Production Tools

Severus (python wrapper) + new WebUI + new DB

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thanks to M. Manzali, E. Vianello

Python script

- Generalization of the main operations that job does:

    - copy software to WN

    - copy input files to WN

    - copy output files in the SE and register them in the LFC

    - copy log in SE and insert it in the DB

- The specific session module now only launches the executable with specific parameters

Python script

- Automatic recognition of the access type (lcg or direct) from the worker node to the SE of the site, implemented using lcg utils.

- Different modes to specify input files:

  - DIR: user provides the path of the directory that contains files to copy

  - FILE: user provides the path of the file to copy

  - LIST: user provides a list of paths that are files to copy

  - NONE: input files aren't required

Python script

- Production use case:

  - Fast simulation is implemented and jobs finish done in about 75% of sites, in a few days the other 25% will be checked

  - Full simulation is under development, in about 2 weeks it will be done

The new SuperB Production Manager Web User Interface was built on a more generic version of the bookkeeping database, SBK4.

It introduces a Session concept that is the backbone of a process that consists of:

Sessions:
- *FastSim*
- *FullSim*

SBK4

CREATE REQUESTS

CREATE PRODUCTIONS

MONITOR JOBS

SUBMIT JOBS

about a particular software, identified by:
- name, version and release (V0.2.5 311 for PacProductionApp in FastSim)
- the LFN of the tjz file (f.e. lfn:/grid/superbvo.org/production/FastSim/2010_September/test_release/V0.2.5_SL-5.3_x86_64_rev311.tjz)
- the working directory and the exe path used after the decompression of the tjz

The WebUI is buildt to face to the new job wrapper, edited in python, called "Severus", that is useful to reach a better generalization of the whole submission process.
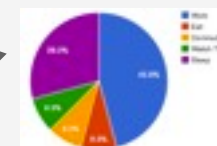
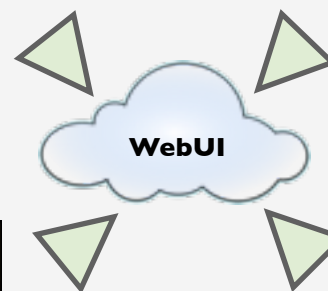*The Web User Interface involved technologies:*

PHP:
version 5.3.6

jQuery:
in order to obtain the greater accessibility, performances

WebUI

Smarty template engine:
to separate Presentation Logic Layer (HTML) from Business Logic Layer (PHP)

Google Chart Tools:
to design charts
http://code.google.com/intl/it-IT/apis/chart/index.html

Available pages:

- PRODUCTIONS: to manages and create prod series
- PRODUCTION REQUESTS: to manage, create, modify, validate and delete production's requests
- EXPERT INIT: to submit jobs through expert interface
- JOB MONITOR: to monitor the status of user's submitted jobs, by several research filters, and to access output and log files
- HOME: user can view his last n activities (like job submissions, with shortcut to job monitor)
- SITE MANAGEMENT: to enable/disable site for a particular session/ production, to manage site's thresholds and bunch dimension

"Work in progress" pages:

- SHIFT INIT: to submit jobs' bulk through shifter interface, reset sites

Future developments:

- SESSION MANAGEMENT pages: to manipulate sessions, software versions and revisions, environment vars and job parameters

link webui smarty: https://bbr-serv09.cr.cnaf.infn.it:8443/webui_smarty/

link webui smarty development: https://bbr-serv09.cr.cnaf.infn.it:8443/~evianello/

CREATE PRODUCTIONS

Productions   [FastSim]

list of all|not-test productions

FASTSIM PRODUCTION LIST

List of session's productions

☑ show test productions

Show 10 entries

Search:

Prod Series	Status	Soft Release	Job Stats	Requests	actions	note
2010_July	🟢	V0.2.5 311		3 Requests (1 open, 1 valid, 1 running, 0 closed)	close	
2010_July_test	🟡	V0.2.5 311		6 Requests		
2010_September_307	🔴	V0.2.5 307		56 Requests (0 open, 0 valid, 0 running, 56 closed)	open	
2010_September_307_test	🟡	V0.2.5 307		2 Requests		
2010_September_311	🔴	V0.2.5 311		43 Requests (0 open, 0 valid, 0 running, 43 closed)	open	
2010_September_311_test	🟡	V0.2.5 311		18 Requests		

Showing 1 to 6 of 6 entries

First   Previous   1   Next   Last

create production form

FASTSIM CREATE PRODUCTION:

GUIDE

All form fields are required.

Production Series: 2011_November

Software Release: V0.2.5 311

Create Test prod_series?   ☑

Create New Production

ℹ Checking prod_series value ['2011_September'] ... OK

ℹ Retrieving svn info ... ['/storage/gpfs_superb/prod/FastSim_test_releases/SuperB/FastSim/V0.2.5/'] ... OK

production name: 2011_September

production root: /storage/gpfs_superb/prod/

software release: V0.2.5 311

release work dir: /storage/gpfs_superb/prod/FastSim_test_releases/SuperB/FastSim/V0.2.5/

svn info: Path: /storage/gpfs_superb/prod/FastSim_test_releases/SuperB/FastSim/V0.2.5 /ReleaseFiles URL: https://sbrepo.pd.infn.it:8910/Releases/FastSim/V0.2.5 Repository Root: https://sbrepo.pd.infn.it:8910/Releases Repository UUID: a4350e25-c451-0410-a7f4-b41d6e663f70 Revision: 307 Node Kind: directory Schedule: normal Last Changed Author: brownd Last Changed Rev: 307 Last Changed Date: 2010-09-13 11:51:48 +0200 (Mon, 13 Sep 2010)

✓ The Production ['2011_September'] was created successfully!

✓ The Production ['2011_September_test'] was created successfully!

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SuperB Production Manager

PRODUCTION REQUEST *page - create a request*

EVERY REQUEST HAS A TEST REQUEST ASSOCIATED

FASTSIM PRODUCTION

Select a production from list: 2010_July   show/hide details

production selector

FASTSIM CREATE NEW REQUEST

Select custom request and job parameters' values or import them from another production request:

Import From...

production: 2010_July   request: [HadRecoilCocktail, B0B0bar_Btag-HD_Cocktail, DG_4, MixSuperbBkg_NoPair.tcl]   import

user can import request settings (and then modify them) from any request of any production

Job Parameters:

Analysis: Generator: Geometry: Background:
HadRecoilCocktail   B0B0bar_Btag-HD_Cocktail   DG_4   All Bkg, No Pair (MixSuperb)

A Production Request with the selected parameters already exists!

job parameter's value selection (check if the request already exists) - dependent from session

Request settings:

priority: minrunnum: required events: evt/job: number of jobs: expected event time (sec):
10000000   376000000   80000   4700   1

max wct (sec):
57600

static request settings, independent from session

Input:

input mode: input path:
DIR   lfn:/grid/superbvo.org/production/FastSim/2010_September/input

specify input mode

Output:

output directory (lfn):
lfn:/grid/superbvo.org/production/FastSim/2010_July/output/HadRecoilCocktail/DG_4/B0B0bar_Btag-HD_C

output directory (absolute):
/production/FastSim/2010_July/output/HadRecoilCocktail/DG_4/B0B0bar_Btag-HD_Cocktail

☐ Same output directories for the associated test request

test request's output directory (lfn):
lfn:/grid/superbvo.org/production/FastSim/2010_July_test/output/HadRecoilCocktail/DG_4/B0B0bar_Btag-

test request's output directory (absolute):
/production/FastSim/2010_July_test/output/HadRecoilCocktail/DG_4/B0B0bar_Btag-HD_Cocktail

specify output directories (both main request and test request associated)

outputs' sites:
☐ CIT_CMS_T2B   ☐ CIT_HEP_CE   ☐ GRIF   ☐ GRISU_UNINA   ☐ IN2P3-CC   ☐ INFN-BARI
☐ INFN-CAGLIARI   ☐ INFN-FERRARA   ☐ INFN-LNL-2   ☐ INFN-MILANO   ☐ INFN-NAPOLI-ATLAS   ☐ INFN-PERUGIA
☐ INFN-PISA   ☑ INFN-T1   ☐ INFN-TORINO   ☐ RAL-LCG2   ☐ SLAC   ☐ UKI-LT2-QMUL
☐ UKI-SOUTHGRID-OX-HEP   ☐ UKI-SOUTHGRID-RALPP   ☐ UNINA-EGEE   ☐ VICTORIA-LCG2   ☐ VICTORIA-LCG2-SL4

specify sites where output files have to be stored

Other:

note: (max. 255 characters)

CREATE REQUEST

CREATE REQUESTS

SUBMIT JOBS

FASTSIM EXPERT UI FOR JOB SUBMISSION

Production:

Select a production from list: `2010_July` ◆ ● show/hide details ◀···· 1. select production

2. select submission sites

Submission Sites:

☐ CIT_CMS_T2B   ☑ CIT_HEP_CE ✔   ☑ GRIF ✔   ☐ GRISU_UNINA ✘   ☑ IN2P3-CC ✔

☑ INFN-BARI ✔   ☐ INFN-CAGLIARI ✘   ☑ INFN-FERRARA ✔   ☑ INFN-LNL-2 ✔   ☑ INFN-MILANO ✔

☐ INFN-NAPOLI-ATLAS ✘   ☐ INFN-PERUGIA ✘   ☑ INFN-PISA ✔   ☑ INFN-T1 ✔   ☑ INFN-TORINO ✔

☐ RAL-LCG2 ✘   ☑ SLAC ✔   ☑ UKI-LT2-QMUL ✔   ☑ UKI-SOUTHGRID-OX-HEP ✔   ☑ UKI-SOUTHGRID-RALPP ✔

☐ UNINA-EGEE ✘   ☑ VICTORIA-LCG2 ✔   ☐ VICTORIA-LCG2-SL4

Select **all** | **supported** | **none**

Job Details:

first bulk ◀····

Test Job? ☐   Number of runs: `10`   Number of events: `80000`   Request: `[HadRecoilCocktail, B0B0bar_Btag-HD_Cocktail, DG_4, MixS` ◆

☐ Log files to be stored in the bookkeeping database

second bulk (test) ◀····

Test Job? ☑   Number of runs: `1`   Number of events: `1`   Request: `[HadRecoilCocktail, B0B0bar_SL, DG_4, PacProduction.tcl]` ◆

Analysis: Generator: Geometry: Background:
`HadRecoilCocktail` ◆   `B0B0bar_SL` ◆   `DG_4` ◆   `No Backgrounds` ◆   add/remove bulk

✔ Production Request exists!

☑ Log files to be stored in the bookkeeping database   ⊖ ✚

(Submit Data And Generate Summary)

- User can submit jobs on different requests on the same production, or jobs on both main production and associated test production (as shown in the picture)
- In case of a test job, if the values of the job parameters does not exist in any of the request on the db, the request will be created before submit

As you can see from the picture, here is an example of 2 bulk submissions:
- the first of 10 jobs of 80000 events per job on 2010_July for the specified request
- the second of one test job of one event on the associated test production (2010_July_test) for another request

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SUBMIT JOBS

When all is ready to submit, press [Submit Data And Generate Summary] and check the summary before confirm to submit jobs:

Summary

The UI will launch **2** set(s) of **normal** jobs (a total of **22** jobs, **1600002** events) for the Production **2010_July** with the following parameters:

PRODUCTION DATA - SUMMARY

Production Series:	2010_July
Software:	V0.2.5 311
Test release:	lfn:/grid/superbvo.org/production/FastSim/2010_September/test_release/V0.2.5_SL-5.3_x86_64_rev311.tjz

JOB BULK DATA - SUMMARY

Set	#Jobs	Site	First RUNNUM	Last RUNNUM	#Events	Analysis	Generator	Geometry	Background	Target Site(s)	Log in DB
1	10	INFN-FERRARA	10000003	10000012	800000 (80000 ea.)	HadRecoilCocktail	B0B0bar_Btag-HD_Cocktail	DG_4	MixSuperbBkg_NoPair.tcl	INFN-T1	no
1	10	INFN-TORINO	10000013	10000022	800000 (80000 ea.)	HadRecoilCocktail	B0B0bar_Btag-HD_Cocktail	DG_4	MixSuperbBkg_NoPair.tcl	INFN-T1	no
	20				1600000						

✓ Production Request exists!   2010_July
input mode: **DIR**   input path: **lfn:/grid/superbvo.org/production/FastSim/2010_September/input**
output directory's name: **/production/FastSim/2010_July/output/HadRecoilCocktail/DG_4/B0B0bar_Btag-HD_Cocktail**
output directory's lfn: **lfn:/grid/superbvo.org/production/FastSim/2010_July/output/HadRecoilCocktail/DG_4/B0B0bar_Btag-HD_Cocktail**

JOB BULK DATA - SUMMARY

Set	#Jobs	Site	First RUNNUM	Last RUNNUM	#Events	Analysis	Generator	Geometry	Background	Target Site(s)	Log in DB
2	1	INFN-FERRARA	10001367	10001367	1 (1 ea.)	HadRecoilCocktail	B0B0bar_SL	DG_4	PacProduction.tcl	INFN-T1	yes
2	1	INFN-TORINO	10001368	10001368	1 (1 ea.)	HadRecoilCocktail	B0B0bar_SL	DG_4			
	2				2						

✓ Production Request exists!
input mode: **DIR**   input path: **lfn:/grid/superbvo.org/production/FastSim/2010_September/input**
output directory's name: **/production/FastSim/2010_July_test/output/HadRecoilCocktail/DG_4/B0B0bar_SL**
output directory's lfn: **lfn:/grid/superbvo.org/production/FastSim/2010_July_test/output/HadRecoilCocktail/DG_4/B0B0bar_SL**

[Production Initialization and Script Generation] ☑ Automatic Submission

Automatic Submission is performed by confirming the summary (if checked - default is true).
If a valid proxy for the user can be created, all will go fine. The output of the bash command launched is shown on a dialog window:

Automatic submission output

Submission in Progress...Submission Done! (11.657 s)

```
Submit general file... 1/1
Executing... /data1/script_webui/FastSim/generalscripts/sbk4/2010_July_test/VICTORIA-
LCG2_10000065_10000065.sh

Launching Jobs
/tmp/tmp.IGerb28567

Executing command [/opt/exp_software/superb/ganga/install/5.5.26/bin/ganga --config-
path=/data1/script_webui//FastSim/gangascripts//superB.ini
-o[Configuration]user=evianello -o[Configuration]gangadir=/tmp/tmp.IGerb28567
/gangadir /data1/script_webui//FastSim/gangascripts//severus_ganga.gpi /data1
/script_webui//FastSim/confscripts/2010_July_test/ VICTORIA-
LCG2_10000065_10000065.conf 10000065 10000065 VICTORIA-LCG2 2010_July_test FastSim]

*** Welcome to Ganga ***
Version: Ganga-5-5-26
Documentation and support: http://cern.ch/ganga
Type help() or help('index') for online help.

This is free software (GPL), and you are welcome to redistribute it
under certain conditions; type license() for details.

[0;0mGanga.GPIDev.Lib.Job                    : INFO     submitting job 0[0;0m
[0;0mGanga.GPIDev.Lib.Job                    : INFO     job 0 status changed to
"submitting"[0;0m
```

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Monitoring the job:

Show 25 entries									
				66 jobs found matching the search criteria.					
runnum ▼	events	Analysis	Generator	Geometry	Background	Status			wct (s)
10000065 evianello	1	HadRecoilCocktail	B0B0bar_Btag-HD_Cocktail	DG_4	PacProduction.tcl	**running**	**gjid**	VICTORIA-LCG2	

RUNNING-02 Coping software...

more details of running status - improvement from Severus

Search:

Statu... | RUNNGEN01 the script is started Rest is OK logger is OK sounds good!

running   **gjid**   VICTORIA-LCG2

Filter dialog for a job monitor research:

Job Monitor Filters   ✕

Filter Jobs by selecting:

		Sites:	
User:	evianello	☑ CIT_CMS_T2B	☑ CIT_HEP_CE
Production:	2011_September	☑ GRIF	☑ GRISU_UNINA
Requests:	- all -	☑ IN2P3-CC	☑ INFN-BARI
Runnums:	from ___ to ___	☑ INFN-CAGLIARI	☑ INFN-FERRARA
		☑ INFN-LNL-2	☑ INFN-MILANO
Status:	☑ prepared ☑ submitted ☑ running ☑ done ☑ failed ☑ sys-failed ☑ timeout	☑ INFN-NAPOLI-ATLAS	☑ INFN-PERUGIA
	Select all | none | pending | notdone	☑ INFN-PISA	☑ INFN-T1
Error code:	- all -	☑ INFN-TORINO	☑ RAL-LCG2
Other:	☐ last 50 jobs	☑ SLAC	☑ UKI-LT2-QMUL
	☐ submitted from more than 24 hours	☑ UKI-SOUTHGRID-OX-HEP	☑ UKI-SOUTHGRID-RALPP
	☐ prepared from ___ to ___	☑ UNINA-EGEE	☑ VICTORIA-LCG2
		☑ VICTORIA-LCG2-SL4	
			Select all | none

🔍 search jobs

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MONITOR JOBS

Job Monitor Filters

Filter Jobs by selecting:

User: tomassetti

Production: 2010_September

Requests: - all -

Runnums: from 1007000000 to 1007601375

Status: ☑ prepared ☑ submitted ☑ running ☑ done ☑ failed ☑ sys-failed ☑ timeout
Select all | none | pending | notdone

Error code: - all -

Other: ☐ last 50 jobs
☐ submitted from more than 24 hours
☐ prepared from _____ to _____

🔍 search jobs

Sites:
☑ CIT_CMS_T2B   ☑ GRIF
☑ IN2P3-CC   ☑ INFN-BARI
☑ INFN-CAGLIARI   ☑ INFN-LNL-2
☑ INFN-NAPOLI-ATLAS ☑ INFN-PISA
☑ INFN-T1   ☑ INFN-TORINO
☑ RAL-LCG2   ☑ SLAC
☑ UKI-LT2-QMUL   ☑ UKI-SOUTHGRID-RALPP
☑ VICTORIA-LCG2   ☑ VICTORIA-LCG2-SL4
Select all | none

multiple site selection

multiple status selection

selection of a particular request or from one to all job parameters' values

☑ prepared
prepared
submitted
running
terminated

◀ Sep 2010 ▶

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Time   15:23

Hour ———————●———

Minute ——————●————

Now   Done

- all -
- all -
select a request...
define job's parameter values...

Requests: select a request...
[BtoKNuNu, B+B-_Btag-HD_Cocktail, DG_0, MixSuperbBkg_NoPair.tcl]

Analysis: - all -
Generator: - all -
Geometry: - all -
Background: - all -

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Job Monitor [FastSim]

open filters • refresh last research • hide/show columns • string search filter

FASTSIM JOB LIST

show filter dialog | refresh last search | error codes

Show [10] entries   Search

1350 jobs found matching the search

hide/show columns:
- ☑ runnum
- ☐ production
- ☐ uid
- ☑ events
- ☑ Analysis
- ☑ Generator
- ☑ Geometry
- ☑ Background
- ☑ Status
- ☐ Status Reason
- ☐ Error
- ☐ ErrorMsg
- ☑ GJid
- ☑ Site
- ☐ ts prepared
- ☐ ts submitted
- ☐ ts running
- ☐ time
- ☑ wct (s)

runnum	events	Analysis	Generator	Geometry	Background	Status	GJid	Site	wct (s)
1007212524 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperb	done	gjid	INFN-T1	38309.87
1007212523 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperb	done	gjid	INFN-T1	38023.19
1007212522 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperb	done	gjid	INFN-T1	85779.33
1007212521 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperb	done	gjid	INFN-T1	39098.15
1007212520 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperb	done	gjid	INFN-T1	39002.56
1007212519 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	done	gjid	INFN-T1	39129.67
1007212518 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	done	gjid	INFN-T1	97592.22
1007212517 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	sys-failed 007	gjid	INFN-T1	39653.42
1007212516 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	done	gjid	INFN-T1	38992.40
1007212515 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	done	gjid	INFN-T1	85653.79

Showing 1 to 10 of 1,350 entries

First | Previous | 1 | 2 | 3 | 4 | 5 | Next | Last

open job details, list of output files and log

- use datatables to format the query results (www.datatables.net) via jQuery, perform string filter, sorting, pagination
- to prevent reaching php limit on output dimension, the query results is sent on sequential pages
- to prevent reaching browser script time limit every page is asked after a timeout from previous page download
- the query results are sent json encoded

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SuperB Production Manager — *HOME page*

User's HOME page:

Home Page

user info, ldap groups and webui privileges

user statistics by session

last N activities

USER INFO:

Hi **Enrico Vianello!**

user-id: evianello
auto-sub: ◉ **enabled**
you are member of **5** group(s):
- webui
- webuiFastProdMgr
- webuiFullProdMgr
- webuiShift
- WebUiDeveloper

user privileges:
◉ create productions
◉ create requests
◉ shifter ui
◉ expert ui
◉ monitoring jobs

GUIDE ⊟

Use the Horizontal Menu to access the various section of the WebUI.

See the 'Guide' boxes in the appropriate section...

RESOURCES

▪ **Shifter Guide**

YOUR SESSIONS' STATISTICS:

session	job launched	job graph		events generated	total wct (s)
FastSim	51			51	2092.20

YOUR LAST 10 ACTIVITIES:

Show 10 entries   Search:

time	type	session	info		
2011-09-07 15:12:52	JOBSUBMISSION	FastSim	job status:	Job submitted: **1** (events: **1**) on **2010_July_test**	view details
2011-09-05 18:45:19	JOBSUBMISSION	FastSim	job status:	Job submitted: **1** (events: **1**) on **2010_July_test**	view details
2011-09-05 18:37:21	JOBSUBMISSION	FastSim	job status:	Job submitted: **1** (events: **1**) on **2010_July_test**	view details
2011-09-05 11:33:59	JOBSUBMISSION	FastSim	job status:	Job submitted: **4** (events: **4**) on **2010_July_test**	view details
2011-09-05 11:33:06	JOBSUBMISSION	FastSim	job status:	Job submitted: **4** (events: **4**) on **2010_July_test**	view details
2011-09-05 11:30:16	JOBSUBMISSION	FastSim	job status:	Job submitted: **2** (events: **2**) on **2010_July_test**	view details
2011-09-05 11:26:34	JOBSUBMISSION	FastSim	job status:	Job submitted: **2** (events: **2**) on **2010_July_test**	view details
2011-09-05 11:25:25	JOBSUBMISSION	FastSim	job status:	Job submitted: **2** (events: **2**) on **2010_July_test**	view details
2011-09-05 11:24:13	JOBSUBMISSION	FastSim	job status:	Job submitted: **2** (events: **2**) on **2010_July_test**	view details
2011-09-05 10:48:46	JOBSUBMISSION	FastSim	job status:	Job submitted: **4** (events: **4**) on **2010_July_test**	view details

Showing 1 to 10 of 10 entries

First Previous ‹ Next Last

3 kinds of activity type:
- job submission
- production created
- request created

link to the submission status on job monitor page

FASTSIM JOB LIST

🔍 show filter dialog   ↻ refresh last search   ⓘ error codes

Show 25 entries   hide/show columns   Search:

4 jobs found matching the search criteria.

runnum	events	Analysis	Generator	Geometry	Background	Status	GXId	Site	wct (s)
10000038 evianello	1	HadRecoilCocktail	B0B0bar_Btag-HD_Cocktail	DG_4	PacProduction.tcl	**done**	gXid	VICTORIA-LCG2	70.80
10000037 evianello	1	HadRecoilCocktail	B0B0bar_Btag-HD_Cocktail	DG_4	PacProduction.tcl	**done**	gXid	GRIF	52.10
10000036 evianello	1	HadRecoilCocktail	B0B0bar_Btag-HD_Cocktail	DG_4	PacProduction.tcl	**done**	gXid	VICTORIA-LCG2	83.60
10000035 evianello	1	HadRecoilCocktail	B0B0bar_Btag-HD_Cocktail	DG_4	PacProduction.tcl	**failed null**	gXid	GRIF	13.60

Showing 1 to 4 of 4 entries

First Previous 1 Next Last

table generated in '0000:00:01.17' (destroyed in: 0000:00:00.00)

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SITE MANAGEMENT
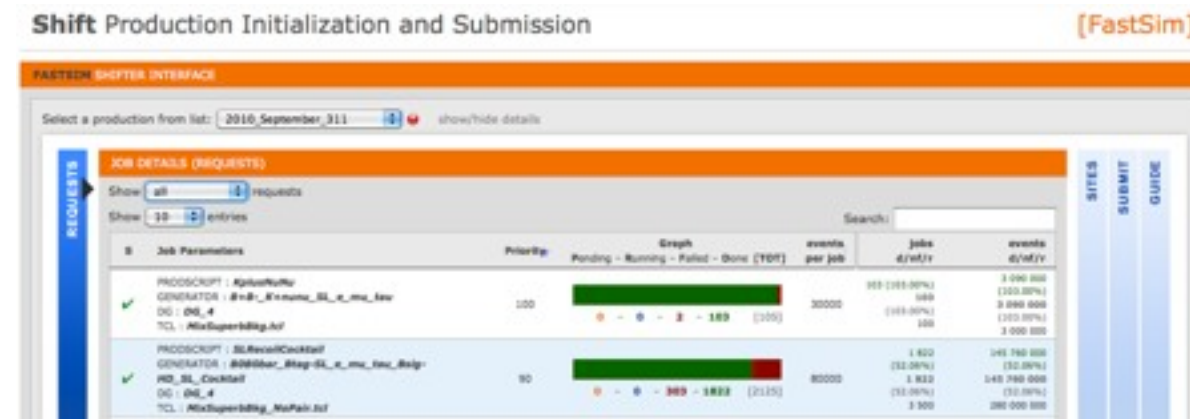
modify: thresholds, bunch dimension and description

select site

future developments: we could add a chart section with site statistics and add a test-site functionality here, too.

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- Shift Init page : the work is in progress and as soon as possible it will be available

- Nagios site monitor functionality integration

- Session Management : pages that allow session managers to add new sessions, define job parameters, add software revisions, ...