

PRODUCTION SOFTWARE

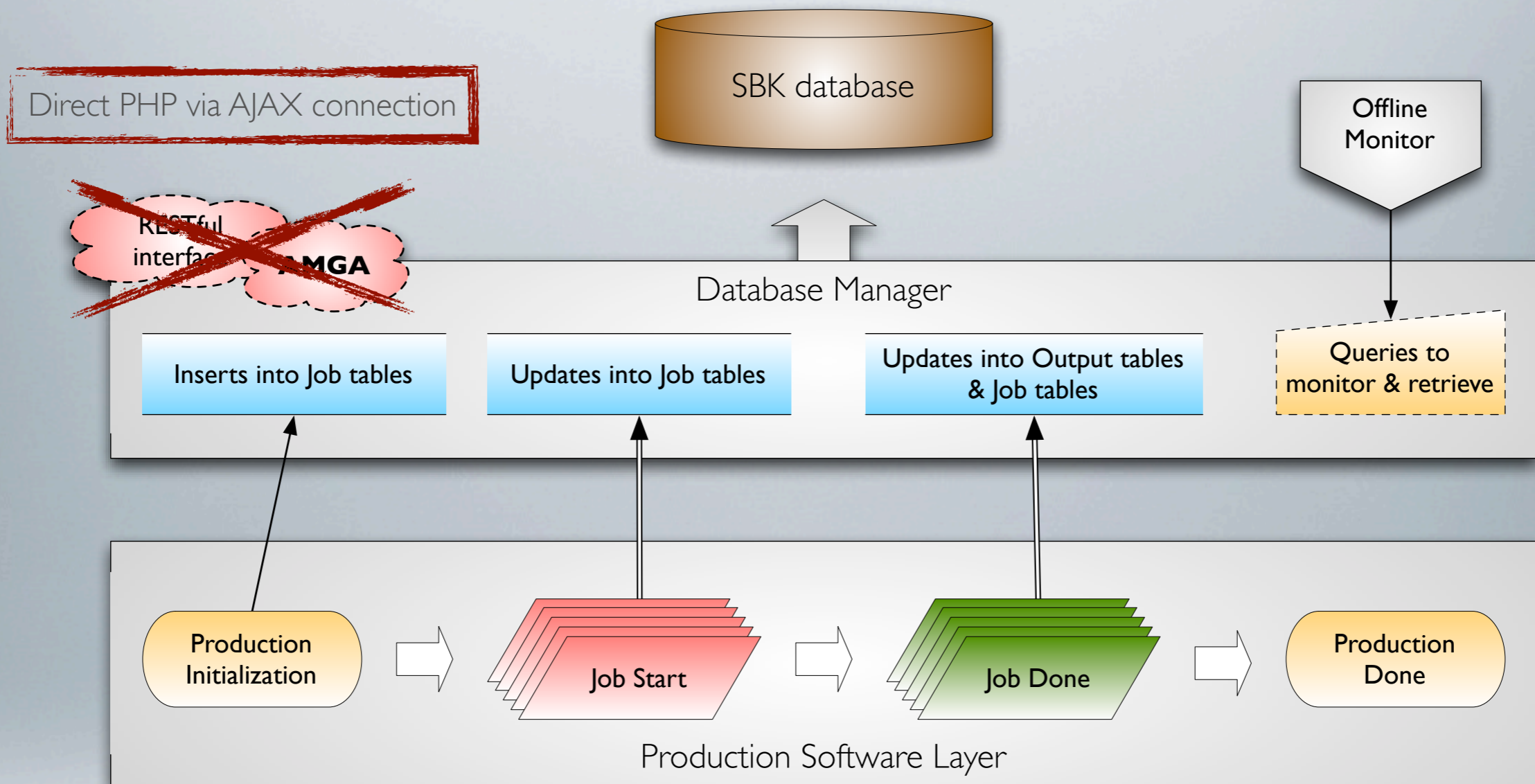
Status and Future Developments

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Distributed Computing Group

WEB INTERFACE

- sbk Database deployed @CNAF [MySQL]
- Web UI, FastSim only [PHP, BASH scripts, AJAX]
- Job preparation [db Initialization]
production, multi-bunches [DG, generator, #runs, #events]
- Job Submission [batch system]
manual launch [CNAF farm only]
- Provided for the November production [ALPHA status]
keeping in mind future developments



WORKFLOW

Fast Simulation – Production WebUI

Production Initialization and Submission

PRODUCTION FORM

Production Data

Production Series:

[Create new Production](#)

Data taken from database

Production Series:	2009_November
Production root:	/storage/gpfs_babar6/sb/prod/
Fast TAG:	V0.1.2
ARCH:	Linux26SL4_j386_gcc346
Release working Directory:	/home/BABAR/brownd/SuperB/FastSim/V0.1.2_prod/workdir/

Minimum Run Number:

Software Revision:

[Create new Revision](#)

PROD INIT & SUBMISSION

Pull-down menu with Productions, New Productions,
New Software Releases

Job Details

of Runs: # of Events (per job): Generator: Geometry:

of Runs: # of Events (per job): Generator: Geometry: [-]

of Runs: # of Events (per job): Generator: Geometry: [-] [+]

Submit Data and Generate Summary

JOBS BUNCHES

The UI will launch **3** set(s) of jobs (a total of **2000** jobs, **200000000** events) for the Production **2009_November** with the following parameters:

PRODUCTION DATA - SUMMARY	
Production Series:	2009_November
Production root:	/storage/gpfs_babar6/sb/prod/
Fast TAG:	V0.1.2
ARCH:	Linux26SL4_i386_gcc346
Release working Directory:	/home/BABAR/brownd/SuperB/FastSim/V0.1.2_prod/workdir/
Revision:	179

JOBS DATA - SUMMARY						
Set	Number of Jobs	First RUNNUM	Last RUNNUM	Number of Events	Generator	Geometry
1	500	36310	36809	50000000 (100000 ea.)	ccbar	DG_1
		/storage/gpfs_babar6/sb/prod/2009_November/FastSim/DG_1/ccbar/[36310...36809]/				
2	500	36810	37309	50000000 (100000 ea.)	ccbar	DG_4
		/storage/gpfs_babar6/sb/prod/2009_November/FastSim/DG_4/ccbar/[36810...37309]/				
3	1000	37310	38309	100000000 (100000 ea.)	B+B-_SL	DG_1
		/storage/gpfs_babar6/sb/prod/2009_November/FastSim/DG_1/B+B-_SL/[37310...38309]/				
3	2000			200000000		

General path to output files: [PRODRoot]/[PRODSERIES]/[PRODTYPE]/[GEOMETRY]/[GENERATOR]/[RUNNUM]

General path to log files: [PRODRoot]/[PRODSERIES]/[PRODTYPE]/[GEOMETRY]/[GENERATOR]/log/[RUNNUM].log

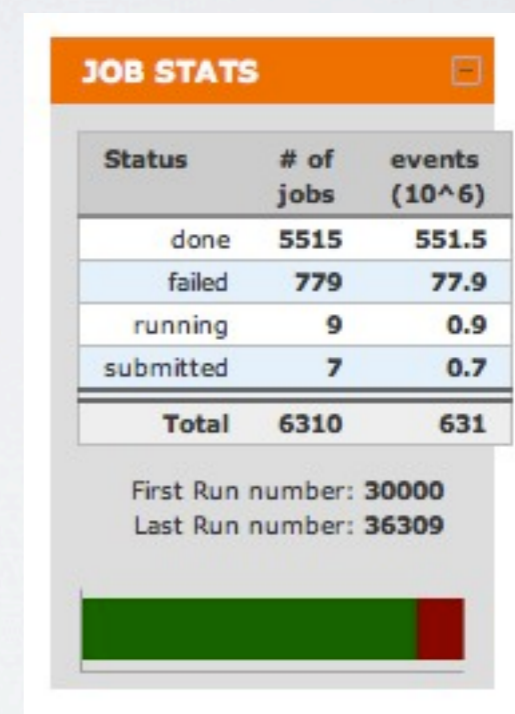
Please, double check the summary.

Use the form above to modify the data and generate a new summary or continue the submission.

JOBS SUMMARY

JOB SUBMISSION

- Web Interface inserts jobs data into database and prepares the jobs scripts to be launched @CNAF
- Production Manager should manually launch just one script
- Basic monitor



The screenshot shows a 'JOB STATS' interface with a table of job status and a progress bar. The table has three columns: Status, # of jobs, and events (10^6). The data is as follows:

Status	# of jobs	events (10^6)
done	5515	551.5
failed	779	77.9
running	9	0.9
submitted	7	0.7
Total	6310	631

Below the table, the interface shows the following information:

First Run number: 30000
Last Run number: 36309

A progress bar is shown below the text, consisting of a green bar and a red bar.

Production Monitor

PRODUCTION SERIES

Production Series:

Data taken from database

Production Series:	2009_November
Production root:	/storage/gpfs_babar6/sb/prod/
Fast TAG:	V0.1.2
ARCH:	Linux26SL4_i386_gcc346
Release working Directory:	/home/BABAR/brownd/SuperB/FastSim/V0.1.2_prod/workdir/

JOBS DATA

Runnum start end	# of events	Geometry	Soft release	Job Status	Grid Status	Grid Job Id
<input type="text" value="30000"/> <input type="text" value="36309"/>		<input type="text" value="DG_1"/>	<input type="text" value="ALL"/>	<input type="text" value="done"/>	<input type="text" value="ALL"/>	<input type="button" value="show"/>

- ALL
- BOB0bar_generic
- B+B-_generic
- ccbar
- uds
- ✓ B+B-_taunu_DX

10 jobs found matching the search criteria.

36280	100000	B+B-_taunu_DX	DG_1	V0.1.2 179	done	2183764
36281	100000	B+B-_taunu_DX	DG_1	V0.1.2 179	done	2183765
36282	100000	B+B-_taunu_DX	DG_1	V0.1.2 179	done	2183766
36283	100000	B+B-_taunu_DX	DG_1	V0.1.2 179	done	
36284	100000	B+B-_taunu_DX	DG_1	V0.1.2 179	done	
36285	100000	B+B-_taunu_DX	DG_1	V0.1.2 179	done	
36286	100000	B+B-_taunu_DX	DG_1	V0.1.2 179	done	

JOB STATS

Status	# of jobs	events (10 ⁶)
done	5515	551.5
failed	779	77.9
running	9	0.9
submitted	7	0.7
Total	6310	631

First Run number: 30000
Last Run number: 36309



MONITOR


STATUS

- It worked [well]!
- Successful scripts generation with proper parameters
- Successful job execution [started by the user]
- Automatic database updates with status & outputs & logs
- Based on Dave's requirements
- Incomplete implementation [no form validation, ...]
- Monitor based on db not on the batch system
- A step forward [we hope]

Production analysis & results presented by Dave

TO DO

Job Init & Submit

- Authentication & Authorization [VOMS, Cert]
 - Automatic submission
 - Multi-site, distributed, Grid execution
 - other parameters?
- 

Input files selection?

Need to import FullSim data
[old & new prod]

Need to insert into db the
FullSim merge files

Generators list [UI?, fixed?]

Software release

TO DO

Job Monitor

- More info [possibly from batch system also]
- Stats per DG, generator, channel, status
- Direct access to logs

File Merge

- Two levels:
 - Managing metadata
 - Performing operations
- Both FullSim & FastSim **?**
- Automatic file selection/div. [generator/channel based]

We need feedback!

FULLSIM INTEGRATION

- Abandon old one-table db in the next production
- Seamless integration of FullSim in the new sbk db [old data must be imported]
- More metadata will be available [also to/from FastSim]
- Init & Submission via WebUI [or its extensions]
 - ⇒ multi-job-type preparation
 - ⇒ automatic status, logs and output updates

INTERFACE FOR USERS

- Monitor-like
- Queries to the database to retrieve output files to analyze
- Parametric queries [DG, generator, channel type, runnums, ...]
over all Productions [or user-selected Productions]
- just “pointers” to files [single or merge]

FEBRUARY 2010

Guaranteed

Improve WebUI
with FullSim integration,
bugfixes, new features,
better monitor,
authentication layer
@CNAF

+

GANGA submission
[batch || Grid]
[@CNAF || multi-site]
several issues to be
addressed for the full
distributed solution

lack of time and manpower

Armando + Luca + 2 FE Student

FEBRUARY 2010

- GOAL: 10x events in max. 2x running time [ambitious!]
- Three options:
 - (1) WebUI as Nov. 09 with improvements @CNAF [time 5x]
 - (2) Full Distributed Solution (long term goal) [manpower]
 - (3) Exploitation of other sites by “exporting” the Web UI, instructing people, launching independent jobs and collecting results [how many sites? cores?]

See Armando Fella talk for more details in timing and tasks...