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SBND, ICARUS and POMS Update

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February 14, 2018

Overview

- Last time I did an overview of POMS and showed some of the many features implemented in POMS
- Since then POMS has implemented a workflow example that doesn't use project.py, but allows to go through all the production steps using the FIFE toolkit.
- SBND and ICARUS can tune this workflow in order to meet the experiment needs for MC production
- In this slides, I will show:
 - How to configure POMS
 - Workflow example for SBND
 - Issues found and solved – NOT depending on POMS
 - Existing documentation
- Q&A

How To Configure POMS

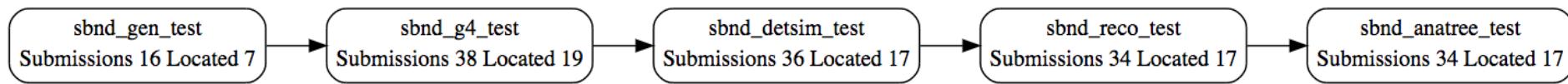
- Last time I mentioned there are two configuration models to interface to POMS:
 - Through a submission script that takes all configurations needed for the job submission and data handling
 - Through a configuration file that handles all info needed for the job submission and data handling
- Both are passed to POMS through the web interface.
- Future plans will allow users to also interface to POMS client and launch jobs through a command line and have POMS tracking, debugging and monitoring them.

Highly recommended

How To Configure POMS – Step by Step

- I will show step by step how to configure POMS for a general MC production workflow using:
 - A configuration file to interface with POMS
- It's a two steps configuration:
 - Edit the configuration file
 - Create the POMS Campaign stages

➤ Example of SBND workflow tested:



How To Configure POMS – step 1

1. Edit the configuration file:

➤ Example: [/sbnd/app/home/poms_test/cfg/sbnd_launch.cfg](#)

Example of Configuration File

```
# demo config

[global]
group      = sbnd
experiment = sbnd
wrapper    = file:///\${FIFE\_UTILS\_DIR}/libexec/fife\_wrap
version    = v06_48_00_MCC
quals      = e14:prof
fclfile    = override_me.
fclbasename=gen

[env_pass]
IFDH_DEBUG      = 1
SAM_EXPERIMENT=%(experiment)s
SAM_GROUP       =%(group)s
SAM_STATION     =%(experiment)s

[submit]
G              = %(group)s
N              = 5
#dataset       = %(dataset)s -- will override this on processing stages
resource-provides = usage_model=OPPORTUNISTIC,DEDICATED,OFFSITE
generate-email-summary = True
expected-lifetime = 3h
Timeout        = 2h
#disk          = 10GB
memory         = 2000MB
```



Example of Configuration File (cont'd)

```
[job_setup]
debug      = True
find_setups = True
source_1   = /cvmfs/sbnd.opensciencegrid.org/products/sbnd/setup_sbnd.sh
setup_1    = sbndcode %(version)s -q %(quals)s
#multifile = True -- may override this on processing stages
#getconfig = False
#ifdh_art  = False

[sam_consumer]
limit      = 1
appvers    = %(version)s

[executable]
name      = lar
arg_1     = -c
arg_2     = %(fclfile)s
arg_3     = -o
arg_4     = %(basename)s.root
arg_5     = -s
#arg_6    = input_filename -- will be added by multifile loop...

[job_output]
addoutput  = %(basename)s.root
rename     = unique
dest       = /pnfs/sbnd/scratch/sbndpro/poms_test/
declare_metadata = True
metadata_extractor=sam_metadata_dumper
# add_to_dataset = _poms_task -- override this on the gen stage(s)
add_location = True
```



How To Configure POMS – step 2

1. Create POMS Campaign Stages:

- Examples: `sbnd_gen_test`, `sbnd_g4_test`, `sbnd_detsim_test`,
`sbnd_reco_test`, `sbnd_anatree_test`

Create POMS Campaign Stages – Login

1. Log into POMS

<https://pomsgpvm01.fnal.gov/poms/>



Please enter your SERVICES user name and password.

Username

Password

Sign On

Fermilab Disclaimer

- Use services account to login
- Need an experiment affiliation and computing permissions to submit jobs – **Ask your experiment production coordinator**



Create POMS Campaign Stages – Home

The screenshot shows the POMS (Production Operations Management System) dashboard. The left sidebar contains navigation links for POMS, Calendar, External Links, Administration, Campaign Data, Configure Work, and Jobs. The main content area displays a "Dashboard" section with a "Services" heading. Under "Services", there is a table showing job launches: allowed (Allow or Hold). The table lists four components: fifemon_DCache (0/2) ✓, fifemon_FlifeBatch (0/2) ✓, fifemon_SAM (0/4) ✓, and fnlca_DCache (5/13) ✗. Below the table is a "Key" section with four color-coded categories: Good Component (0/total) ✓ (green), Warn Component (num_failed/total) ▲ (orange), Failed Component (num_failed/total) ✗ (red), and Unknown Component (0/total) ⓘ (grey).

Job launches: allowed	Allow	Hold
fifemon_DCache	(0/2)	✓
fifemon_FlifeBatch	(0/2)	✓
fifemon_SAM	(0/4)	✓
fnlca_DCache	(5/13)	✗

Key:

- Good Component (0/total) ✓
- Warn Component (num_failed/total) ▲
- Failed Component (num_failed/total) ✗
- Unknown Component (0/total) ⓘ

Create POMS Campaign Stages – Compose

Screenshot of the POMS Dashboard showing campaign stages.

Dashboard See everything up and running in real time

Services

Job launches: allowed Allow Hold

fifemon_DCache (0/2) ✓
fifemon_FlifeBatch (0/2) ✓
fifemon_SAM (0/4) ✓
fnlca_DCache (5/13) ✗

Key:

- Good Component (0/total) ✓
- Warn Component (num_failed/total) ▲
- Failed Component (num_failed/total) ✗
- Unknown Component (0/total) ⓘ

Jobs

All (Last Day): Failed_By Exit Code and Campaign Stage Name (Last Day)

Failed_By Exit Code and Campaign Stage Name (Last Week)

Failed_By Exit Code and Node Name (Last Day)

Failed_By Exit Code and CPU Type (Last Day)

 click

Create POMS Campaign Stages – Compose

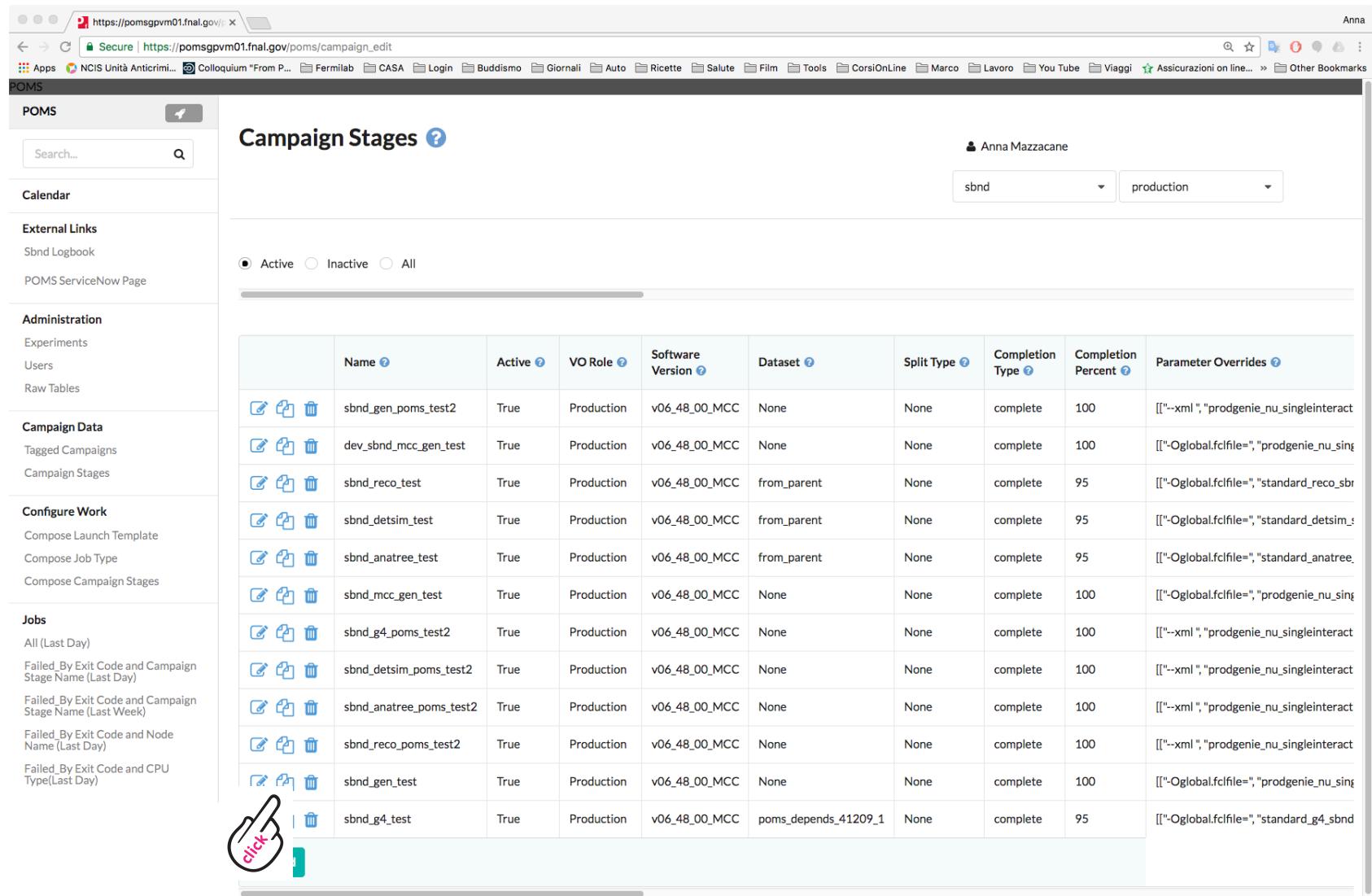
The screenshot shows the POMS Campaign Stages compose interface. On the left is a sidebar with navigation links: POMS, Search, Calendar, External Links (Sbnd Logbook, POMS ServiceNow Page), Administration (Experiments, Users, Raw Tables), Campaign Data (Tagged Campaigns, Campaign Stages), Configure Work (Compose Launch Template, Compose Job Type, Compose Campaign Stages), and Jobs (All (Last Day), Failed_By Exit Code and Campaign Stage Name (Last Day), Failed_By Exit Code and Campaign Stage Name (Last Week), Failed_By Exit Code and Node Name (Last Day), Failed_By Exit Code and CPU Type (Last Day)). At the bottom of the sidebar is a blue button labeled '+ Add'. The main area is titled 'Campaign Stages' and shows a table with the following data:

	Name	Active	VO Role	Software Version	Dataset	Split Type	Completion Type	Completion Percent	Parameter Overrides
	sbnd_gen_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	[{"-xml": "prodgenie_nu_singleinteract", "-Oglobal.fclfile": "prodgenie_nu_sbr.fcl"}]
	dev_sbnd_mcc_gen_test	True	Production	v06_48_00_MCC	None	None	complete	100	[{"-Oglobal.fclfile": "prodgenie_nu_sbr.fcl"}]
	sbnd_reco_test	True	Production	v06_48_00_MCC	from_parent	None	complete	95	[{"-Oglobal.fclfile": "standard_reco_sbr.fcl"}]
	sbnd_detsim_test	True	Production	v06_48_00_MCC	from_parent	None	complete	95	[{"-Oglobal.fclfile": "standard_detsim_sbr.fcl"}]
	sbnd_anatree_test	True	Production	v06_48_00_MCC	from_parent	None	complete	95	[{"-Oglobal.fclfile": "standard_anatree_sbr.fcl"}]
	sbnd_mcc_gen_test	True	Production	v06_48_00_MCC	None	None	complete	100	[{"-Oglobal.fclfile": "prodgenie_nu_sbr.fcl"}]
	sbnd_g4_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	[{"-xml": "prodgenie_nu_singleinteract", "-Oglobal.fclfile": "prodgenie_nu_sbr.fcl"}]
	sbnd_detsim_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	[{"-xml": "prodgenie_nu_singleinteract", "-Oglobal.fclfile": "prodgenie_nu_sbr.fcl"}]
	sbnd_anatree_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	[{"-xml": "prodgenie_nu_singleinteract", "-Oglobal.fclfile": "prodgenie_nu_sbr.fcl"}]
	sbnd_reco_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	[{"-xml": "prodgenie_nu_singleinteract", "-Oglobal.fclfile": "prodgenie_nu_sbr.fcl"}]
	sbnd_gen_test	True	Production	v06_48_00_MCC	None	None	complete	100	[{"-Oglobal.fclfile": "prodgenie_nu_sbr.fcl"}]
	sbnd_g4_test	True	Production	v06_48_00_MCC	poms_depends_41209_1	None	complete	95	[{"-Oglobal.fclfile": "standard_g4_sbnd.fcl"}]

➤ You can Add, Edit, Clone and Delete



Create POMS Campaign Stages – Clone



The screenshot shows the POMS campaign stages edit page at https://pomsgpvm01.fnal.gov/poms/campaign_edit. The user is logged in as Anna Mazzacane. The interface includes a sidebar with navigation links like POMS, Calendar, External Links, Administration, Campaign Data, Configure Work, and Jobs. The main content area displays a table of campaign stages with columns for Name, Active, VO Role, Software Version, Dataset, Split Type, Completion Type, Completion Percent, and Parameter Overrides. A search bar and filters for sbnd and production are also present. A hand icon with a red circle and the word 'click' is overlaid on the bottom left of the table.

	Name	Active	VO Role	Software Version	Dataset	Split Type	Completion Type	Completion Percent	Parameter Overrides
	sbnd_gen_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	<code>[{"--xml": "prodgenie_nu_singleinteract", "Oglobal.fclfile": "prodgenie_nu_singleinteract.fcl"}]</code>
	dev_sbnd_mcc_gen_test	True	Production	v06_48_00_MCC	None	None	complete	100	<code>[{"--Oglobal.fclfile": "prodgenie_nu_singleinteract.fcl"}]</code>
	sbnd_reco_test	True	Production	v06_48_00_MCC	from_parent	None	complete	95	<code>[{"--Oglobal.fclfile": "standard_reco_sbr.fcl"}]</code>
	sbnd_detsim_test	True	Production	v06_48_00_MCC	from_parent	None	complete	95	<code>[{"--Oglobal.fclfile": "standard_detsim_sbr.fcl"}]</code>
	sbnd_anatree_test	True	Production	v06_48_00_MCC	from_parent	None	complete	95	<code>[{"--Oglobal.fclfile": "standard_anatree.fcl"}]</code>
	sbnd_mcc_gen_test	True	Production	v06_48_00_MCC	None	None	complete	100	<code>[{"--Oglobal.fclfile": "prodgenie_nu_singleinteract.fcl"}]</code>
	sbnd_g4_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	<code>[{"--xml": "prodgenie_nu_singleinteract", "Oglobal.fclfile": "prodgenie_nu_singleinteract.fcl"}]</code>
	sbnd_detsim_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	<code>[{"--xml": "prodgenie_nu_singleinteract", "Oglobal.fclfile": "prodgenie_nu_singleinteract.fcl"}]</code>
	sbnd_anatree_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	<code>[{"--xml": "prodgenie_nu_singleinteract", "Oglobal.fclfile": "prodgenie_nu_singleinteract.fcl"}]</code>
	sbnd_reco_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	<code>[{"--xml": "prodgenie_nu_singleinteract", "Oglobal.fclfile": "prodgenie_nu_singleinteract.fcl"}]</code>
	sbnd_gen_test	True	Production	v06_48_00_MCC	None	None	complete	100	<code>[{"--Oglobal.fclfile": "prodgenie_nu_singleinteract.fcl"}]</code>
	sbnd_g4_test	True	Production	v06_48_00_MCC	poms_depends_41209_1	None	complete	95	<code>[{"--Oglobal.fclfile": "standard_g4_sbnd.fcl"}]</code>

Create POMS Campaign Stages – Clone

- Change the Name
- Overrides Parameter of the configuration file (if needed)
- Create a dependency (for example, g4 stage depends on gen stage)
- Choose the Launch Template and Job Type from the drop down menu
- Click Clone

Campaign Stage Editor (sbnd)

Name: CLONE OF: sbnd_

VO Role: Production

State: Active

Exp. Software Version: v06_48_00_MCC

Dataset: None

Dataset Split Type: None

Completion Type: Complete

Completion %: 100

Parameter Overrides:

```
[{"Oglobal.fclfile": "prodgenie_nu_singleinteraction_cryostat_gsimple-configb-v1.fcl"}, {"Osbatch.N": "10"}, {"Oexecutable.arg_5": "-n15"}]
```

Depends On:

```
[{"campaigns": [], "file_patterns": []}]
```

LAUNCH TEMPLATE

Launch Template: sbnd_launch_test_1

Host: sbndgpvm01.fnal.gov

Account: sbndpro

Setup:

```
export X509_USER_PROXY=/opt/sbndpro/sbndpro.Production.proxy;
setup fife_utils v3_2_0,poms_client , poms_jobsub_wrapper
```

JOB TYPE

Job Type: sbnd_gen_fife_launch_test

Input Files/Job: 0

Output Files/Job: 0

Launch Script:

```
fife_launch -c
/sbnd/app/home/poms_test/cfg/sbnd_launch.cfg
```

Definition Parameters:

```
-Oexecutable.arg_5=-r
-Oglobal.fclfile=prodgenie_nu_singleinteraction_cryostat_gsimple-configb-v1.fcl
```

Cancel

Clone



Create POMS Campaign Stages – Run



The screenshot shows the POMS campaign stages management interface on a web browser. The URL is https://pomsgpvm01.fnal.gov/poms/campaign_edit. The page title is "Campaign Stages". The user is logged in as Anna Mazzacane.

On the left, there is a sidebar with the following navigation:

- POMS
- Search...
- Calendar
- External Links
 - Sbnd Logbook
 - POMS ServiceNow Page
- Administration
 - Experiments
 - Users
 - Raw Tables
- Campaign Data
 - Tagged Campaigns
 - Campaign Stages
- Configure Work
 - Compose Launch Template
 - Compose Job Type
 - Compose Campaign Stages
- Jobs
 - All (Last Day)
 - Failed_By Exit Code and Campaign Stage Name (Last Day)
 - Failed_By Exit Code and Campaign Stage Name (Last Week)
 - Failed_By Exit Code and Node Name (Last Day)
 - Failed_By Exit Code and CPU Type (Last Day)

The main content area displays a table of campaign stages. The table has the following columns:

	Name	Active	VO Role	Software Version	Dataset	Split Type	Completion Type	Completion Percent	Parameter Overrides
	sbnd_gen_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	["-xml", "prodgenie_nu_singleinteract"]
	dev_sbnd_mcc_gen_test	True	Production	v06_48_00_MCC	None	None	complete	100	["-Oglobal.fclfile", "prodgenie_nu_singl"]
	sbnd_reco_test	True	Production	v06_48_00_MCC	from_parent	None	complete	95	["-Oglobal.fclfile", "standard_reco_sbr"]
	sbnd_detsim_test	True	Production	v06_48_00_MCC	from_parent	None	complete	95	["-Oglobal.fclfile", "standard_detsim_s"]
	sbnd_anatree_test	True	Production	v06_48_00_MCC	from_parent	None	complete	95	["-Oglobal.fclfile", "standard_anatree_s"]
	sbnd_mcc_gen_test	True	Production	v06_48_00_MCC	None	None	complete	100	["-Oglobal.fclfile", "prodgenie_nu_singl"]
	sbnd_g4_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	["-xml", "prodgenie_nu_singleinteract"]
	sbnd_detsim_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	["-xml", "prodgenie_nu_singleinteract"]
	sbnd_anatree_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	["-xml", "prodgenie_nu_singleinteract"]
	sbnd_reco_poms_test2	True	Production	v06_48_00_MCC	None	None	complete	100	["-xml", "prodgenie_nu_singleinteract"]
	sbnd_gen_test	True	Production	v06_48_00_MCC	None	None	complete	100	["-Oglobal.fclfile", "prodgenie_nu_singl"]
	sbnd_g4_test	True	Production	v06_48_00_MCC	poms_depends_41209_1	None	complete	95	["-Oglobal.fclfile", "standard_g4_sbnd"]

At the bottom left of the table, there is a green button labeled "+ Add".



Create POMS Campaign Stages – Run

Screenshot of the POMS Campaign Stages interface on https://pomsgpvm01.fnal.gov/

The page shows a list of campaign stages with columns for Name, Active, Tags, Hold By, Creator, and Created.

Select All	Name	Active	Tags	Hold By	Creator	Created
<input type="checkbox"/>	dev_sbnd_mcc_gen_test	Yes			mazzacan	2018-02-01 16:27:13
<input type="checkbox"/>	sbnd_mcc_gen_test	Yes			mengel	2018-02-08 13:56:31
<input type="checkbox"/>	sbnd_gen_test	Yes	mcc_test_1		mengel	2018-02-08 15:16:33
<input type="checkbox"/>	sbnd_anatree_poms_test2	Yes	mcc_test_2		mazzacan	2018-02-08 08:21:24
<input type="checkbox"/>	sbnd_reco_poms_test2	Yes	mcc_test_2		mazzacan	2018-02-08 08:19:42
<input type="checkbox"/>	sbnd_detsim_poms_test2	Yes	mcc_test_2		mazzacan	2018-02-08 08:18:34
<input type="checkbox"/>	sbnd_g4_poms_test2	Yes	mcc_test_2		mazzacan	2018-02-07 18:54:02
<input type="checkbox"/>	sbnd_gen_poms_test2	Yes	mcc_test_2		mazzacan	2018-02-01 22:18:02
<input type="checkbox"/>	sbnd_g4_test	Yes	mcc_test_1		mengel	2018-02-07 13:31:09
<input type="checkbox"/>	sbnd_anatree_test	Yes	mcc_test_1		mengel	2018-02-07 13:28:09
<input type="checkbox"/>	sbnd_detsim_test	Yes	mcc_test_1		mengel	2018-02-07 13:28:43
<input type="checkbox"/>	sbnd_reco_test	Yes	mcc_test_1		mengel	2018-02-07 13:30:14

Create POMS Campaign Stages – Run

Screenshot of the POMS Campaign Stages interface on https://pomsgpvm01.fnal.gov/

The page shows a list of campaigns with columns for Name, Active, Tags, Hold By, Creator, and Created. A red circle with a 'click' arrow points to the 'Active' column header.

Select All	Name	Active	Tags	Hold By	Creator	Created
<input type="checkbox"/>	dev_sbnd_mcc_gen_test	Yes			mazzacan	2018-02-01 16:27:13
<input type="checkbox"/>	sbnd_mcc_gen_test	Yes			mengel	2018-02-08 13:56:31
<input type="checkbox"/>	bnd_gen_test	Yes	mcc_test_1		mengel	2018-02-08 15:16:33
<input type="checkbox"/>	sbnd_anatree_poms_test2	Yes	mcc_test_2		mazzacan	2018-02-08 08:21:24
<input type="checkbox"/>	sbnd_reco_poms_test2	Yes	mcc_test_2		mazzacan	2018-02-08 08:19:42
<input type="checkbox"/>	sbnd_detsim_poms_test2	Yes	mcc_test_2		mazzacan	2018-02-08 08:18:34
<input type="checkbox"/>	sbnd_g4_poms_test2	Yes	mcc_test_2		mazzacan	2018-02-07 18:54:02
<input type="checkbox"/>	sbnd_gen_poms_test2	Yes	mcc_test_2		mazzacan	2018-02-01 22:18:02
<input type="checkbox"/>	sbnd_g4_test	Yes	mcc_test_1		mengel	2018-02-07 13:31:09
<input type="checkbox"/>	sbnd_anatree_test	Yes	mcc_test_1		mengel	2018-02-07 13:28:09
<input type="checkbox"/>	sbnd_detsim_test	Yes	mcc_test_1		mengel	2018-02-07 13:28:43
<input type="checkbox"/>	sbnd_reco_test	Yes	mcc_test_1		mengel	2018-02-07 13:30:14

Create POMS Campaign Stages – Run

Secure | https://pomsgrpv01.fnal.gov/poms/campaign_info?campaign_id=1164

NCIS Unità Anticrimi | Colloquium | From P... | Fermilab | CASA | Login | Buddismo | Giornali | Auto | Ricette | Salute | Film | Tools | CorsiOnLine | Marco | Lavoro | You Tube | Viaggi | Assicurazioni on line... | International Master... | CERN Users' pages | Getting Started | Other Bookmarks

POMS

Search... Q

Calendar

External Links Sbnd Logbook

POMS ServiceNow Page

Administration Experiments Users Raw Tables

Campaign Data Tagged Campaigns Campaign Stages

Configure Work Compose Launch Template Compose Job Type Compose Campaign Stages

Jobs All (Last Day) Failed_By Exit Code and Campaign Stage Name (Last Day) Failed_By Exit Code and Name (Last Day) Failed_By Exit Code and CPU Type (Last Day)

Campaign Stage Info Campaign Stage sbnd_gen_test

Anna Mazzacane sbnd production

Total	Active Campaign Jobs				Jobs in 5.1 days ending 2018-02-13 23:37:35				Stats	
All	Idle	Running	Held	Total Completed	Not Located	Located	Removed	%Efficiency	Pending	
70	0	0	0	70	65	5	0	0	0	

Reports/Status

- Job Efficiency Histogram (1 month)
- Job Wall Clock Time Histogram (1 month)
- Job CPU Time Histogram (1 month)
- Copy In Time Histogram (1 month)
- Job Copy Out Time Histogram
- Day by Day Spreadsheet (1wk)
- Submission Time Bars (1wk)
- Campaign Submission Files
- Kibana Usage Info for Campaign

Actions

- Edit Campaign
- Launch Campaign Jobs Now
- Kill running/idle Jobs for Campaign
- Hold running/idle Jobs for Campaign
- Release held Jobs for Campaign
- Schedule Future Job Launches
- Mark Campaign Inactive

Tags

Enter tag +
mcc_test_1

Campaign

Name: sbnd_gen_test
Experiment: sbnd
Dataset: None
Software Version: v06_48_00_MCC
VO Role: Production
Param Overrides:
[-Oglobal.fclfile="prodgenie_nu_singleinteraction_cryostat_gsimple-configb-v1.fcl"]
[-Osubmit.N="10"]
[-Oexecutable.arg_5="n15"]
cs_split_type: None
cs_split_dimensions: None
cs_last_split: None

Active: True
Created: 2018-02-08 15:16:33.375074-06:00
Creator: mengel
Updated: 2018-02-08 16:22:23.859766-06:00
Updater: mengel

Job Type

Name: sbnd_gen_fife_launch_test
Launch Script: fife.launch -c /sbnd/app/home/poms_test/cfg/sbnd_launch.cfg
Definition Parameters:
[-Oexecutable.arg_5=""]
[-Ojob_output.add_to_dataset=".poms_task"]
[-Oglobal.fclfile="prodgenie_nu_singleinteraction_cryostat_gsimple-configb-v1.fcl"]
Input Files Per Job: 0
Output Files Per Job: 0
Output File Patterns: %root
Creator: mazzacan
Created: 2018-02-01 16:09:49.042078-06:00
Updater: mazzacan
Updated: 2018-02-07 13:25:37.148102-06:00

Launch Template

Name: sbnd_launch_test_1
Experiment: sbnd
Launch Host: sbndgpvm01.fnal.gov
Launch Account: sbndpro
Launch Setup: export X509_USER_PROXY=/opt/sbndpro/sbndpro.Production.proxy; setup fife_utils v3_2_0, poms_client, poms_jobsub_wrapper
Creator: mazzacan
Created: 2018-02-01 15:50:09.308688-06:00

dbweb0.fnal.gov/ECL/sbnd



Create POMS Campaign Stages – Run

Secure | https://poms(gpvm01.fnal.gov/)

Campaign Stage Info ?
Campaign Stage sbnd_gen_test

Anna Mazzacane
sbnd production

Total	Active Campaign Jobs			Jobs in 5.1 days ending 2018-02-13 23:37:35				Stats		
All	Idle	Running	Held	Total Completed	Not Located	Located	Removed	%Efficiency	Pending	
70	0	0	0	70	65	5	0	0	0	

Reports/Status

click

Actions

- Edit Campaign
- Launch Campaign Jobs Now
- Kill running/idle Jobs for Campaign
- Hold running/idle Jobs for Campaign
- Release held Jobs for Campaign
- Schedule Future Job Launches
- Mark Campaign Inactive

Tags

Enter tag +

mcc_test_1

Campaign

Name: sbnd_gen_test
Experiment: sbnd
Dataset: None
Software Version: v06_48_00_MCC
VO Role: Production
Param Overrides: [!-Oglobal.fclfile="prodgenie_nu_singleinteraction_cryostat_gsimple-configb-v1.fcl"]
[!-Ossubmit.N="10"]
[!-Oexecutable.arg_5="n15"]
cs_split_type: None
cs_split_dimensions: None
cs_last_split: None

Active: True
Created: 2018-02-08 15:16:33.375074-06:00
Creator: mengel
Updated: 2018-02-08 16:22:23.859766-06:00
Updater: mengel

Job Type

Name: sbnd_gen_fife_launch_test
Launch Script: fife.launch -c /sbd/app/home/poms_test/cfg/sbnd_launch.cfg
Definition Parameters: [
[-Oexecutable.arg_5="']
[-Ojob_output.add_to_dataset=".poms_task"]
[-Oglobal.fclfile="prodgenie_nu_singleinteraction_cryostat_gsimple-configb-v1.fcl"]]
Input Files Per Job: 0
Output Files Per Job: 0
Output File Patterns: %root
Creator: mazzacan
Created: 2018-02-01 16:09:49.042078-06:00
Updater: mazzacan
Updated: 2018-02-07 13:25:37.148102-06:00

Launch Template

Name: sbnd_launch_test_1
Experiment: sbnd
Launch Host: sbndgpvm01.fnal.gov
Launch Account: sbndpro
Launch Setup: export X509_USER_PROXY=/opt/sbndpro/sbndpro.Production.proxy; setup fife_utils v3_2_0, poms_client, poms_jobsub_wrapper
Creator: mazzacan
Created: 2018-02-01 15:50:09.308688-06:00

Create POMS Campaign Stages – Schedule

Screenshot of the POMS campaign stage info page for sbnd_gen_test.

Campaign Stage Info [?](#)
Campaign Stage sbnd_gen_test

Anna Mazzacane
sbnd [▲](#) production [▼](#)

Total	Active Campaign Jobs			Jobs in 5.1 days ending 2018-02-13 23:37:35				Stats		
All ?	Idle ?	Running ?	Held ?	Total Completed ?	Not Located ?	Located ?	Removed ?	%Efficiency ?	Pending ?	
70	0 ▼	0	0	70	65	5	0	0	0	

Reports/Status

- [Job Efficiency Histogram \(1 month\)](#)
- [Job Wall Clock Time Histogram \(1 month\)](#)
- [Job CPU Time Histogram \(1 month\)](#)
- [Copy In Time Histogram \(1 month\)](#)
- [Job Copy Out Time Histogram](#)
- [Day by Day Spreadsheet \(1wk\)](#)
- [Submission Time Bars \(1wk\)](#)
- [Campaign Submission Files](#)
- [Kibana Usage Info for Campaign](#)

Actions

- Edit Campaign
- Launch Campaign Jobs Now
- Kill running/idle Jobs for Campaign
- Hold running/idle Jobs for Campaign
- Release held Jobs for Campaign
- Schedule Future Job Launches
- Mark Campaign Inactive

Tags

Enter tag [+](#)
mcc_test_1 [edit](#) [remove](#)

Campaign

Name: sbnd_gen_test
Experiment: sbnd
Dataset: None
Software Version: v06_48_00_MCC
VO Role: Production
Param Overrides:
[
 `!-Oglobal.fclfile`,"prodgenie_nu_singleinteraction_cryostat_gsimple-configb-v1.fcl"]
 `!-Ossubmit.N`,"10"]
 `!-Oexecutable.arg_5`,"`n15`"]
cs_split_type:None
cs_split_dimensions:None
cs_last_split:None [Reset](#)

Active: True
Created: 2018-02-08 15:16:33.375074-06:00
Creator: mengel
Updated: 2018-02-08 16:22:23.859766-06:00
Updater: mengel

Job Type

Name: sbnd_gen_fife_launch_test
Launch Script: fife_launch -c /sbd/app/home/poms_test/cfg/sbnd_launch.cfg
Definition Parameters:
[
 `!-Oexecutable.arg_5`,"`'`"]
 `!-Ojob_output.add_to_dataset`,"`'_poms_task`"]
 `!-Oglobal.fclfile`,"prodgenie_nu_singleinteraction_cryostat_gsimple-configb-v1.fcl"]]
Input Files Per Job: 0
Output Files Per Job: 0
Output File Patterns: %root
Creator: mazzacan
Created: 2018-02-01 16:09:49.042078-06:00
Updater: mazzacan
Updated: 2018-02-07 13:25:37.148102-06:00

Launch Template

Name: sbnd_launch_test_1
Experiment: sbnd
Launch Host: sbndgpvm01.fnal.gov
Launch Account: sbndpro
Launch Setup: export X509_USER_PROXY=/opt/sbndpro/sbndpro.Production.proxy; setup fife_utils v3_2_0, poms_client, poms_jobsub_wrapper
Creator: mazzacan
Created: 2018-02-01 15:50:09.308688-06:00

Create POMS Campaign Stages – Schedule

Campaign Launch Schedule

Current Crontab Entry

```
10 0,2,4,6,8,10,12,14,16,18,20,22 * * * /home/poms/products/poms/current/cron/launcher --campaign_id=42 # POMS_CAMPAIGN_ID=42
```

Update Entry form

Minutes(s) of the hour:

**Fill**

Hour(s) of day:

Day(s) of week:

Any Sunday Monday Tuesday Wednesday Thursday Friday Saturday

Day(s) of Month:



Create POMS Campaign Stages – Schedule

Campaign Launch Schedule

Current Crontab Entry

```
10 0,2,4,6,8,10,12,14,16,18,20,22 * * * /home/poms/products/poms/current/cron/launcher --campaign_id=42 # POMS_CAMPAIGN_ID=42
```

Update Entry form

Minutes(s) of the hour:

Hour(s) of day:

Day(s) of week:

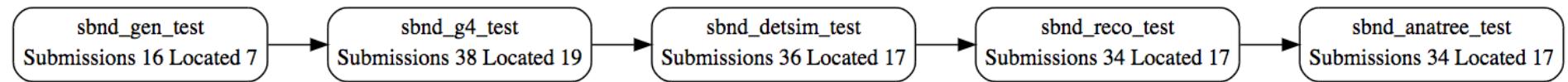
Any Sunday Monday Tuesday Wednesday Thursday Friday Saturday

Day(s) of Month:



Workflow Example for SBND

- We successfully ran the following workflow for SBND



- Each stage of the workflow takes a SAM dataset input with the output files of the previous stage
- Each stage starts automatically when the previous one is finished

Workflow Example for SBND



The screenshot shows a web browser window for the URL https://pomsgpvm01.fnal.gov/poms/show_campaigns. The page title is "POMS: Campaign Stages". The sidebar on the left includes links for "POMS", "Search...", "Calendar", "External Links" (with "Sbnd Logbook" and "POMS ServiceNow Page"), "Administration" (with "Experiments", "Users", and "Raw Tables"), "Campaign Data" (with "Tagged Campaigns" and "Campaign Stages"), and "Configure Work" (with "Compose Launch Template", "Compose Job Type", and "Compose Campaign Stages"). The main content area displays a table of campaign data with the following columns: Select All, Name, Active, Tags, Hold By, Creator, and Created. The table lists five entries, all of which have "mcc_test_1" as their tag and "mengel" as their creator. The "Active" column shows values like "Yes" and "No". The "Created" column shows dates ranging from February 7, 2018, to February 8, 2018.

Select All	Name	Active	Tags	Hold By	Creator	Created
<input type="checkbox"/>	sbnd_gen_test	Yes	mcc_test_1		mengel	2018-02-08 15:16:33
<input type="checkbox"/>	sbnd_g4_test	Yes	mcc_test_1		mengel	2018-02-07 13:31:09
<input type="checkbox"/>	sbnd_anatree_test	Yes	mcc_test_1		mengel	2018-02-07 13:28:09
<input type="checkbox"/>	sbnd_detsim_test	Yes	mcc_test_1		mengel	2018-02-07 13:28:43
<input type="checkbox"/>	sbnd_reco_test	Yes	mcc_test_1		mengel	2018-02-07 13:30:14

Workflow Example for SBND

Screenshot of the POMS Campaign Tags interface for the SBND campaign.

The URL is <https://pomsgpvm01.fnal.gov/>.

The page title is "POMS: Campaign Tags for sbnd production".

The sidebar includes:

- POMS
- Search...
- Calendar
- External Links
 - Sbnd Logbook
 - POMS ServiceNow Page
- Administration
 - Experiments
 - Users
 - Raw Tables
- Campaign Data
 - Tagged Campaigns
 - Campaign Stages
- Configure Work
 - Compose Launch Template
 - Compose Job Type
 - Compose Campaign Stages

The main content area shows "Campaign Tags" for the user Anna Mazzacane. It displays two campaign tags:

- mcc_test_1
- mcc_test_2

For the second tag, "mcc_test_2", there is a red hand icon with the word "click" pointing to the delete icon.

Workflow Example for SBND

S https://pomsgpvm01.fnal.gov/j... X

Secure | https://pomsgpvm01.fnal.gov/poms/campaign_deps?tag=mcc_test_1

Anna

Apps NCIS Unità Anticrimi... Colloquium "From P... Fermilab CASA Login Buddismo Giornali Auto Ricette Salute Film Tools CorsiOnLine Marco Lavoro Other Bookmarks

POMS Campaign Dependencies

POMS

Search...

Calendar

External Links

Sbnd Logbook

POMS ServiceNow Page

Administration

Experiments

Users

Raw Tables

Campaign Data

Tagged Campaigns

Campaign Stages

Configure Work

Compose Launch Template

Compose Job Type

Compose Campaign Stages

Campaign Dependencies for Tag mcc_test_1

see dependencies

Anna Mazzacane

sbnd production

```
graph LR; A["sbnd_gen_test  
Submissions 16 Located 7"] --> B["sbnd_g4_test  
Submissions 38 Located 19"]; B --> C["sbnd_detsim_test  
Submissions 36 Located 17"]; C --> D["sbnd_reco_test  
Submissions 34 Located 17"]; D --> E["sbnd_anatree_test  
Submissions 34 Located 17"];
```

Workflow Example for SBND

Screenshot of the POMS (Production Management System) interface for campaign tags.

The URL is <https://pomsgpvm01.fnal.gov/>.

The page title is "POMS: Campaign Tags for".

The left sidebar includes:

- POMS
- Search... (with magnifying glass icon)
- Calendar
- External Links
 - Sbnd Logbook
 - POMS ServiceNow Page
- Administration
 - Experiments
 - Users
 - Raw Tables
- Campaign Data
 - Tagged Campaigns
 - Campaign Stages
- Configure Work
 - Compose Launch Template
 - Compose Job Type
 - Compose Campaign Stages

The main content area shows "Campaign Tags" for user Anna Mazzacane, with filters set to "sbnd" and "production".

Two campaign tags are listed:

- mcc_test_1
- mcc_test_2

For the second tag, "mcc_test_2", there is a hand cursor icon with the word "click" written over it, indicating an interactive element.

Workflow Example for SBND

https://pomsgpvm01.fnal.gov/ Anna

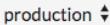
Secure | https://pomsgpvm01.fnal.gov/poms/campaign_time_bars?tag=mcc_test_1&tdays=7&tmax=

Apps NCIS Unità Anticrimi... Colloquium "From P... Fermilab CASA Login Buddismo Giornali Auto Ricette Salute Film Tools CorsiOnLine Marco Lavoro Other Bookmarks

Search... 

Calendar

External Links Sbnd Logbook POMS ServiceNow Page

Campaign mcc_test_1 Submissions  2018-02-07 08:57 to 2018-02-14 08:57  

<previous 7.0 days | next 7.0 days > 

Campaign sbnd_reco_test Job States Campaign sbnd_detsim_test Job States

Completed In 7.0 days ending 2018-02-14 08:57							Completed In 7.0 days ending 2018-02-14 08:57												
Total	Active	All	Idle	Running	Held	Total	Completed	Not Located	Located	Removed	All	Idle	Running	Held	Total	Completed	Not Located	Located	Removed
46	0	0	0	46		10		36	0		64	0	0	0	64		14	50	0

Campaign sbnd_anatree_test Job States Campaign sbnd_g4_test Job States

Completed In 7.0 days ending 2018-02-14 08:57							Completed In 7.0 days ending 2018-02-14 08:57												
Total	Active	All	Idle	Running	Held	Total	Completed	Not Located	Located	Removed	All	Idle	Running	Held	Total	Completed	Not Located	Located	Removed
50	0	0	0	50		9		41	0		196	0	0	0	196		101	95	0

Campaign sbnd_gen_test Job States

Completed In 7.0 days ending 2018-02-14 08:57										
Total	Active	All	Idle	Running	Held	Total	Completed	Not Located	Located	Removed
70	0	0	0	70		65		5	0	

Campaign Data Tagged Campaigns Campaign Stages

Configure Work Compose Launch Template Compose Job Type Compose Campaign Stages

Workflow Example for SBND

Secure <https://pomsgpv01.fnal.gov/> Project sbndpro-fife_wrap_201 Metadata for file anatree_c-3-1 Anna

NCIS Unità Anticrimi... Colloquium "From P... Fermilab CASA Login Buddismo Giornali Auto Ricette Salute Film Tools CorsiOnLine Marco Lavoro YouTube Viaggi Other Bookmarks

POMS Job Triage

POMS Search... 

Calendar

External Links Sbnd Logbook

POMS ServiceNow Page

Administration Experiments Users Raw Tables

Campaign Data Tagged Campaigns Campaign Stages

Configure Work Compose Launch Template Compose Job Type Compose Campaign Stages

Jobs All (Last Day) Failed_By Exit Code and Campaign Stage Name (Last Day) Failed_By Exit Code and Campaign Stage Name (Last Week) Failed_By Exit Code and Node Name (Last Day) Failed_By Exit Code and CPU Type (Last Day)

Job Triage ? triage your jobs

Anna Mazzacane sbnd production

Job Triage:

Status	CPU Efficiency	Host Site	Node Name	CPU	Jobsub_Job_ID	Submission ID	Usr Exe Exit Code	Updated
Completed	None	Wisconsin	e369.ctc.wisc.edu	GenuineIntel@4999	3B77825.0@jobsub02.fnal.gov	41369	0	2018-02-09 14:55:16.829930-06:00

 SAM Project

http://samweb.fnal.gov:8480/station_monitor/sbnd/stations/sbnd/projects/sbndpro-fife_wrap_20180209_145004_2979455

Logs Refetch 

Size Name

33172	fife_wrap
3344	fife_wrap_20180209_145004_2979455_1_1.cmd
8935	fife_wrap_20180209_145004_2979455_1_1.wrap.sh
3344	fife_wrap_20180209_145004_2979455_2_1.cmd
8935	fife_wrap_20180209_145004_2979455_2_1.wrap.sh
3344	fife_wrap_20180209_145004_2979455_3_1.cmd
8935	fife_wrap_20180209_145004_2979455_3_1.wrap.sh
3344	fife_wrap_20180209_145004_2979455_4_1.cmd
8935	fife_wrap_20180209_145004_2979455_4_1.wrap.sh
3344	fife_wrap_20180209_145004_2979455_5_1.cmd
8935	fife_wrap_20180209_145004_2979455_5_1.wrap.sh
3344	fife_wrap_20180209_145004_2979455_6_1.cmd
8935	fife_wrap_20180209_145004_2979455_6_1.wrap.sh
3344	fife_wrap_20180209_145004_2979455_7_1.cmd
8935	fife_wrap_20180209_145004_2979455_7_1.wrap.sh
3344	fife_wrap_20180209_145004_2979455_8_1.cmd
8935	fife_wrap_20180209_145004_2979455_8_1.wrap.sh
3344	fife_wrap_20180209_145004_2979455_9_1.cmd
8935	fife_wrap_20180209_145004_2979455_9_1.wrap.sh
3350	fife_wrap_20180209_145004_2979455_10_1.cmd
8936	fife_wrap_20180209_145004_2979455_10_1.wrap.sh
2917	fife_wrap_20180209_145004_2979455_1.dag
4356	fife_wrap_20180209_145004_2979455.sambegin.sh
2675	fife_wrap_20180209_145004_2979455_1.dagbegin.cmd
20	fife_wrap_20180209_145004_2979455.dagend.sh

Workflow Example for SBND

https://pomsgrpv01.fnal.gov/ Project sbndpro-life_wrap_201 Project sbndpro-life_wrap_201 Metadata for file anatre_c-3 Anna samweb.fnal.gov:8480/station_monitor/sbnd/stations/sbnd/projects/sbndpro-life_wrap_20180209.145004_2979455 Apps NCIS Unità Anticrimi... Colloquium "From P... Fermilab CASA Login Buddismo Giornali Auto Ricette Salute Film Tools CorsiOnLine Marco Lavoro YouTube Viaggi Other Bookmarks

Project sbndpro-life_wrap_20180209_145004_2979455
Generated at 2018-02-14 09:41:38

Project Id	342
Status	ended complete
Owner	sbndpro
Start time	2018-02-09 14:54:50
Dataset definition	poms_depends_41367_1
Snapshot Id	202
Files in snapshot	10
Files seen	10
Processes	11
Busy processes	0
Finished processes	10
Waiting processes	0
Error processes	0
Mean wait time (per file)	0s
Mean busy time (per file)	3min 6s
Last activity	project ended at 2018-02-09 16:03:24

Processes

Process Id	Node name	Status	Description	Files seen	Last change	Waiting for	Mean wait time (per file)	Mean busy time (per file)
707	e369.cttc.wisc.edu	completed	3877825.0@jobsb02.fnal.gov	1	2018-02-09 15:02:27 (process ended - completed)	-	0s	2min 33s
708	c-4-35.aglt2.org	completed	3877822.0@jobsb02.fnal.gov	1	2018-02-09 14:58:50 (process ended - completed)	-	0s	2min 53s
723	e436.cttc.wisc.edu	completed	3877826.0@jobsb02.fnal.gov	1	2018-02-09 15:03:52 (process ended - completed)	-	0s	4min 21s
724	c-4-37.aglt2.org	completed	3877827.0@jobsb02.fnal.gov	1	2018-02-09 14:56:36 (process ended - completed)	-	0s	50s
725	e451.cttc.wisc.edu	completed	3877819.0@jobsb02.fnal.gov	1	2018-02-09 15:10:58 (process ended - completed)	-	0s	12min 59s

Workflow Example for SBND

The screenshot shows a web browser window titled "POMS" with the URL "samweb.fnal.gov:8480/sam/sbnd/api/files/name/anatree_c-3-9.aglt2.org_1518209945_2174240_0.root". The page displays detailed metadata for the file, including its name, ID, creation date, user, size, checksum, content status, file type, format, application, event count, first and last event numbers, start and end times, and parents. The "Locations" tab is selected.

File Name:	anatree_c-3-9.aglt2.org_1518209945_2174240_0.root
File Id:	5252
Create Date:	2018-02-09T20:59:16+00:00
User:	sbndpro
File Size:	2260158102
Checksum:	enstore:3249849218
Content Status:	good
File Type:	unknown
File Format:	artroot
Application:	demo demo v06_48_00_mcc
Event Count:	15
First Event:	1
Last Event:	15
Start Time:	2018-02-09T20:58:56+00:00
End Time:	2018-02-09T20:59:02+00:00
Parents:	reco_e449.chtc.wisc.edu_1518208556_14504_0.root

Found Issues and Solutions Not Depending on POMS

➤ We had to solve the following issues that not depends on POMS:

- Missing library for the g4 stage like libXmu.so
Hooked them up with the NOvA cvmfs lib area.
Still saw failures in some offsite nodes, so ran the g4 stage onsite
Suggested solution: check which libraries you really need
- Art's "SAM metadata dumper" can generate metadata keys that aren't valid for SAM
Added code to filter them out.
Suggested solution: filter the “SAM compliant ones” and drop the rest

Get Help from POMS Team

The screenshot shows the POMS dashboard interface. On the left is a sidebar with various links: Apps, NCIS Unità Anticrimi..., Colloquium "From P... (highlighted), Fermilab, CASA, Login, Buddismo, Giornali, Auto, Ricette, Salute, Film, Tools, CorsiOnLine, Marco, Lavoro, You Tube, Viaggi, Assicurazioni on line..., Other Bookmarks. A red circle with a 'click' arrow points to the 'Colloquium' link.

The main dashboard area has a header "Dashboard" with a question mark icon and a subtitle "See everything up and running in real time". It shows a section titled "Services" with two dropdown menus: "sbnd" and "production".

Under "Services", there's a table showing job launches:

Job launches: allowed	Allow	Hold
fifemon_DCache	(0/2) ✓	
fifemon_FlifeBatch	(0/2) ✓	
fifemon_SAM	(0/4) ✓	
fnlca_DCache	(5/13) ✗	

A "Key:" section at the bottom defines the color coding: Green for "Good Component (0/total)", Orange for "Warn Component (num_failed/total)", Red for "Failed Component (num_failed/total)", and Grey for "Unknown Component (0/total)".



Get Help from POMS Team

The screenshot shows a web browser window for the Fermilab Service Management system. The URL is https://fermi.service-now.com/nav_to.do?uri=%2Fservice_offering.do%3Fsys_id%3D2deaa5b56f70520032544d1fde3ee40c. The page title is "POMS | ServiceNow Service M...". The top navigation bar includes links for Apps, NCIS Unità Anticrimi..., Colloquium "From P..., Fermilab, CASA, Login, Buddismo, Giornali, Auto, Ricette, Salute, Film, Tools, CorsiOnLine, Marco, Lavoro, and Other Bookmarks. The user is logged in as Anna Mazzacane.

POMS

Service Offering
POMS

Overview:
POMS is a system for managing experiments production computing requests.

Description:
The Production Operations Management Service (POMS) will assist the production teams and the analysis groups of the experiments in their scientific computational work.

POMS provides a system that enables automated jobs submission on distributed resources according customers' requests and subsequent monitoring and recovery of failed submissions, debugging and record keeping.

- Deployment of the application and the database schema
- Running of the application.
- Make changes to accommodate experiments needs requests.

The customer is the de-facto Owner and Information Manager for the outputs of POMS.

Support Availability:
Weekdays, 8:00 am to 5:00 pm (excluding holidays)

Service Area:

Get Help

- Ask a question about this service
- Report a service outage or incident
- Submit a request to service providers
- Give us feedback about this service

More Information/Need Help?
Service Desk
Monday - Friday, 8-5
<https://fermi.service-now.com> or 630.840.2345 or walk-ups (WHGF)



click

Existing Documentation

The screenshot shows a web browser window with the following details:

- Address Bar:** https://cdcvn.fnal.gov/redmine/projects/prod_mgmt_db/wiki
- User Information:** Logged In as **mazzacan** | My account | Sign out
- Page Title:** Production Operations Management Service (POMS)
- Page Content:**
 - What is POMS:** A project to design a service which assists production teams and analysis groups of experiments in their MC production and DATA processing.
 - System Interfacing:** Interfaced to SAM data handling system, ECL, and FIFEMON for monitoring.
 - Ultimate Goal:** Most efficient utilization of all computing resources available to experiments, while providing a simple and transparent interface between users and the complexity of the grid.
 - Current Status:** Working with several Intensity Frontier experiments to help them manage and track their MC production and DATA processing.
- Project Development Team & Mailing Lists:**
 - Team members: Anna Mazzacane, Yuyi Guo, Marc Mengel, Margherita Vittone, Steve White, Vladimir Podstavkov.
 - Team's mailing list: poms_team@fnal.gov
- User Guide for POMS:**
 - POMS runs behind a web service interface with interactive screens and REST interfaces.
 - Tools used: poms_client and poms_jobsub_wrapper.
 - Production instance URL: https://pomsgpv01.fnal.gov/poms/
 - New users: Welcome New Computing Users.
 - Users' mailing list: poms_announce@fnal.gov
- POMS Internals:**
 - Topics for developers.
 - If you wish to be part of the team, email poms_team@fnal.gov.
- Frequently Asked Questions:**
 - If you don't find your question here, send an email to poms_team@fnal.gov.
 - New file

Thank You

Backup Slides



Managed by Fermi Research Alliance, LLC for the U.S. Department of Energy Office of Science

POMS project

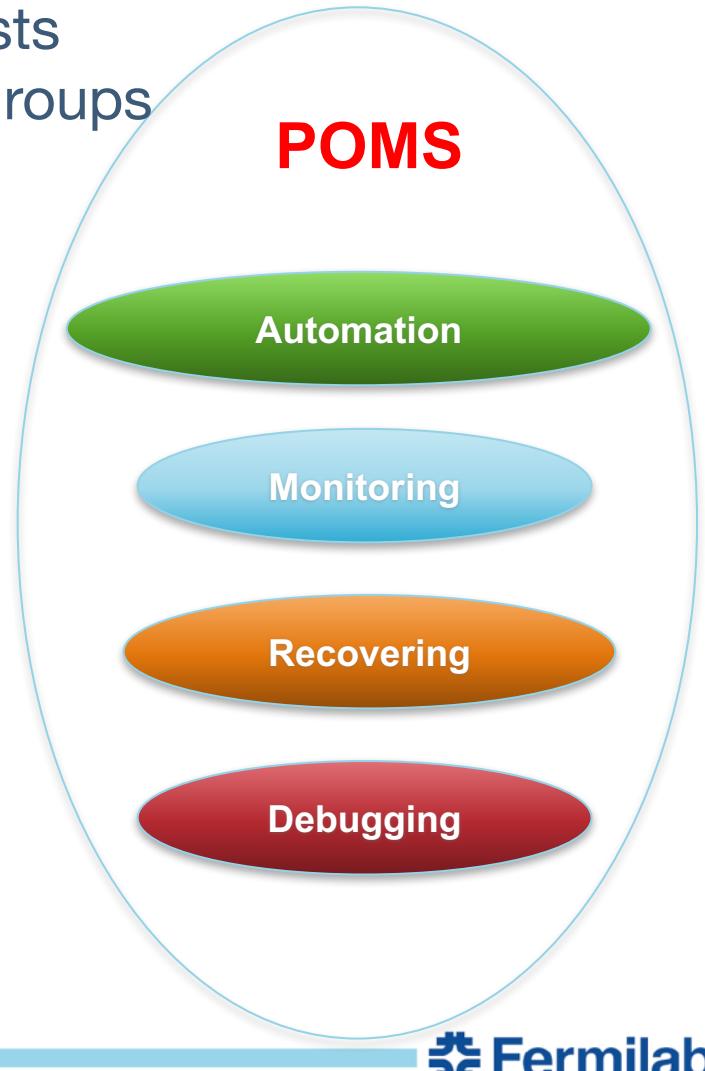
Anna Mazzacane
February 02, 2018

In these slides

- I will give an overview of POMS
- I will show some of the many features implemented in POMS

POMS

- **The Production Operations Management Service (POMS) is a project to design a service which assists the production teams and the analysis groups of the experiments in their scientific computational work.**
- POMS provides a web interface to:
 - Submit batch jobs
 - Monitor job submissions and files delivery
 - Recover failed jobs
 - Debug failures
 - Keep track of configurations used



What it is needed to use POMS

- The production instance of POMS is at
<https://pomsgpvm01.fnal.gov/poms/>



The Fermilab logo consists of a stylized four-pointed star or flower design made of lines, followed by the word "Fermilab" in a bold, sans-serif font.

Please enter your SERVICES user name and password.

Username

Password

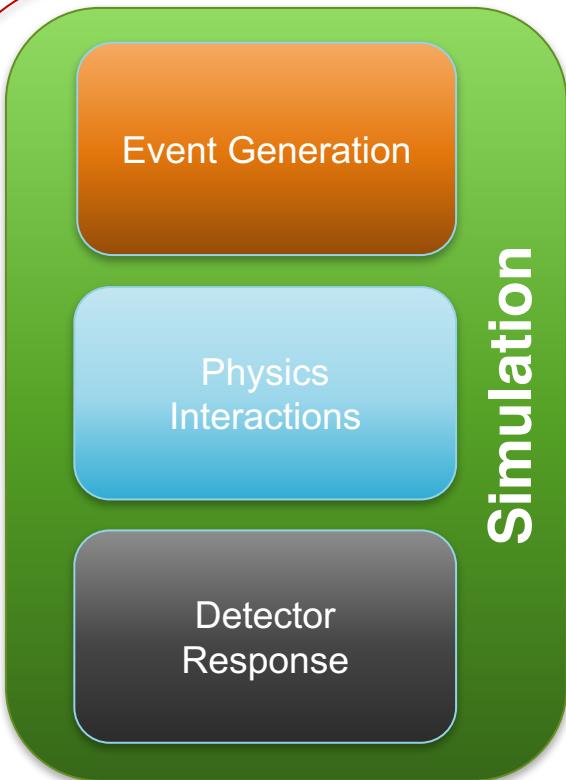
[Fermilab Disclaimer](#)

- Use services account to login
- Need an experiment affiliation and computing permissions to submit jobs

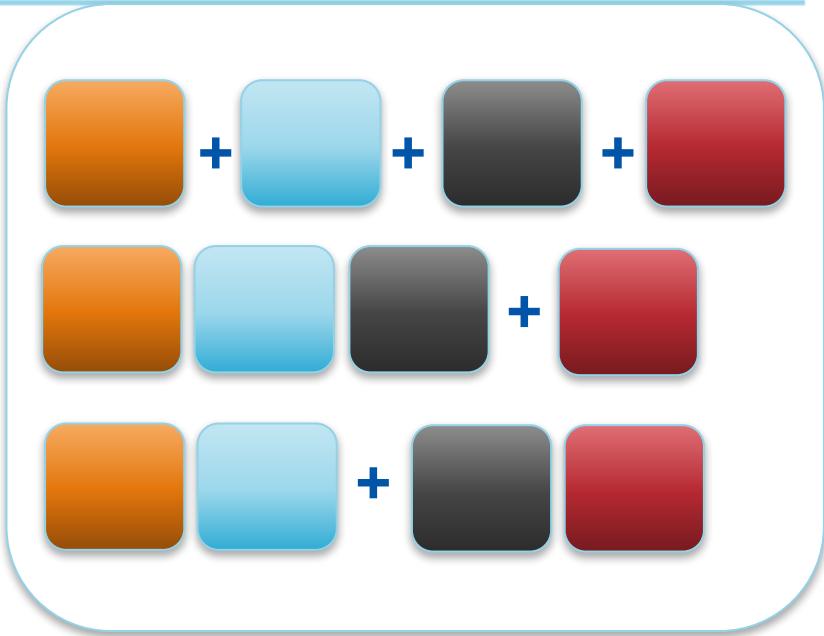
How To Interface To POMS

- First important step is how to translate the experimental workflow of a Monte Carlo production or DATA processing into POMS

Experimental Workflow – Set Of Stages/Steps



MC Production



Workflow variations



Data Processing

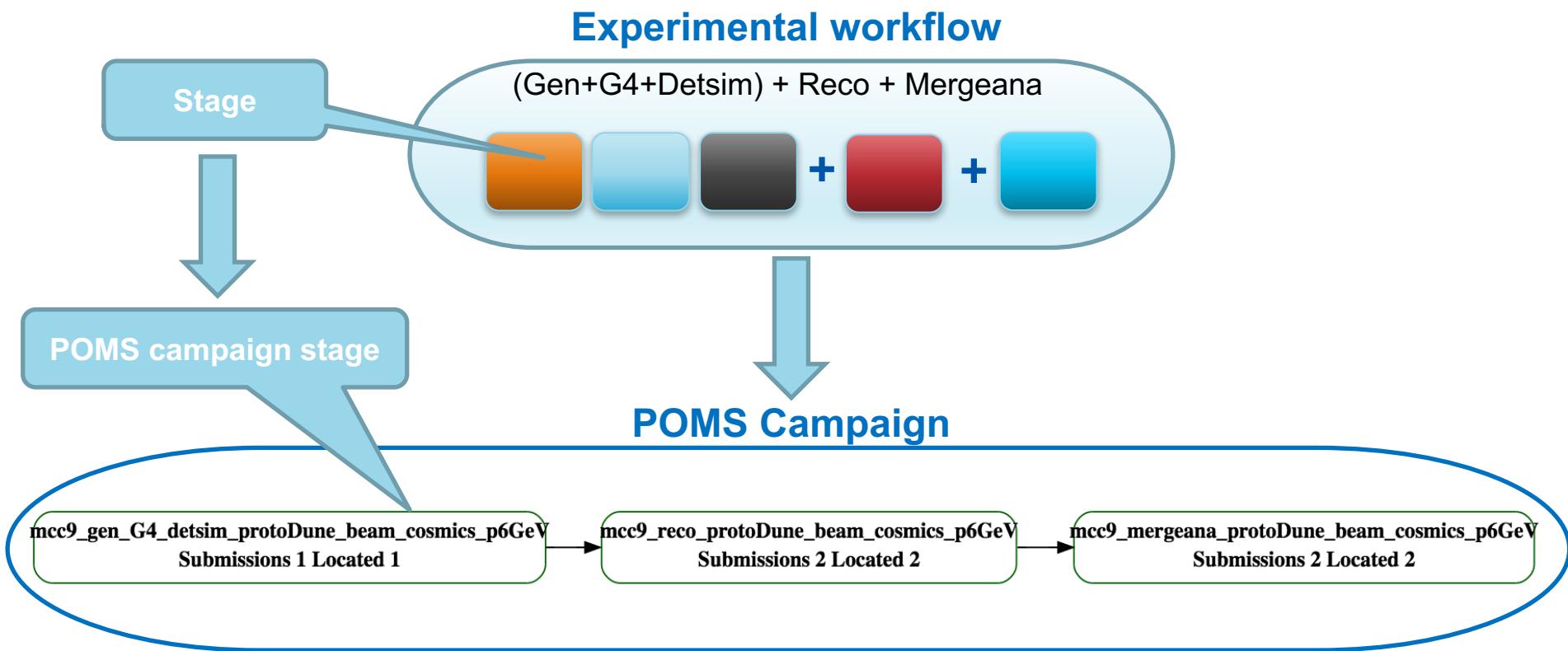
Example

(Gen+G4+Detsim) + Reco + Mergeana



Experimental Workflow into POMS

- Experimental workflow = POMS campaign
- A stage in the experimental workflow = POMS campaign stage



POMS Campaign Stages

Campaign Stages

 Anna Mazzacane

dune

production



[Mark Campaigns Active/Inactive](#)

[Tag/untag Campaigns](#)

[Hold/Release Campaign Submission](#)

[Show ALL Campaigns Statistics](#)

<input type="checkbox"/> Select All	Name	Active	Tags	Hold By	Creator	Created	
	6GeV		dune_mcc9		mazzacan		
<input type="checkbox"/>	mcc9_reco_protoDune_beam_cosmics_p6GeV	No	dune_mcc9		mazzacan	2017-04-30 08:14:24	
<input type="checkbox"/>	mcc9_gen_G4_detsim_protoDune_beam_cosmics_p6GeV	No	dune_mcc9		mazzacan	2017-04-30 08:13:44	
<input type="checkbox"/>	mcc9_mergeana_protoDune_beam_cosmics_p6GeV	No	dune_mcc9		mazzacan	2017-04-30 08:15:05	



POMS Campaign Stages Stats

Campaign Stages 

Anna Mazzacane

dune
production



Select All	Name	Active	Tags	Hold By	Creator	Created
	8GeV		dune_mcc9	mazzacan		
<input checked="" type="checkbox"/>	mcc9_reco_protoDune_beam_cosmics_p6GeV	No	dune,mcc9	mazzacan	2017-04-30 08:14:24	
<input checked="" type="checkbox"/>	mcc9_gen_G4_detsim_protoDune_beam_cosmics_p6GeV	No	dune,mcc9	mazzacan	2017-04-30 08:13:44	
<input checked="" type="checkbox"/>	mcc9_mergeana_protoDune_beam_cosmics_p6GeV	No	dune,mcc9	mazzacan	2017-04-30 08:15:05	

Selected Campaign Stages

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dune
production



Name	Campaign Stage 	Jobs in 62.0 days ending 2017-06-30 00:00										Stats	
		Total All	Active Jobs			Completed			%Efficiency			Pending	
			Idle 	Running 	Held 	Total 	Not Located 	Located 	Removed 				
mcc9_mergeana_protoDune_beam_cosmics_p4GeV		206	0	0	0	206	0	206	0	64		0	
mcc9_reco_protoDune_beam_cosmics_p4GeV		415	0	0	0	415	0	415	0	110		0	
mcc9_gen_G4_detsim_protoDune_beam_cosmics_p4GeV		407	0	0	0	407	0	407	0	58		0	



Campaign Stage Info

Campaign Stage Info ?

Campaign Stage mcc9_gen_G4_detsim_protoDune_beam_cosmics_p3GeV

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dune ▼

production ▼

Total	Active Campaign Jobs			Jobs in 278.2 days ending 2018-02-02 06:24:29			Stats			
All ?	Idle ?	Running ?	Held ?	Total Completed ?	Not Located ?	Located ?	Removed ?	%Efficiency ?	Pending ?	
405	0 ↻	0	0	405	0	405	0	63	0	

Reports/Status

- [Job Efficiency Histogram \(1 month\)](#)
- [Job Wall Clock Time Histogram \(1 month\)](#)
- [Job CPU Time Histogram \(1 month\)](#)
- [Copy In Time Histogram \(1 month\)](#)
- [Job Copy Out Time Histogram](#)
- [Day by Day Spreadsheet \(1wk\)](#)
- [Submission Time Bars \(1wk\)](#)
- [Campaign Submission Files](#)
- [Kibana Usage Info for Campaign](#)

Actions

- [📝 Edit Campaign](#)
- [🚀 Launch Campaign Jobs Now](#)
- [ⓧ Kill running/idle Jobs for Campaign](#)
- [⏸ Hold running/idle Jobs for Campaign](#)
- [▶ Release held Jobs for Campaign](#)
- [📅 Schedule Future Job Launches](#)
- [👁️ Mark Campaign Active](#)

Tags

+
● **dune_mcc9** ✖

Campaign Stage Info (cont'd)

Campaign

Name: mcc9_gen_G4_detsim_protoDune_beam_cosmics_p3GeV

Experiment: dune

Dataset: none

Software Version: v06_33_00_01

VO Role: Production

cs_split_type: none

cs_split_dimensions: None

cs_last_split: None

 Reset

Active: False

Created: 2017-04-29 20:36:56.229675-05:00

Creator: mazzacan

Updated: None

Updater: mazzacan

Job Type

Name: mcc9_protodune_detsim_3GeV

Launch Script: /dune/app/home/dunepro/anna/MCC9/mcc9_SubmissionScriptNew.sh

Definition Parameters: [

```
['ProtoDUNE_beam_3GeV_cosmics_3ms.xml', '']  
['detsim', '']]
```

Input Files Per Job: 0

Output Files Per Job: 0

Output File Patterns: %.root

Creator: mazzacan

Created: 2017-04-29 20:33:16.509874-05:00

Updater: mazzacan

Updated: None

Launch Template

Name: mcc9_protodune

Experiment: dune

Launch Host: dunegpvm01.fnal.gov

Launch Account: dunepro

Launch Setup: export X509_USER_PROXY=/opt/dunepro/dunepro.Production.proxy; source

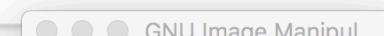
```
/cvmfs/dune.opensciencegrid.org/products/dune/setup_dune.sh; setup dunetpc v06_33_00_01 -q e14:prof
```

Creator: mazzacan

Created: 2017-04-24 10:45:18.216718-05:00

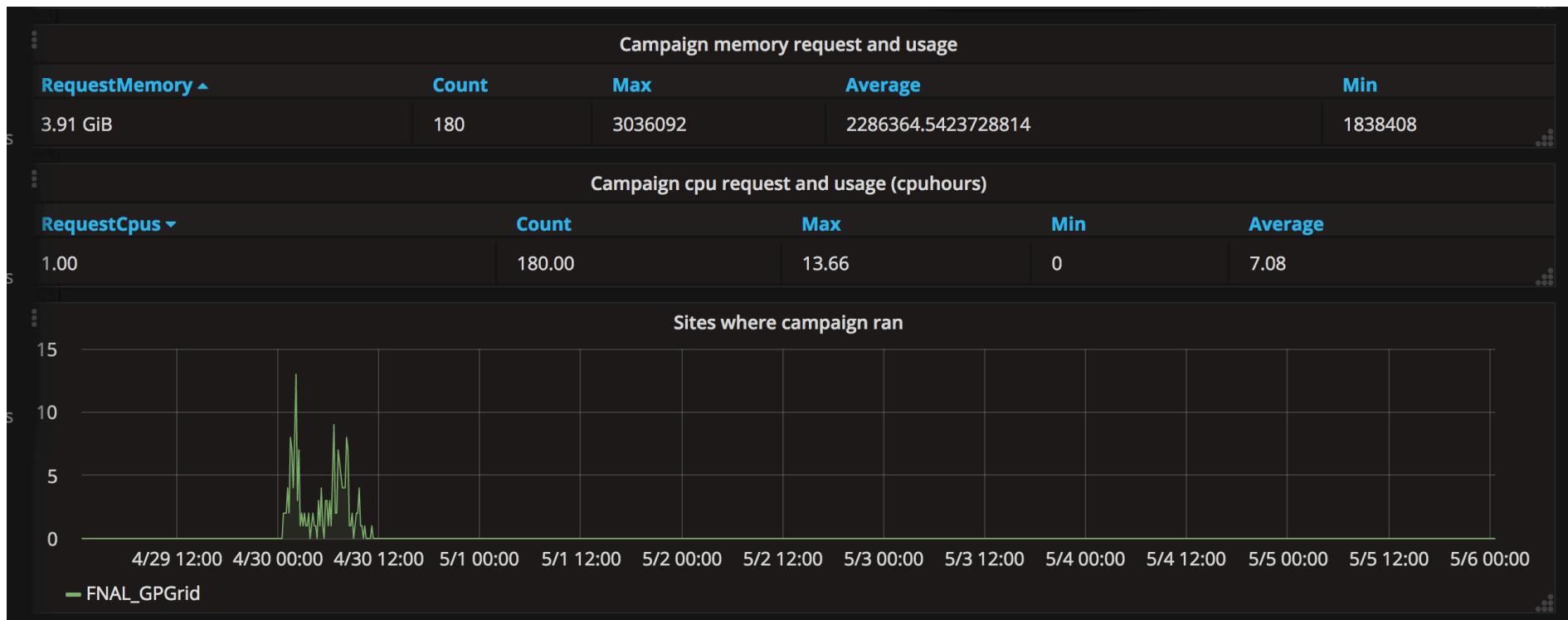
Updater: mazzacan

Updated: 2017-04-26 12:43:23.738891-05:00



Fifemon Monitoring

- Campaign stage profiling



Troubleshooting

Jobs by node_name,user_exe_exit_code,name,experiment,count

⌚ 2017-04-29 00:00 to 2017-05-06 00:00

👤 Anna Mazzacane

<previous 7.0 days | next 7.0 days >

dune  production 

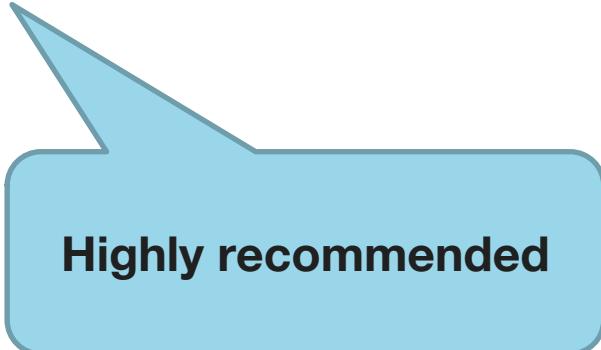




node_name	user_exe_exit_code	name	experiment	count
fnpcc9051.fnal.gov	1	mcc9_reco_protoDune_beam_cosmics_p3GeV_sce	dune	9
fnpcc4101.fnal.gov	1	mcc9_reco_protoDune_beam_cosmics_p3GeV_sce	dune	8
fnpcc8011.fnal.gov	1	mcc9_reco_protoDune_beam_cosmics_p3GeV_sce	dune	7
fnpcc8017.fnal.gov	1	mcc9_reco_protoDune_beam_cosmics_p3GeV_sce	dune	6
fnpcc7013.fnal.gov	139	mcc9_gen_G4_detsim_protoDune_beam_cosmics_p6GeV_sce	dune	1
fnpcc7022.fnal.gov	1	mcc9_reco_protoDune_beam_cosmics_p5GeV_sce	dune	1
fnpcc5013.fnal.gov	1	mcc9_reco_protoDune_beam_cosmics_p-1GeV	dune	1
fnpcc6004.fnal.gov	1	mcc9_reco_protoDune_beam_cosmics_p1GeV_sce	dune	1
fnpcc9019.fnal.gov	1	mcc9_reco_protoDune_beam_cosmics_p-1GeV	dune	1
fnpcc8026.fnal.gov	1	mcc9_reco_protoDune_beam_cosmics_p5GeV_sce	dune	1
fnpcc9054.fnal.gov	1	mcc9_reco_protoDune_beam_cosmics_p5GeV_sce	dune	1

Configure POMS

- Two configuration models implemented into POMS:
 - Through a submission script that takes all configurations needed for the job submission and data handling
 - Through a configuration file that takes all info needed for the job submission and data handling



Highly recommended

Create POMS Campaign Stage

Campaign Stage Editor (dune)

Name **?** VO Role **?** State **?** Exp. Software Version **?**

mcc10_gen_G4_dets	Production	Inactive	v06_60_00_02
-------------------	------------	----------	--------------

Dataset **?** Dataset Split Type **?**

none	none
------	------

Completion Type **?** Completion % **?**

Complete	100
----------	-----

Parameter Overrides **?**

```
[{"--xml": "mcc10_protodune_beam_2GeV_cosmics_3ms.xml"}, {"--stage": "detsim"}]
```

Depends On **?**

```
{"file_patterns": [], "campaigns": []}
```

LAUNCH TEMPLATE

Launch Template **?** mcc10_protodune_2

Host **?** Account **?**

dunegpvm02.fnal.gov	dunepro
---------------------	---------

Setup **?**

```
export X509_USER_PROXY=/opt/dunepro/dunepro.Production.proxy
source /cvmfs/dune.opensciencegrid.org/products/dune/setup_dune.sh
echo "-- Setting up [dunetc %version] -q e14:prof."
setup dunetc %version -q e14:prof
setup poms_client v2_0_0
```

JOB TYPE

Job Type **?** mcc10_protodune

Input Files/Job **?** Output Files/Job **?**

0	0
---	---

Launch Script **?**

```
/dune/app/home/dunepro/anna/MCC10/scripts/mcc10_SubmissionScript.sh
```

Definition Parameters **?**

```
--xml ,  
mcc10_protodune_beam_1GeV_cosmics_3ms.xml,--  
stage , detsim
```

Cancel **Submit**

Launch Template Editor (dune) **?**

Name **?** Host **?** Account **?**

mcc10_protodune_2	dunegpvm02.fnal.gov	dunepro
-------------------	---------------------	---------

Setup **?**

```
export X509_USER_PROXY=/opt/dunepro/dunepro.Production.proxy
source /cvmfs/dune.opensciencegrid.org/products/dune/setup_dune.sh
echo "-- Setting up [dunetc %version] -q e14:prof."
setup dunetc %version -q e14:prof
setup poms_client v2_0_0
```

Cancel **Submit** **Test**

Campaign Definition Editor (dune) **?**

Name **?** Output File Patterns **?**

mcc10_protodune	%root
-----------------	-------

Launch Script **?**

```
/dune/app/home/dunepro/anna/MCC10/scripts/mcc10_SubmissionScript.sh
```

fife_launch -c /sbd/app/home/poms_test/cfg/sbd.launch.cfg

Definition Parameters **?**

```
[{"--xml": "mcc10_protodune_beam_1GeV_cosmics_3ms.xml"}, {"--stage": "detsim"}]
```

Recovery Launches **?**

```
[]
```

Cancel **Submit** **Test**

Schedule A Submission

Campaign Launch Schedule

Current Crontab Entry

```
10 0,2,4,6,8,10,12,14,16,18,20,22 * * * /home/poms/products/poms/current/cron/launcher --campaign_id=42 # POMS_CAMPAIGN_ID=42
```

Update Entry form

Minutes(s) of the hour:

10

Hour(s) of day:

0,2,4,6,8,10,12,14,16,18,20,22

Day(s) of week:

Any Sunday Monday Tuseday Wednesday Thursday Friday Saturday

Day(s) of Month:

*

Submit

Delete



POMS Online Documentation

Job

An individual batch-system job, part of a given Task's job submission, which associated with a Campaign. POMS ignores jobs which are not part of a Campaign. Jobs are considered to be in one of 5 high level states:

- Idle -- The job is waiting to be scheduled somewhere by the batch system
- Running -- The job has been started by the batch system, and is still running
- Completed -- the job has finished running
- Held -- the batch system has stopped the job for some reason (using too much memory, etc)
- Located -- the job was not only completed, but its output files have locations in the data handling system.

where the first 4 are the usual states are defined by Condor, and the fifth is peculiar to POMS. Within the Running state, there may be more details logged; i.e. "Running: running user executable", "Running: copying in files", etc. where these can be determined from the ifdh joblogs.

Service

A system that we depend on to run jobs, whose status is in some way determinable.

Job Type

(Task Definition/Campaign (layer) Definition)

All the info you need to run a particular category of job -- i.e. "how do I launch a NOvA montecarlo job" or "how do I launch a Minerva calibration keepup job". This is filled in with information from a given Campaign to know how to run a submit a given Task.

Submission

(Task)

A specific multi-job launch. It has a specific command line used to launch it, and it may have output files for whose appearance we await in the data handling system before we declare the task complete. It has states defined in terms of the jobs it generates as follows:

- Idle -- all of its jobs are Idle
- Running -- one or more of its jobs are Running
- Completed -- all of its jobs are Completed or Declared
- Located -- all of its jobs are Located

If another Submission in (another Campaign Layer) needs the output of this one to be launched, it must wait for this task to be in state "Located" before launching; or if the Submissions are generated with a Draining dataset definition, one waits for the previous task for this Campaign to complete before launching another.



References

POMS redmine project:

<https://cdcv.sfnal.gov/redmine/projects/poms/>

POMS team mailing list:

poms_team@fnal.gov

POMS production instance of POMS:

<https://pomsgpvm01.fnal.gov/poms/>

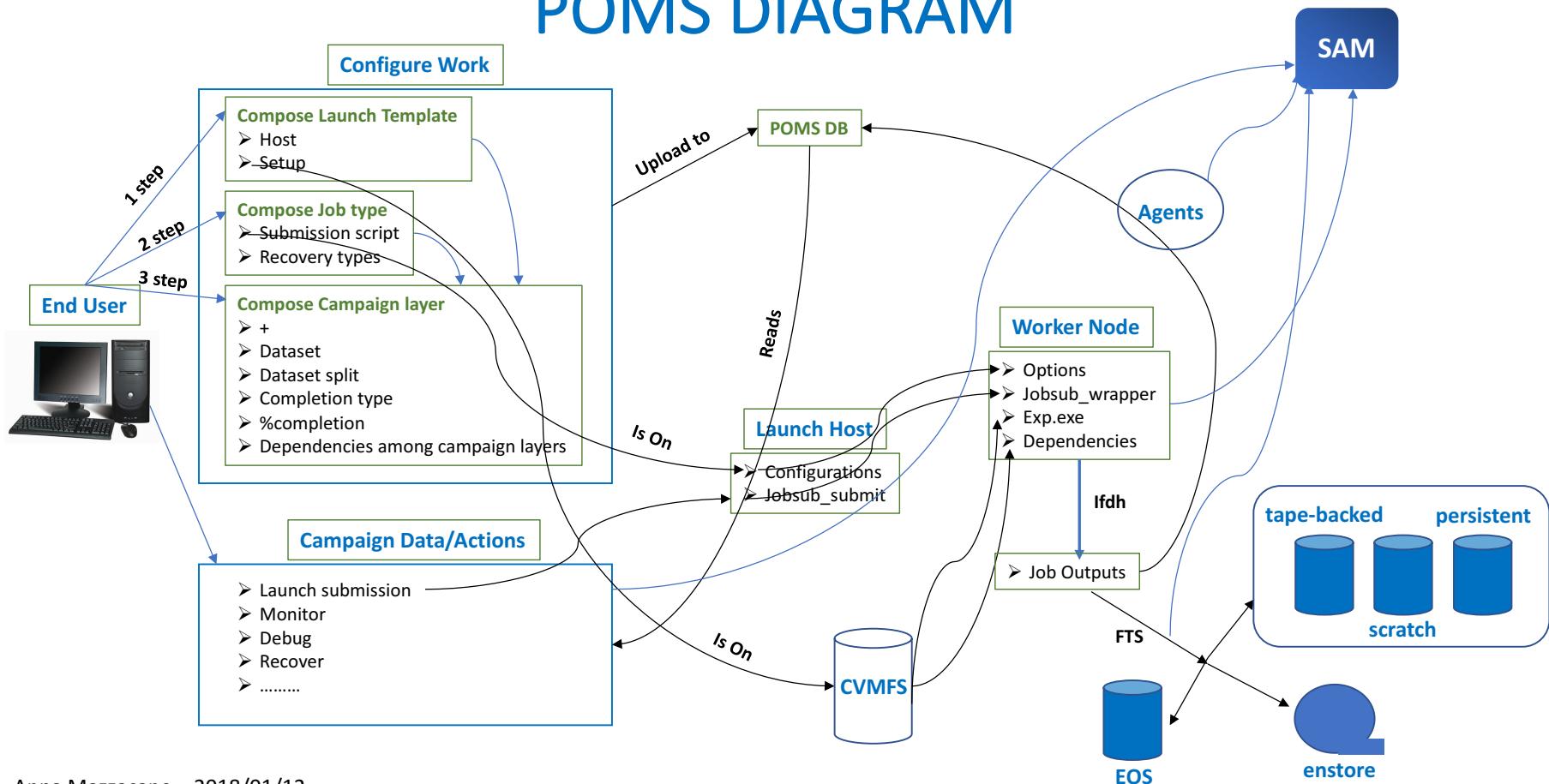
Marc Mengel's presentation at FIFE workshop 2016:

<https://indico.fnal.gov/getFile.py/access?contribId=8&resId=0&materialId=slides&confId=12120>

Thank You

Backup Slides

POMS DIAGRAM



Anna Mazzacane – 2018/01/12