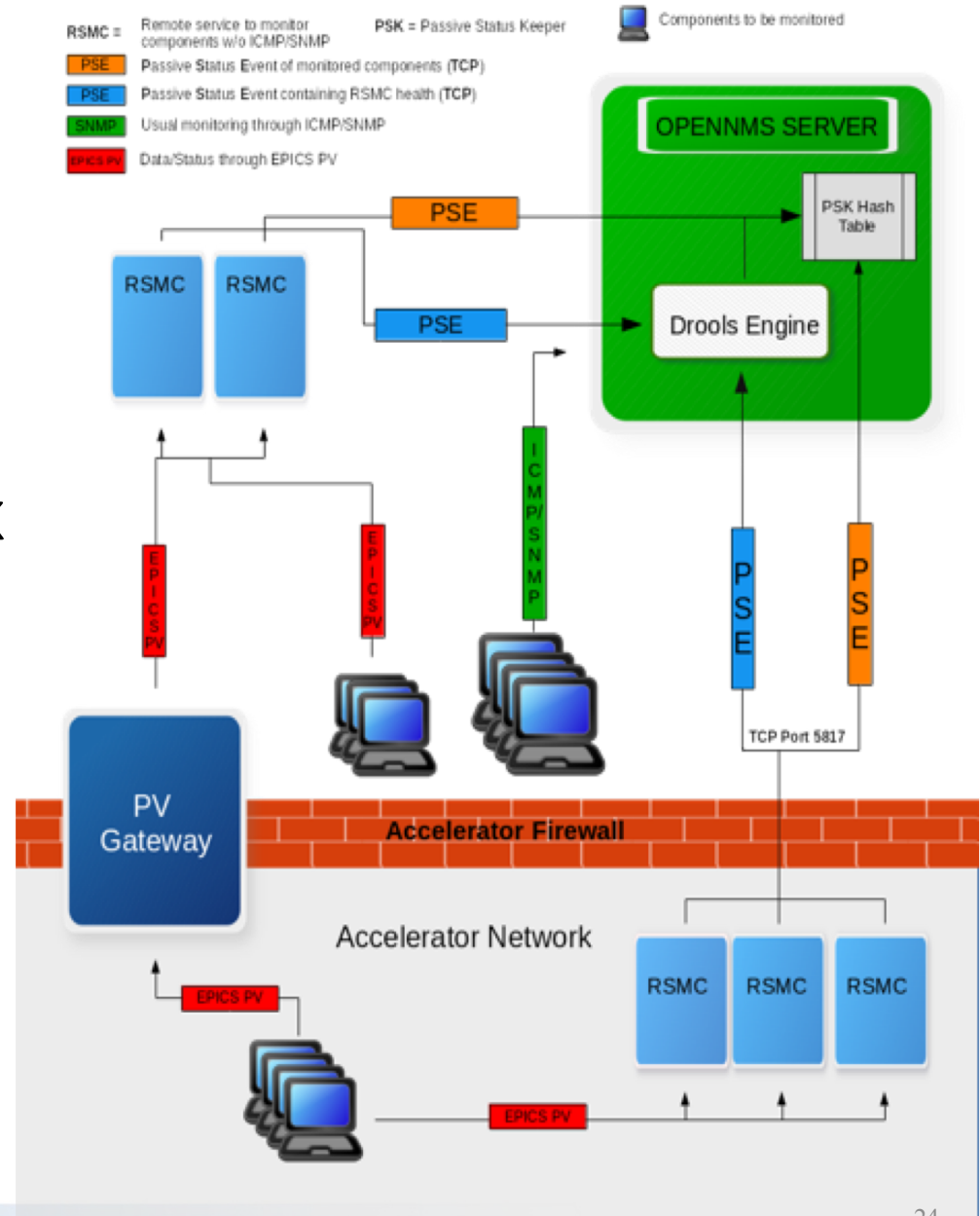
- **EPICS PVs:** *'Channel Finder' provides a mechanism to manage all those $\sim 1M$ PVs in a systematic way*



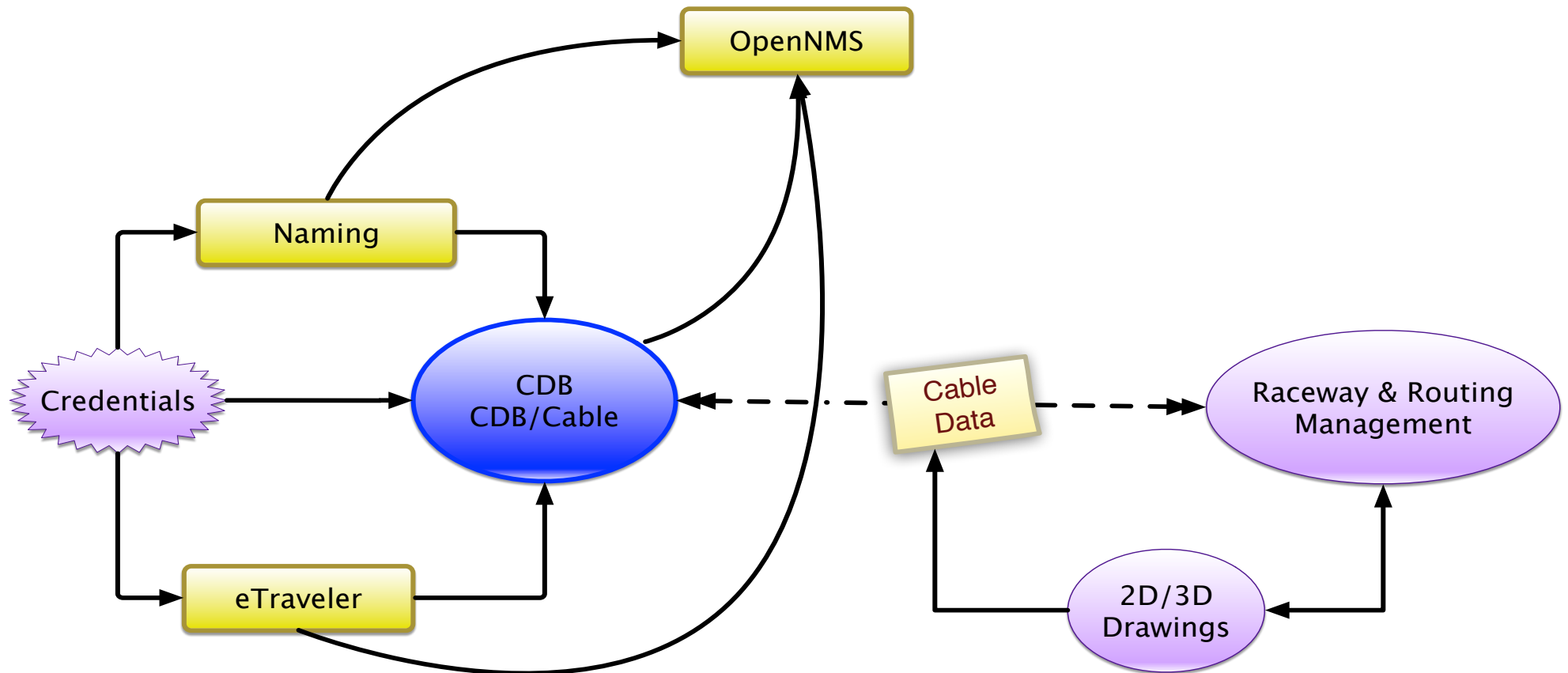
Infrastructure Monitoring

- OpenNMS was selected eventually to monitor controls system infrastructure
- Two ways to monitor components from the accelerator network
 - EPICS data through RSMC=>PSK with RSMC running on accelerator network
 - EPICS data through PV-GW=>RSMC=>PSK with RSMC running outside the accelerator network

OPENNMS Infrastructure



System Integration



System Integration



Component Database Portal

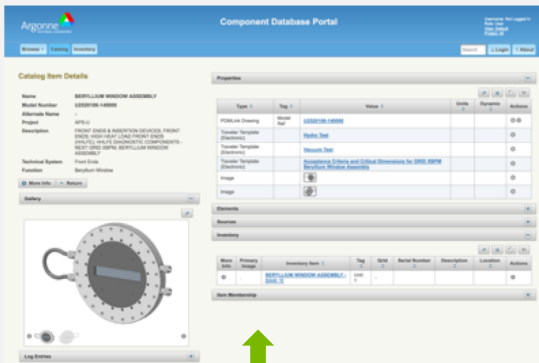
Username: Not Logged In
Role: User
View: Default
Project: All

Browse Catalog Inventory

Search Login ? About

Catalog

(each unique *type* of component or component design or COTS item + properties/drawings/specification/..)



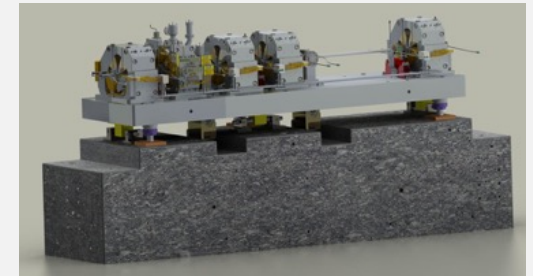
Inventory

(each unique *instance* of component procured or fabricated) + properties/serial #/QR code/travelers/pictures/...)



Machine Designs

(A group of catalog components to perform a particular function + inventory items to build it + Properties/pictures/locations/...)



eTraveler

Templates/Forms

(an electronic form designed to guide the user through a set of steps <for specific component types>)

Hydro Test for Mask Type #2

Vacuum Test Type #2

ACL for Mask Type #2

Vacuum Certification

eTraveler [Instances]

(A copy of a Traveler Template filled in for *a particular instance* of a part)

Hydro Test for Mask Type #2:
Qrid = 000 001 679

Hydro Test for Mask Type #2:
Qrid = 000 001 682

Hydro Test for Mask Type #2:
Qrid = 000 001 683

Acceptance Criteria and Critical Dimensions to GRID XBPM Beryllium Window Assembly

Acceptance Criteria

Verify there is no brine in the aperture ☐ YES

Check component for damage including knife edges ☐ YES

Critical Dimensions

Vertical Aperture: [Inches] TARGET: 5.750" +/-0.005"

Horizontal Aperture: [Inches] TARGET: 5.000" +/-0.005"

eTraveler Example

System Integration

Argonne NATIONAL LABORATORY

Component Database Portal

Username: Not Logged In
Role: User
View: Default
Project: All

Browse Catalog Inventory Machine Design - Housing Search Login About

Catalog Item Details

Name: 002 - Electrical Component Template
Model Number: APS-U | APS-OPS | APS-U Production
Project: APS-U | APS-OPS | APS-U Production
Description: Controls/Instrumentation
Function: Template
Created from template: NIA

More info Permalink Return

Gallery

Properties

Tag	Value	Description	Type	Actions
NRTL Status	APS Inspection - Required		Electrical Inspection Status	
User Manual			Document (Upload)	
Feature Sheet			Image	
Select Form Factor from a menu	Rack Mount		Form Factor	
Cognizant person	Frank Lenkszus		Personnel/Staff	
		Link to Engineering Documentation (DMS preferred)	Documentation (WEB)	

Assembly Listing

Title	Created By	Created On	Updated By	Updated On	Actions
Component Discrepancy Traveler	tbarsz	2018-02-06T20:09:12.335Z	tbarsz	2018-06-25T18:59:32.042Z	

Sources

Name	Part Number
Amazon	

Inventory

More Info	Primary Image	Tag	QrId	Serial Number	Description	Location	Status	Actions
		Unit: 1	-					

Item Membership

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Catalog item link to traveler "Templates (Forms)"

Traveler CDB Forms Travelers Binders Documents

Guobao Shen

Component Discrepancy Traveler

Inspector Section

This section is to be completed by the person that discovered the discrepancy.

Description
Enter a description of the discrepancy

Representative/Responsible Engineer Section

Actions to address the discrepancy. (Check all that apply)

☐ Accept as is

☐ Rework

☐ Re-inspect

☐ Scrap

☐ Return to Supplier (Note: The Project Technical Representative is responsible for notifying the ANL Procurement Department.)

☐ Other action (describe below)



System Integration

Argonne NATIONAL LABORATORY

Component Database Portal

Username: Not Logged In
Role: User
View: gshen
Project: All

Browse Catalog Inventory Machine Design - Housing

Search Login About

002 - Electrical Component Template - [Unit: 1]

Tag Unit: 1
QR Id -
Catalog Item [002 - Electrical Component Template](#)
Serial Number
Project APS-U | APS-OPS | APS-U Production
Description
Location
Location Details
Status

More Info Permalink Return

Gallery
Log Entries

Properties
eTraveler Instances

ID	Description	Created By	Updated By	Created From Template	Estimated Progress	Action
Component Discrepancy Traveler		nda		Component Discrepancy Traveler	0.0/10.0	

Assembly Listing
Item Membership
Catalog Item Properties

Tag	Value	Description	Type	Actions
NRTL Status	APS Inspection - Required		Electrical Inspection Status	
User Manual			Document (Upload)	
Feature Sheet			Image	
Select Form Factor from a menu	Rack Mount		Form Factor	
Cognizant person	Frank Lenkszus		Personnel/Staff	
		Link to Engineering Documentation (DMS preferred)	Documentation (WEB)	

Related MAARC Items

Inventory item
link to traveler instance

Traveler CDB Forms Travelers Binders Documents

Guobao Shen

Traveler title: Component Discrepancy Traveler
Status: initialized
Tags: 002 - Electrical Component Template [Unit: 1]
Details

Inspector Section
Technical Representative/Responsible Engineer Section

Inspector Section

This section is to be completed by the person that discovered the discrepancy.

Description
Enter a description of the discrepancy
notes: 0

Technical Representative/Responsible Engineer Section

Identify the actions to address the discrepancy. (Check all that apply)

☐ Accept as is
notes: 0

☐ Rework
notes: 0

☐ Re-inspect
notes: 0

☐ Scrap
notes: 0

☐ Return to Supplier (Note: The Project Technical Representative is responsible for notifying the ANL Procurement Department)

System Integration

- Work flow control, notification and approval process.
 - Integration with SharePoint

Test Template for SharePoint Workflow

Status: draft

Version: 11

0.1 Hit this link to advance the SharePoint Workflow to the next team member: [PS Team](#)

1 Water Test

1.0.1 Hydrostatic Test
Machine #:

1.0.2 Calibrated
Pressure Gauge #:

1.0.3 Expiration date of
calibration:

1.1 TEST DATA

1.1.1 Target Test
Pressure

1.1.2 Target Pressure
Range

1.1.3 Pressure of the
part at the time of test:

1.1.4 Elapsed Time of
Test:

1.1.5 Pressure of the
part after the elapsed
time:

1.1.6 Visible leaks or
drips after elapsed time: ☐ YES

1.1.7 Test Piece blown
dry after test: ☐ YES

1.1.8 Comments:

1.1.9 ACCEPT ☐ YES

Basic inputs▼

Advanced control▼

Adjust location

Save

Preview

Generate numbering

Save as

Archive

Questions???