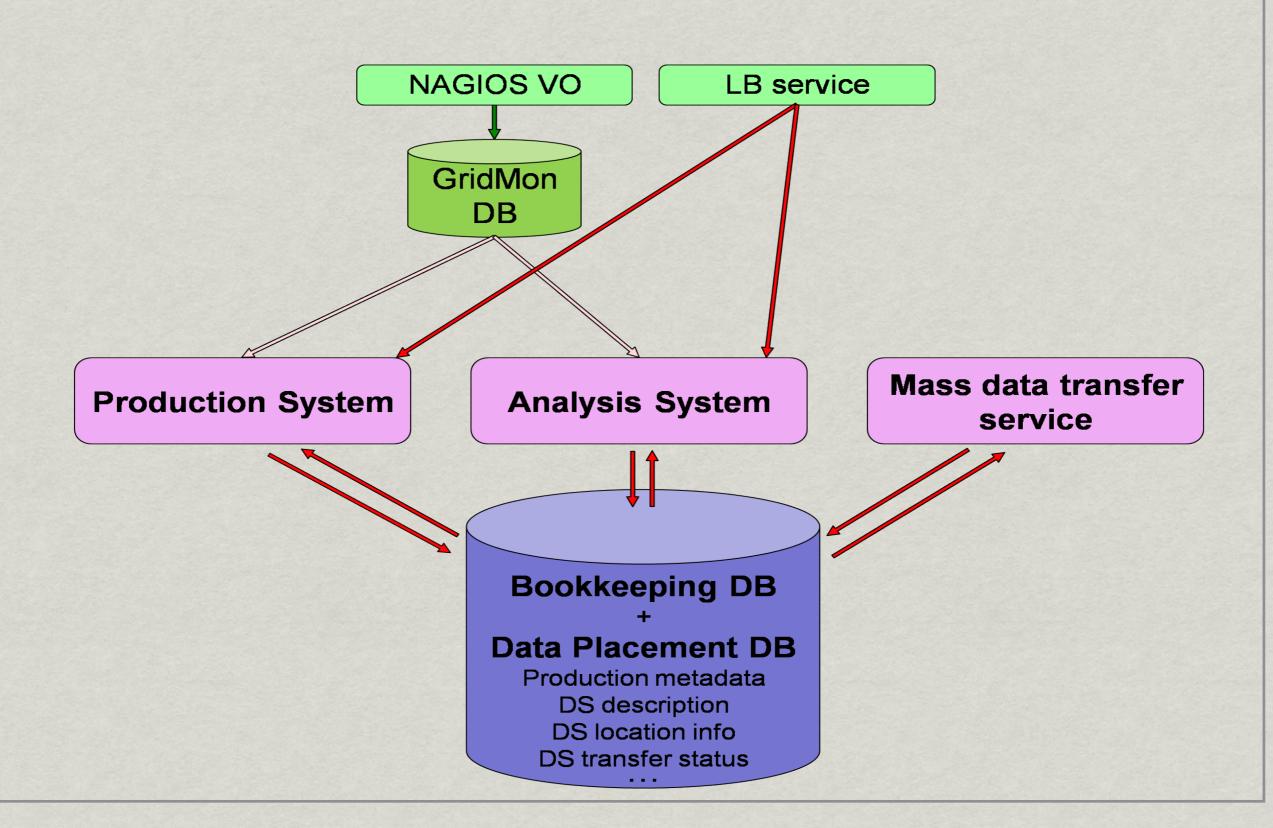
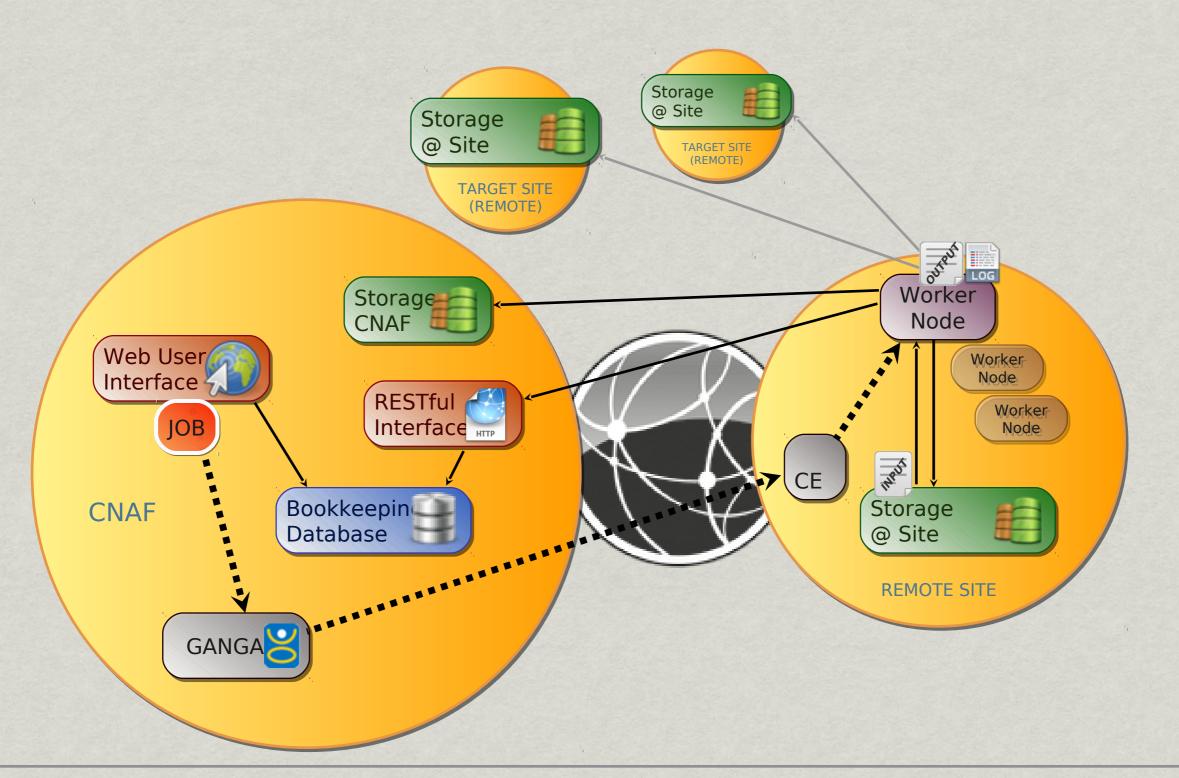
Production Tools

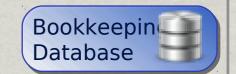
A. Fella thanks to L. Tomassetti

Bird's eye view



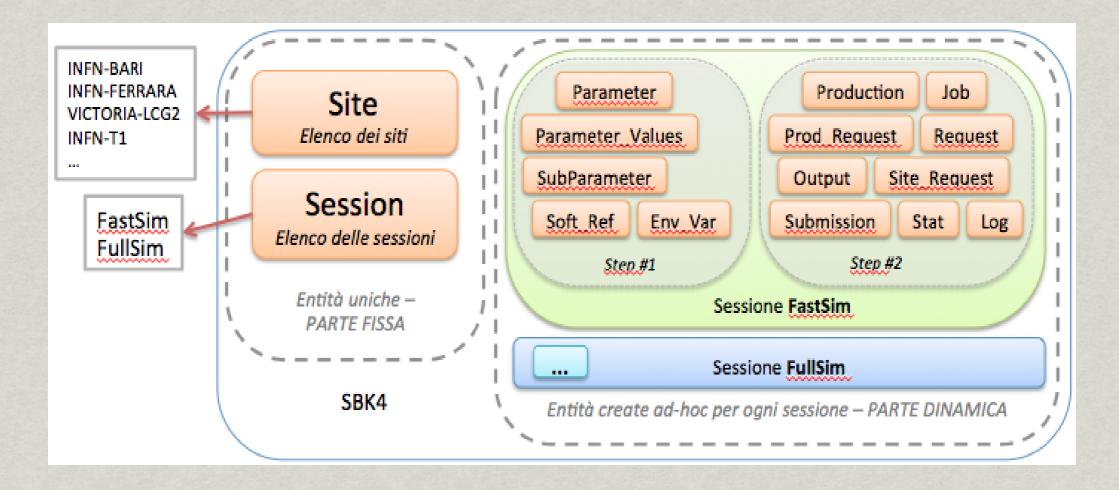
SuperB Production system: How it works

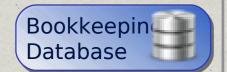




SBK5 The bookkeeping database

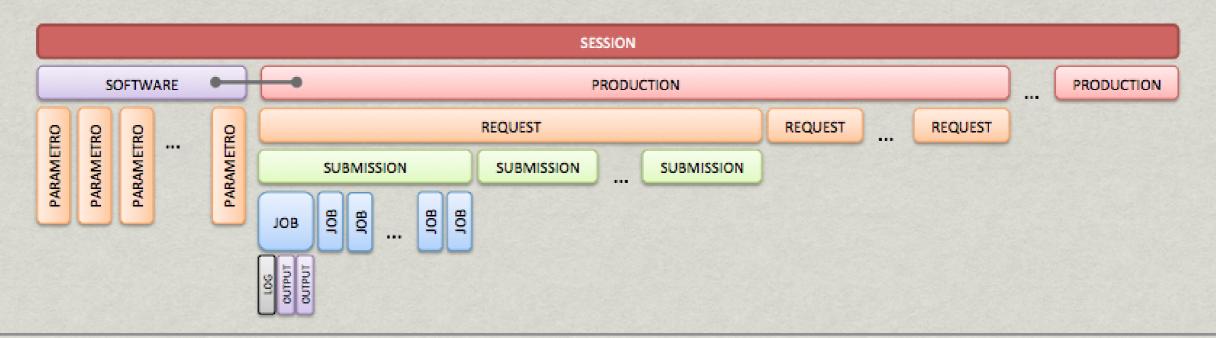
- * Database partitioned in Sessions (FullSim and FastSim)
- * For each Session a set of tables is replicated





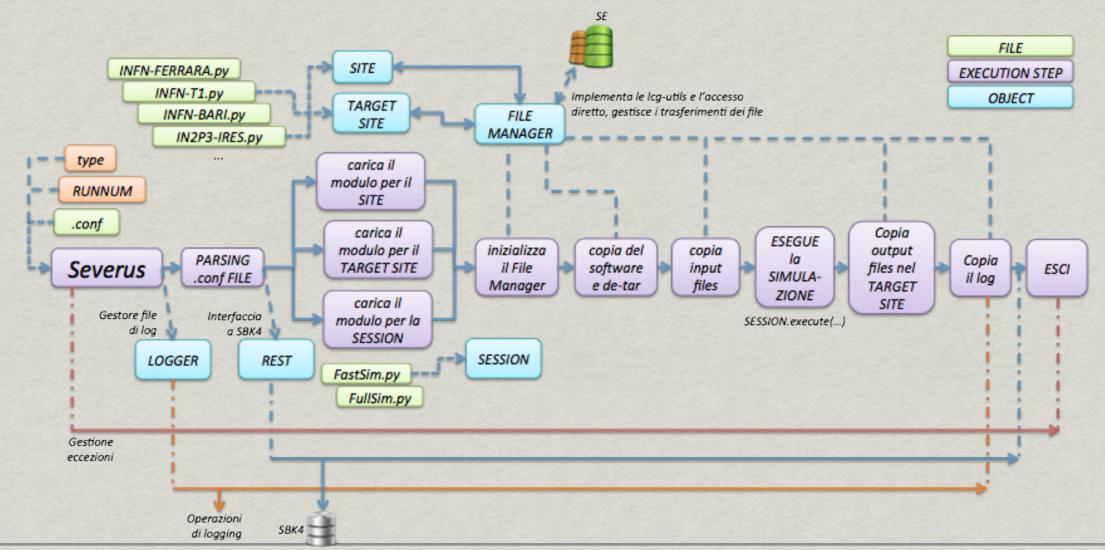
Sessions

- * Software (FastSim: PacProductionApp, FullSim: BrunoApp)
- * a set of Parameter to be given to the executable
- * an organization in Productions which determine the software release
- * a given set of Requests to be produced, in terms of number of simulated events, number of jobs, ... (a value for each Parameter)
- * a set of Jobs for each Request and Production, organized in Submissions
- * a set of metadata related to Log files and Output files



Job wrapper (Severus)

- * A single Python script for both (every) simulation (Session)
- * A configuration file customizes its behavior at execution time
- Modular structure, easily extendable
 A Module for each Session
- * Wiki material: http://mailman.fe.infn.it/superbwiki/index.php/Job_python_porting_project/General_information



JOB

Job wrapper (Severus)

CONFIGURATION FILE (MANY SECTIONS):

OPTIONS: GENERAL PARAMETERS

SOFTWARE: Info about the executable

REST: info about the rest interface to be used for communications with the db

- ► SITE: info about the submission site, where the job will be running. a module for each site is then loaded
- ► TARGETSITE: info about the site where replicas of output files must be done
- ► INPUT: info about the input files for the job
- OUTPUT : info for the stage-out phase
- EXPORT VARS: list of the envvar to be exported on the wn
- [SESSION NAME]: key-value pairs for simulation parameters, for the session specified in the options section

[REST]HOSTNAME = bbrserv09.cr.cnaf.infn.itNAME = restsbk4PORT = 8443PROXYVAR = X509 USER PROXY [OPTIONS]MODULENAME = FastSim PRODSERIES = 2010_July REQUESTNAME = c05940afb32309187195f SAVELOGDB = falseTEST = false

[SOFTWARE]EXEPATH = SuperB/FastSim/V0.2.5_SL-5.3_x86_64_rev311/workdir/bin/Linux26SL5_x86_64_gcc412 /PacProductionAppREVISION = 311SWPATH = Ifn:/grid/superbvo.org/production/FastSim/2010_September/test_release/V0.2.5_SL-5.3_x86_64_rev311.tjzVERSION = V0.2.5WORKDIR = SuperB/FastSim/V0.2.5_SL-5.3_x86_64_rev311/workdir

[SITE]USELOCALNAME = true

[TARGETSITE]SITENAME = INFN-T1
USELOCALNAME = false

[INPUT]INPUTMODE = DIRINPUTPATH =

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

[OUTPUT]LFN =

lfn:/grid/superbvo.org/production/FastSim/2010_July/outpu
t/HadRecoilCocktail/DG_4/B0B0bar_SL/%RUNNUM%
LOG =

/production/FastSim/2010_July/output/HadRecoilCocktail/D G_4/B0B0bar_SL/log/run%RUNNUM%.log OUTPUTPATH =

/production/FastSim/2010_July/output/HadRecoilCocktail/D

[EXPORT_VARS]LCG_GFAL_INFOSYS = egee-bdii.cnaf.infn.it:2170 ARAMPATH = SuperB/FastSim/V0.2.5_SL-5.3_x86_64_rev311/PacProduction

[FASTSIM]DG =DG_4
G 4/B0B0bar
GENERATOR =B0B0bar
NEVENTS = 80000
PRODSCRIPT =
HadRecoilCocktail
TCL = PacProduction.tcl

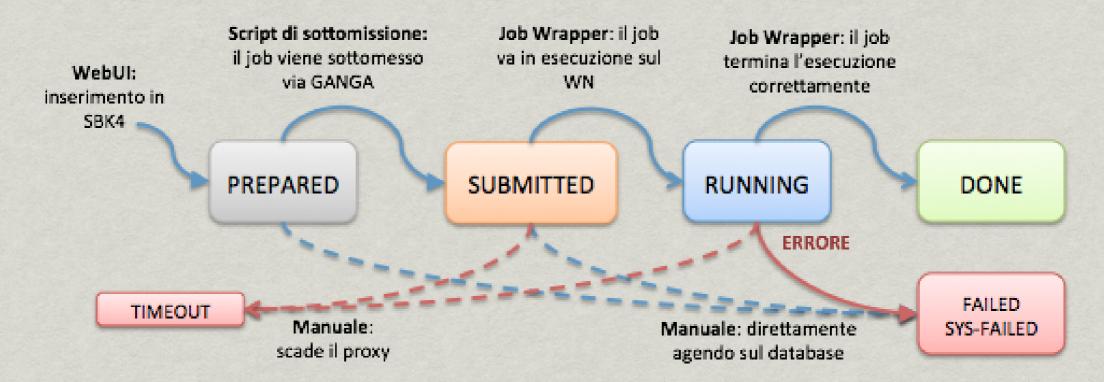


- * Directly connected with SBK4
 - * it makes use of SBK4 as bookkeeping database and to dynamically build the user interface
- * For each Session defined in SBK4, offers the following funcionalities:
 - * Site management (enabling and configuration);
 - * creation and management of Productions;
 - * creation and management of Requests;
 - * bulk submission of Jobs to a set of Sites (both expert and shift takers interfaces);
 - * submission of test Jobs;
 - * monitoring of Submissions (as a whole) and Jobs;
 - * visualization of log files and metadata of output files (and replicas).
- * Automatically adapts to new sessions without changing the code



WebUI + Job wrapper (Severus)





- * Submission stats computed with a trigger in the Job table when status changes
 - * BEFORE INSERT: submission creation
 - * AFTER INSERT: Stat update and Request status update
 - * AFTER UPDATE, AFTER DELETE: Stats update

Web User Interface

Next

Last

Previous

Home Page

Home Page

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 for

FastSim:

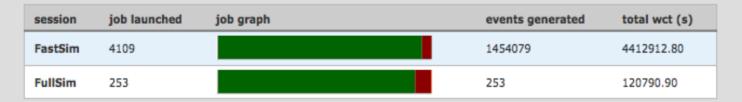
- e create productions
- e create requests
- e shifter ui
- expert ui
- emonitoring jobs user privileges for

FullSim:

- eg create productions
- **⊖** create requests
- e shifter ui
- expert ui
- emonitoring jobs

GUIDE







V0.2.5 311

Create New Producti)

Software Release:

Web User Interface

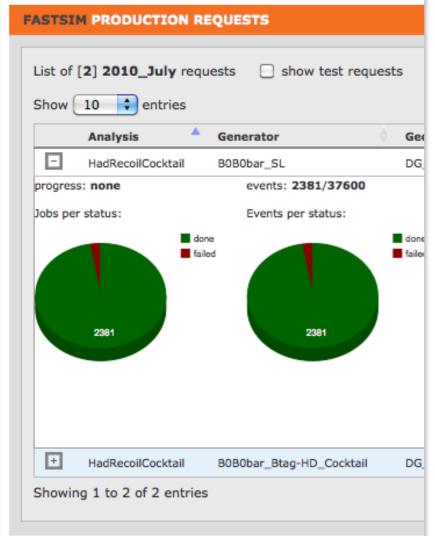
Productions

Productions [FastSim] **FASTSIM PRODUCTION LIST** List of session's productions show test productions Show 10 + entries Search: **Prod Series** Status Soft Release Job Stats actions Requests note 2010_July V0.2.5 311 2 Requests (0 open, 0 valid, 2 running, 0 closed) close 2010_July_test V0.2.5 311 7 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 Previous Next Last **FASTSIM CREATE PRODUCTION: GUIDE** Type in the new Production Series. All form fields are required. Specify the release version. ■ The system will check for uniqueness of the Production Series: 2011_November series. On success, it will create the entry(ies)

7

into the bookkeeping database.

Requests



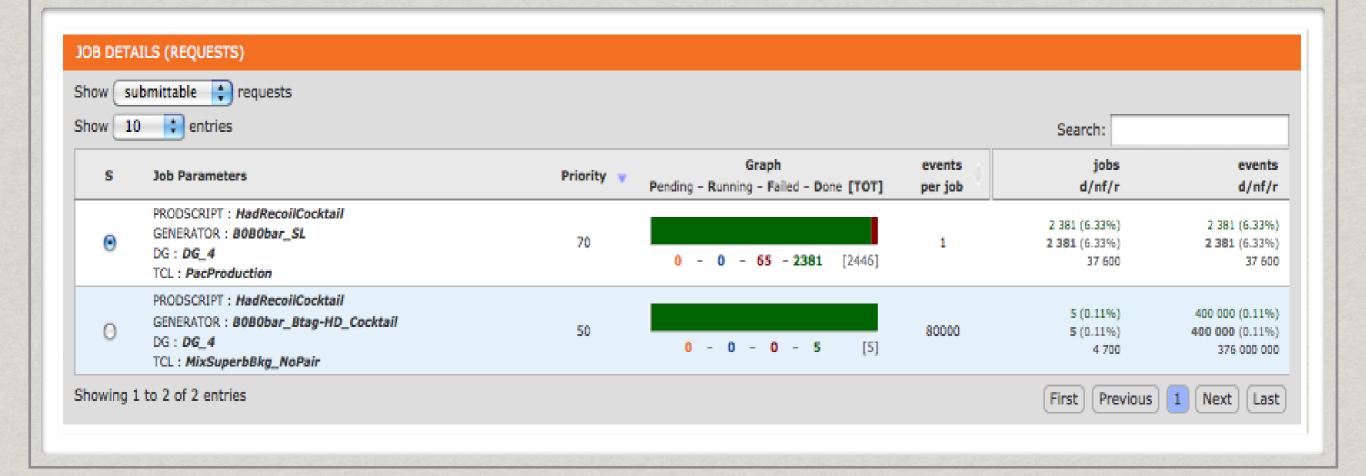


production: 2010 July	reque	st: [HadRecoilCocktail, B0B0	bar_Btag-HD_Cocktail, DG_4, Mix	xSuperbBkg_NoPair]	import	
Job Parameters:						
Analysis: HadRecoilCocktail	Generator: BOBObar_Btag-HD_Cock	Geometry: DG_0	Background All Bkg, No	: Pair (MixSuperb)		
A Production Request with the selected parameters doesn't exists and will be created Request settings:						
priority: 10	minrunnum:	required events:	evt/job:	number of jobs:		
	10000000	10	1	10		
expected event time (sec):	max wct (sec):				'	
9	57600					
Input:						
NONE Output & Log:						
output directory (lfn):		- (11-d0ilClil/DC-0/00)	DOLLAR DATA LID CARLANTINONININI	118.407.7	0	
output directory (absolute):	duction/FastSim/2010_July/outpu	t/HadkecollCocktall/DG_U/BU	BUDAr_Btag-HD_Cocktail/%KUNN	UM%/	0	
	July/output/HadRecoilCocktail/D0	G O/BOBObar Btag-HD Cockta	il/%RUNNUM%/		1	
log file:	,,,,,,		,,,		0	
	July/output/HadRecoilCocktail/Do	G_0/B0B0bar_Btag-HD_Cockta	il/log/run%RUNNUM%.log			
	or the associated test request				0	
Edit output directories for test request's output directors						
test request's output direct		utput/HadRecoilCocktail/DG_(0/B0B0bar_Btag-HD_Cocktail/%R	UNNUM%/		
test request's output direct lfn:/grid/superbvo.org/prod test request's output direct	ory (Ifn): duction/FastSim/2010_July_test/o ory (absolute):			UNNUM%/	•	
test request's output directed in:/grid/superbyo.org/proctest request's output directed/production/FastSim/2010_	ory (lfn): duction/FastSim/2010_July_test/o			UNNUM%/		
test request's output directed ifn:/grid/superbyo.org/produest request's output directed /production/FastSim/2010_test log file:	ory (Ifn): duction/FastSim/2010_July_test/o ory (absolute): July_test/output/HadRecoilCockta	ail/DG_0/B0B0bar_Btag-HD_Cd	ocktail/%RUNNUM%/	UNNUM%/	0	
test request's output directed Ifn:/grid/superbyo.org/products request's output directed /production/FastSim/2010_test log file: /production/FastSim/2010_	ory (Ifn): duction/FastSim/2010_July_test/o ory (absolute):	ail/DG_0/B0B0bar_Btag-HD_Cd	ocktail/%RUNNUM%/	UNNUM%/		
test request's output directed ifn:/grid/superbyo.org/produest request's output directed /production/FastSim/2010_test log file:	ory (Ifn): duction/FastSim/2010_July_test/o ory (absolute): July_test/output/HadRecoilCockta	ail/DG_0/B0B0bar_Btag-HD_Cd	ocktail/%RUNNUM%/	UNNUM%/		
test request's output directed Ifn:/grid/superbyo.org/production/FastSim/2010_test log file: /production/FastSim/2010_outputs' sites: CIT_CMS_T2B IN2P3-CC	ory (Ifn): duction/FastSim/2010_July_test/o ory (absolute): July_test/output/HadRecoilCockta CIT_HEP_CE IN2P3-IRES	ail/DG_0/B0B0bar_Btag-HD_Co ail/DG_0/B0B0bar_Btag-HD_Co CYFRONET-LCG2	ocktail/%RUNNUM%/ ocktail/log/run%RUNNUM%.log GRIF INFN-BARI	☐ GRISU_UNINA ☐ INFN-CAGLIARI	©	
test request's output directed Ifn:/grid/superbyo.org/production/FastSim/2010_test log file: /production/FastSim/2010_outputs' sites: CITCMST2B IN2P3-CC INFN-FERRARA	ory (lfn): duction/FastSim/2010_July_test/o ory (absolute): July_test/output/HadRecoilCockta CIT_HEP_CE IN2P3-IRES INFN-FRASCATI	ail/DG_0/B0B0bar_Btag-HD_Co ail/DG_0/B0B0bar_Btag-HD_Co CYFRONET-LCG2 IN2P3-LPSC INFN-LNL-2	ocktail/%RUNNUM%/ ocktail/log/run%RUNNUM%.log GRIF INFN-BARI INFN-MILANO-ATLASC	☐ GRISU_UNINA ☐ INFN-CAGLIARI ☐ INFN-NAPOLI-ATLAS	©	
test request's output directors in:/grid/superbvo.org/production/FastSim/2010_test log file: /production/FastSim/2010_outputs' sites: CIT_CMS_T2B IN2P3-CC INFN-FERRARA INFN-PERUGIA	ory (lfn): duction/FastSim/2010_July_test/o ory (absolute): July_test/output/HadRecoilCockta	ail/DG_0/B0B0bar_Btag-HD_Co ail/DG_0/B0B0bar_Btag-HD_Co CYFRONET-LCG2 IN2P3-LPSC INFN-LNL-2	ocktail/%RUNNUM%/ ocktail/log/run%RUNNUM%.log GRIF INFN-BARI INFN-MILANO-ATLASC INFN-TORINO	GRISU_UNINA INFN-CAGLIARI INFN-NAPOLI-ATLAS	©	
test request's output direction Ifn:/grid/superbyo.org/production/FastSim/2010_ test log file: /production/FastSim/2010_ outputs' sites: CIT_CMS_T2B IN2P3-CC INFN-FERRARA INFN-PERUGIA UKI-LT2-QMUL	ory (lfn): duction/FastSim/2010_July_test/o ory (absolute): July_test/output/HadRecoilCockta	ail/DG_0/B0B0bar_Btag-HD_Co ail/DG_0/B0B0bar_Btag-HD_Co CYFRONET-LCG2 IN2P3-LPSC INFN-LNL-2	ocktail/%RUNNUM%/ ocktail/log/run%RUNNUM%.log GRIF INFN-BARI INFN-MILANO-ATLASC INFN-TORINO	☐ GRISU_UNINA ☐ INFN-CAGLIARI ☐ INFN-NAPOLI-ATLAS	©	
test request's output direction in the contest request's output direction in the contest request's output direction in the contest log file: /production/FastSim/2010_outputs' sites: CIT_CMS_T2B	ory (lfn): duction/FastSim/2010_July_test/o ory (absolute): July_test/output/HadRecoilCockta	ail/DG_0/B0B0bar_Btag-HD_Co ail/DG_0/B0B0bar_Btag-HD_Co CYFRONET-LCG2 IN2P3-LPSC INFN-LNL-2	ocktail/%RUNNUM%/ ocktail/log/run%RUNNUM%.log GRIF INFN-BARI INFN-MILANO-ATLASC INFN-TORINO	GRISU_UNINA INFN-CAGLIARI INFN-NAPOLI-ATLAS	©	
test request's output direction Ifn:/grid/superbyo.org/production/FastSim/2010_ test log file: /production/FastSim/2010_ outputs' sites: CIT_CMS_T2B IN2P3-CC INFN-FERRARA INFN-PERUGIA UKI-LT2-QMUL	ory (lfn): duction/FastSim/2010_July_test/o ory (absolute): July_test/output/HadRecoilCockta	ail/DG_0/B0B0bar_Btag-HD_Co ail/DG_0/B0B0bar_Btag-HD_Co CYFRONET-LCG2 IN2P3-LPSC INFN-LNL-2	ocktail/%RUNNUM%/ ocktail/log/run%RUNNUM%.log GRIF INFN-BARI INFN-MILANO-ATLASC INFN-TORINO	GRISU_UNINA INFN-CAGLIARI INFN-NAPOLI-ATLAS	©	

WebUI Shift Init (I)



- * Request selection
- * the highest priority one is automatically selected

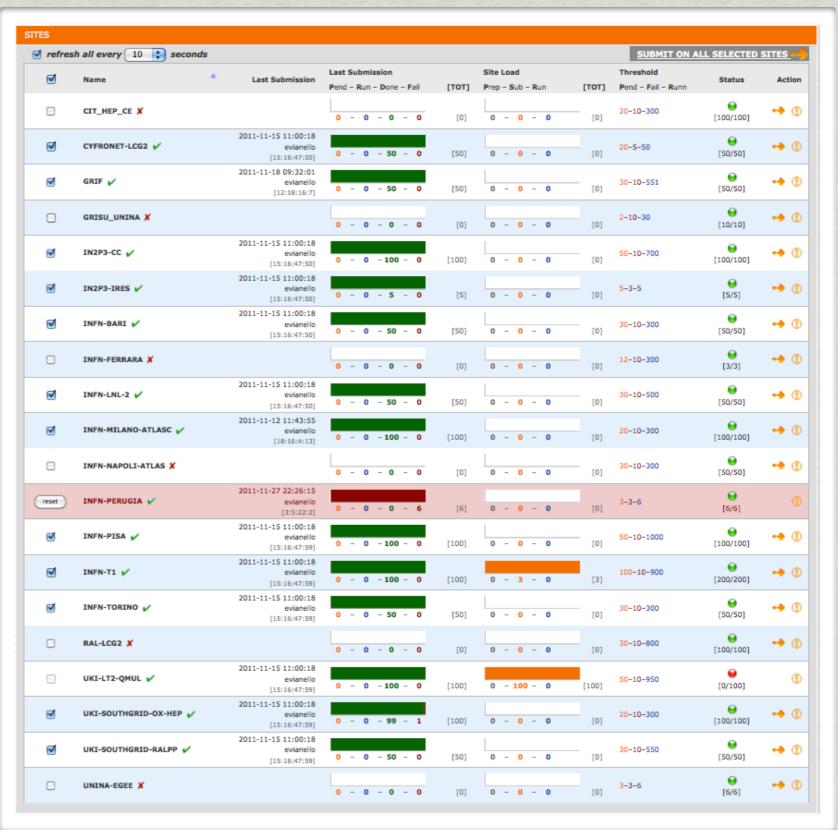


Shift Init (II)

- * Site selection
- * selection algorithm based on previous submission, load of sites, number of failures, ...

* health of site service will be taken into account soon...





WebUI Shift Init (III)

Submission status per site: ⊖ [32.89 s] <u>log</u> /data1/script_webui/FastSim/submissionscripts/2010_July/CYFRONET-LCG2_10001643_10001692.php ⊖ [52.508 s] <u>log</u> /data1/script_webui/FastSim/submissionscripts/2010_July/IN2P3-CC_10001693_10001792.php C $/data1/script_webui/FastSim/submissionscripts/2010_July/IN2P3-IRES_10001793_10001797.php$ 0 /data1/script_webui/FastSim/submissionscripts/2010_July/INFN-BARI_10001798_10001847.php... /data1/script_webui/FastSim/submissionscripts/2010_July/INFN-LNL-2_10001848_10001897.php... /data1/script_webui/FastSim/submissionscripts/2010_July/INFN-PISA_10001898_10001997.php... /data1/script_webui/FastSim/submissionscripts/2010_July/INFN-T1_10001998_10002097.php... /data1/script_webui/FastSim/submissionscripts/2010_July/INFN-TORINO_10002098_10002147.php... /data1/script_webui/FastSim/submissionscripts/2010_July/UKI-LT2-QMUL_10002148_10002247.php... 0 /data1/script_webui/FastSim/submissionscripts/2010_July/UKI-SOUTHGRID-OX-HEP_10002248_10002347.php... /data1/script_webui/FastSim/submissionscripts/2010_July/UKI-SOUTHGRID-RALPP_10002348_10002397.php...



* Summary of what will be submitted (below)

* Automatic submission dialog (above)

PRODUCTION	DATA - SUMMARY				
Produc Se	ction 2010_July ries:				
Softw	are: V0.2.5 311				
Test rele		uperbvo.org/ 4_rev311.tjz	production/FastSim/2010_Sep	tember/test_release/V0).2.5_SL-
JOB BULK #1 -	SUMMARY				
Request Parar	neters:				
PRODSCRIPT		GENERATOR	DG	TCL	
HadRecoilCocktail		0B0bar_Btag-HD_Cocktail	DG_4	MixSuperbBkg_NoPair	
Jobs' Type	Events per job	Log on db	Target site(s)		
normal	80000	no	INFN-T1		
#Jobs	Site		First RUNNUM	Last RUNNUM	#Events
50	CYFRONET-LCG2		10002454	10002503	4000000
50	GRIF		10002504	10002553	4000000
100	IN2P3-CC		10002554	10002653	8000000
5	IN2P3-IRES		10002654	10002658	400000
50	INFN-BARI		10002659	10002708	4000000
50	INFN-LNL-2		10002709	10002758	4000000
100	INFN-MILANO-ATLA	sc	10002759	10002858	8000000
100	INFN-PISA		10002859	10002958	8000000
200	INFN-T1		10002959	10003158	16000000
50	INFN-TORINO		10003159	10003208	4000000
100	UKI-SOUTHGRID-O	X-HEP	10003209	10003308	8000000
50	UKI-SOUTHGRID-RA	ALPP	10003309	10003358	4000000
905					72400000
output directory's output directory's	input path: Ifn:/grid/s name: /production/Fa Ifn: Ifn:/grid/superbyo	stSim/2010_July o.org/production	duction/FastSim/2010_September/ir //output/HadRecoilCocktail/DG_4/B0 /FastSim/2010_July/output/HadReco lRecoilCocktail/DG_4/B0B0bar_Btag-	B0bar_Btag-HD_Cocktail/%R bilCocktail/DG_4/B0B0bar_Bt	ag-HD_Cocktail/%RUNNUM%

Production Initialization and Script Generation



Automatic Submission

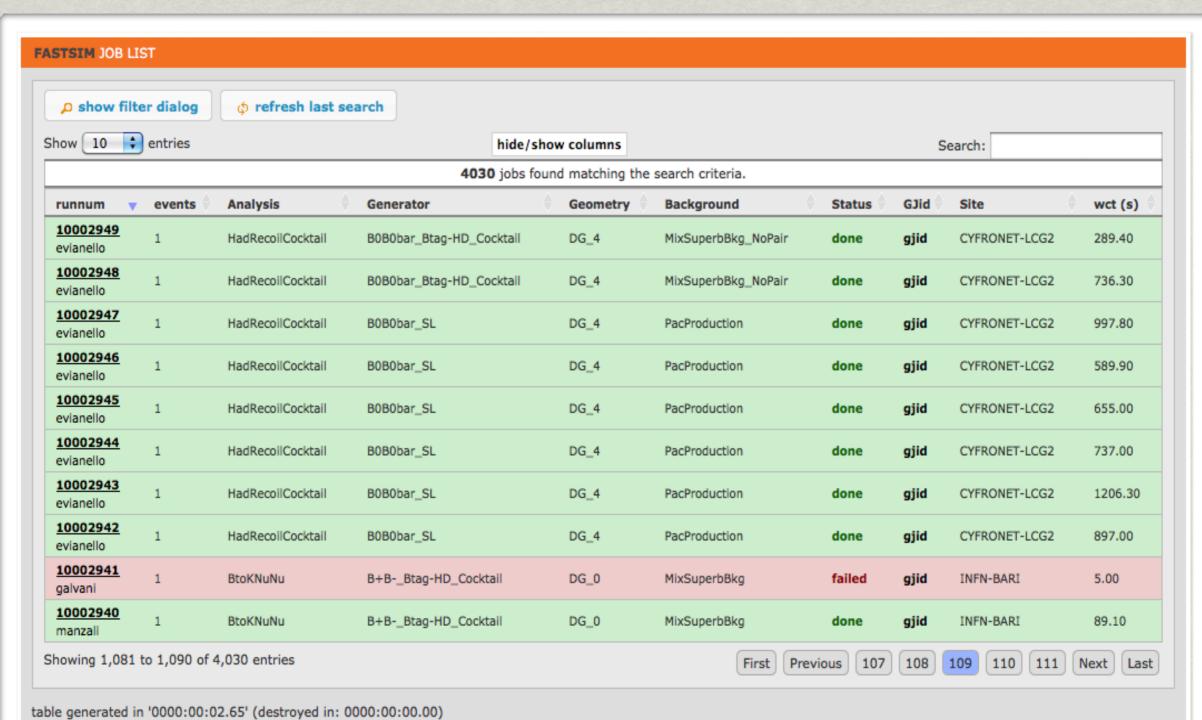


WebUI Expert Init

lect a production from list:	2010_July	iide details		
ubmission Sites:				
CIT_CMS_T2B	☐ CIT_HEP_CE X	☐ CYFRONET-LCG2 ✔	☐ GRIF ✔	GRISU_UNINA X
IN2P3-CC ✓	☐ IN2P3-IRES ✓	☐ IN2P3-LPSC ✓	☐ INFN-BARI ✓	☐ INFN-CAGLIARI
INFN-FERRARA 🗶	☐ INFN-FRASCATI ✓	☐ INFN-LNL-2 ✓	☐ INFN-MILANO-ATLASC ✓	☐ INFN-NAPOLI-ATLAS 🗶
INFN-PERUGIA ✓	☐ INFN-PISA ✓	☐ INFN-T1 ✓	☐ INFN-TORINO ✓	RAL-LCG2 X
UKI-LT2-QMUL ✓	☐ UKI-SOUTHGRID-OX-HEP ✔	☐ UKI-SOUTHGRID-RALPP ✔	☐ UNINA-EGEE 🗶	☐ VICTORIA-LCG2
VICTORIA-LCG2-SL4	□ WT2	Select all supported none		
ob Details:				
est Job? Number of ru	ins: 100 Number of events:	80000 Request: [HadRecoilCoo	cktail, B0B0bar_Btag-HD_Cocktail, D0	4. MixSı
est Job! Number of to	is. 100 Number of events.	80000 Request. (Francesiles	intan, boobsi _btag +1b_cocktan, bt	_1,11112
Log files to be stored in	the bookeeping database			
est Job? ☑ Number of ru	uns: 50 Number of events:	1 Request: [BtoKNuNu, B-	+BBtag-HD_Cocktail, DG_0, MixSup	perbBkg] 🛟
_				perbBkg] 💠
analysis:	Generator:	Geometry:	Background:	
nalysis: BtoKNuNu	Generator: B+BBtag-HD_Cocktail \$\displays{2}\$		Background:	
analysis:	Generator: B+BBtag-HD_Cocktail \$\displays{2}\$	Geometry:	Background:	

WebUI Job Monitor





Thank you!

WebUI url:

https://bbr-serv09.cr.cnaf.infn.it:8443/~webui_sbk5/

Wiki portal:

http://mailman.fe.infn.it/superbwiki/index.php/Distributed_computing_main_portal

Distributed Computing Group (super-distrcomp@lists.infn.it)