

Production Requests in DIRAC

From the end user perspective

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For the DIRAC team



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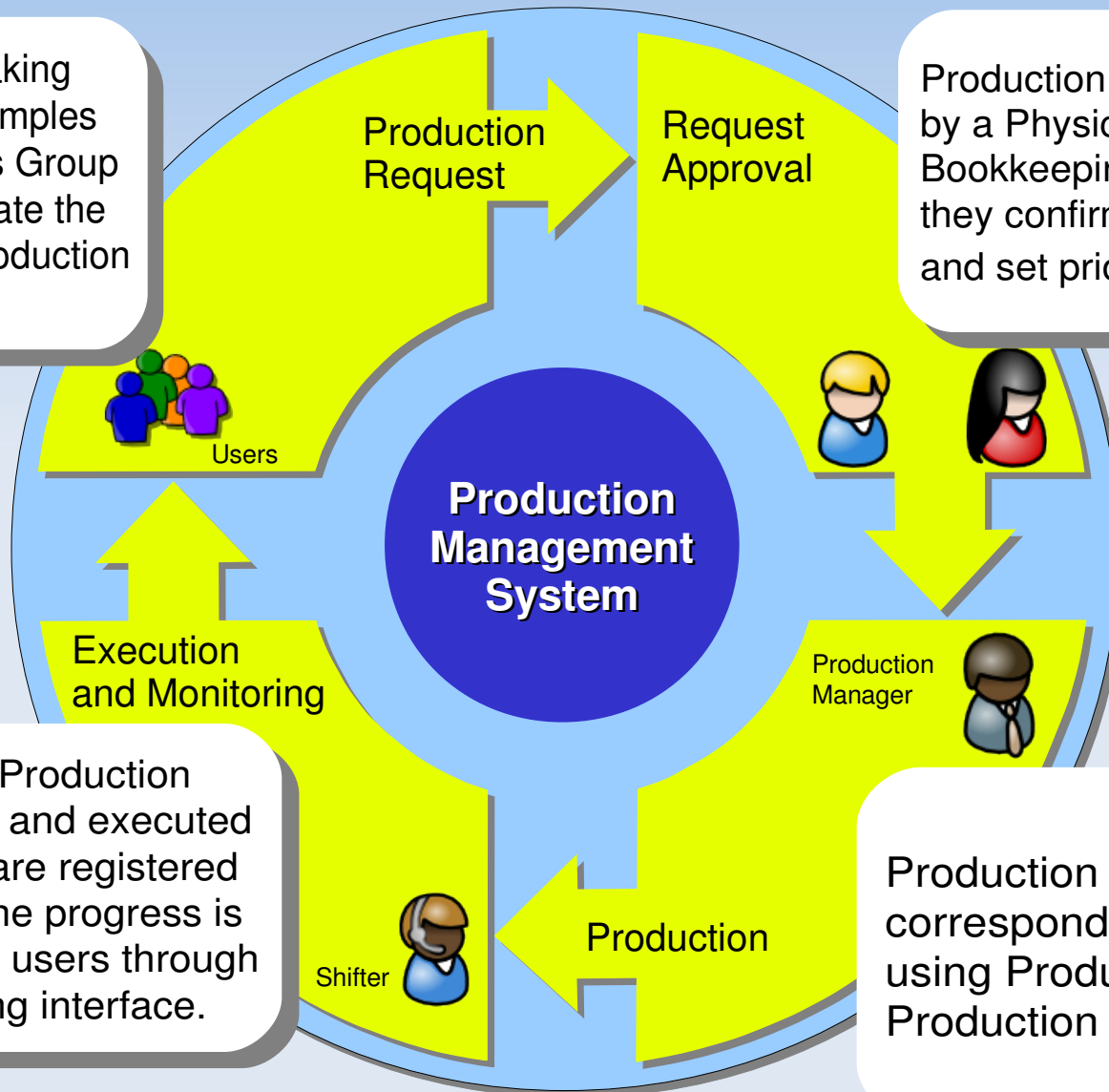
DIRAC Production vs “notebook”

- Large scale data generation/processing
 - Operated by Production Team
 - Consume a lot of resources
 - Results are used by the whole collaboration
- Consequences
 - Less fault tolerant and needs more careful definition
 - Required resources planning
 - Has to be “requested”



Production Request life cycle

Users discussing and taking decisions of the data samples to be produced; Physics Group representative accumulate the requirements and fill Production Request form.



Production Request approved by a Physics Coordinator, Bookkeeping and Technical expert; they confirm the request validity and set priorities.

Under shifter control, Production Jobs are submitted to and executed on the GRID; results are registered in the Bookkeeping; the progress is presented back to the users through the Request Monitoring interface.

Production manager creates corresponding Productions using Production Request and Production Template

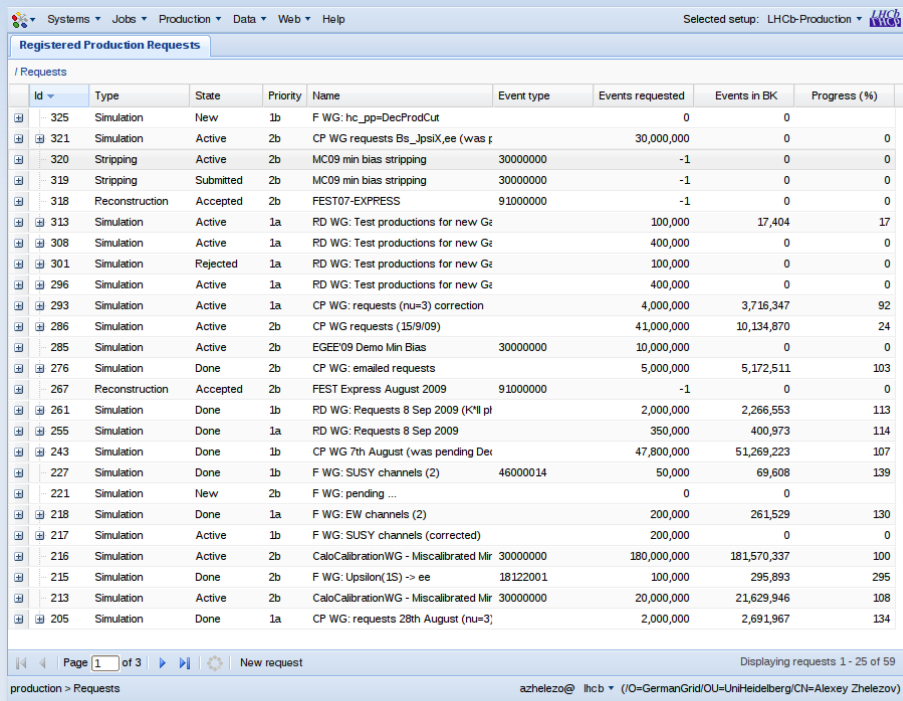
Production Requests Interface

- Exposed to the users part of the DIRAC Production System
 - Formalized replacement of mail exchange
 - User and experts friendly
 - Processing progress monitoring
 - E-Mail notifications
 - Processing automations
 - Has complete documentation



Web Portal

<https://lhcbweb.pic.es/DIRAC/LHCb-Production/lhcb/production/ProductionRequest/display>



The screenshot displays a web browser window with the title "Registered Production Requests". The browser's address bar shows the URL: <https://lhcbweb.pic.es/DIRAC/LHCb-Production/lhcb/production/ProductionRequest/display>. The page content is a table with the following columns: Id, Type, State, Priority, Name, Event type, Events requested, Events in BK, and Progress (%). The table lists 25 production requests, including simulations, stripping, and reconstruction tasks, with various states like New, Active, Submitted, Accepted, Rejected, and Done.

Id	Type	State	Priority	Name	Event type	Events requested	Events in BK	Progress (%)
325	Simulation	New	1b	F WG: hc_pp=DecProdCut		0	0	
321	Simulation	Active	2b	CP WG requests Bs_psiX,ee (was t		30,000,000	0	0
320	Stripping	Active	2b	MC09 min bias stripping	30000000	-1	0	0
319	Stripping	Submitted	2b	MC09 min bias stripping	30000000	-1	0	0
318	Reconstruction	Accepted	2b	FEST07-EXPRESS	91000000	-1	0	0
313	Simulation	Active	1a	RD WG: Test productions for new G		100,000	17,404	17
308	Simulation	Active	1a	RD WG: Test productions for new G		400,000	0	0
301	Simulation	Rejected	1a	RD WG: Test productions for new G		100,000	0	0
296	Simulation	Active	1a	RD WG: Test productions for new G		400,000	0	0
293	Simulation	Active	1a	CP WG: requests (nu=3) correction		4,000,000	3,716,347	92
286	Simulation	Active	2b	CP WG requests (15/9/09)		41,000,000	10,134,870	24
285	Simulation	Active	2b	EGEE'09 Demo Min Bias	30000000	10,000,000	0	0
276	Simulation	Done	2b	CP WG: emailed requests		5,000,000	5,172,511	103
267	Reconstruction	Accepted	2b	FEST Express August 2009	91000000	-1	0	0
261	Simulation	Done	1b	RD WG: Requests 8 Sep 2009 (K'll pl		2,000,000	2,266,553	113
255	Simulation	Done	1a	RD WG: Requests 8 Sep 2009		350,000	400,973	114
243	Simulation	Done	1b	CP WG 7th August (was pending Dex		47,800,000	51,269,223	107
227	Simulation	Done	1b	F WG: SUSY channels (2)	46000014	50,000	69,608	139
221	Simulation	New	2b	F WG: pending ...		0	0	
218	Simulation	Done	1a	F WG: EW channels (2)		200,000	261,529	130
217	Simulation	Active	1b	F WG: SUSY channels (corrected)		200,000	0	0
216	Simulation	Active	2b	CaloCalibrationWG - Miscalibrated Mir	30000000	180,000,000	181,570,337	100
215	Simulation	Done	2b	F WG: Upsilon(1S) -> ee	18122001	100,000	295,893	295
213	Simulation	Active	2b	CaloCalibrationWG - Miscalibrated Mir	30000000	20,000,000	21,629,946	108
205	Simulation	Done	1a	CP WG: requests 28th August (nu=3;		2,000,000	2,691,967	134

- DIRAC Web Portal framework
- Certificate based authentication
- DIRAC Group dependent role
- “one page” solution



New request from scratch

The screenshot displays the LHCb software interface for creating a new request. A dialog box titled "Please select Request Type" is open, showing a list of options: Simulation, Simulation, Reconstruction, and Stripping. The "Simulation" option is selected. The main window, titled "New request", contains the following fields and sections:

- Request:** Name (Arbitrary string for your convenience), Type (Reconstruction), Priority (2b), State (New), Author (azhelezov).
- Input data:** Conditions (Select from BK), Config, Processing Pass, DQ flag, version, File type, Production.
- Processing Pass (not registered yet):** Description (Select from BK).
- Step 1:** Application (Brunel), Version (dropdown), CondDB, Option files, DDB, Extra packages.
- Event:** Type (Defined by input data), Number (-1 to process all events).
- Comments:** A large empty text area for adding comments.

At the bottom of the window, there are buttons for "Save without submission", "Submit to the production team", and "Cancel". The status bar at the bottom shows "production > Requests" and the user "azhelezov@lhcb (OU=UniHeidelberg/CN=Alexey Zhelezov)".



Or... duplicate request

+	319	Stripping	Submitted	2b	MC09 min bias stripping	30000000
+	318	Reconstruction	Accepted	2b	FEST07-EXPRESS	91000000
+	+	313	Request 318	1a	RD WG: Test productions for new Ga	
+	+	308		1a	RD WG: Test productions for new Ga	
+	+	301	View		400,000	
+	+	296	Windowed		100,000	
+	+	293	History		100,000	
+	+	286	Duplicate			
+	+	285				
+	+	276	Productions			
+	+	267	Production r			
+	+	261	Simulation			

Request was successfully duplicated

New F

Registered Production Requests | New request | **Edit request 330**

Request

Name: FEST07-EXPRESS
Type: Reconstruction State: New
Priority: 2b Author: azhelezo

Input data

Conditions: DataTaking6153
Config: Fest version: Fest
Processing Pass: Real Data File type: RAW
DQ flag: UNCHECKED Production: ALL

Processing Pass (not registered yet)

Description: FEST-Rec03

Step 1

Application: Brunel v35r6 CondDB: head-20090508
Option files: \$APPCONFIGOPTS/Brunel/Default.py DDB: head-20090508
Extra packages: AppConfig v2r8

Step 2

Application: DaVinci v242p2 CondDB: head-20090508
Option files: \$APPCONFIGOPTS/DaVinci/DVMonitorDs DDB: head-20090508
Extra packages: AppConfig v2r8

Save without submission | Submit to the production team | Cancel

production > Requests azhelezo@lhcb (/O=GermanGrid/OU=UniHeidelberg/CN=Alexey.Zhelezov)



Request name

Request

Name: FEST07-EXPRESS

Type: Reconstruction State: New

Priority: 2b

Request

Name: FEST07-FULL

Type: Reconstruction State: New

Priority: 2b Author: azhelezo

- Meaningful name for everyone (not “My123”)
- NOT input data, NOT processing pass and NOT event type (already in the table)

Input data

The 'Input data browser' window shows a tree view of data folders. The 'Real Data' folder is expanded, showing sub-folders for '90000000 (Full stream)' and '91000000 (Express stream)'. The 'RAW' folder under '90000000 (Full stream)' is selected. The 'Details' panel on the right shows the following information:

- Run conditions: DataTaking6153
- Beam: UNKNOWN
- Beam energy: 4000.0
- Magnetic field: UNKNOWN
- Subdetectors: all except unknown HLT
- Process Pass: Real Data
- Event type: 90000000
- File type: RAW

The 'Event' dialog box shows the following information:

- Type: 90000000 - Full stream
- Number: -1

The 'Input data' configuration dialog box shows the following settings:

- Conditions: DataTaking6153
- Config: Fest
- Processing Pass: Real Data
- DQ flag: UNCHECKED
- version: Fest
- File type: RAW
- Production: ALL
- Select from BK button

Simulation conditions

The screenshot displays the 'Simulation conditions browser' window. It features a list of simulation conditions on the left and a 'Condition details' panel on the right. A 'Simulation Conditions(ID: 59159)' dialog box is open, showing the selected condition's details. Below the dialog, an 'Event' configuration window is visible, showing the event type and number.

Simulation conditions browser

All **Used**

Description ▲

- Beam450GeV-VeloClosed-MagOff-Nu1
- Beam450GeV-VeloClosed-MagOff-Nu1-Hijing
- Beam450GeV-VeloOpen-BfieldZero
- Beam5TeV-VeloClosed-MagDown
- Beam5TeV-VeloClosed-MagDown-Nu1
- Beam5TeV-VeloClosed-MagDown-Nu1-Hijing
- Beam5TeV-VeloClosed-MagDown-Nu2
- Beam5TeV-VeloClosed-MagDown-Nu3
- Beam5TeV-VeloClosed-MagDown-Nu4
- Beam5TeV-VeloClosed-MagOff-Nu1
- Beam5TeV-VeloClosed-MagOff-Nu1-Hijing

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Condition details

ID: 59159
Description: Beam5TeV-VeloClosed-MagDown-Nu2
Beam: beta* = 2 m, crossingAngle = 329 microrad
Beam energy: 5 TeV
Generator: Pythia
Magnetic field: -1
Detector: VeloClosed
Luminosity: nu = 2, bunch spacing > 50 nsec (no spillover)

Simulation Conditions(ID: 59159)

Description: Beam5TeV-VeloClosed-MagDown-Nu2

Beam: beta* = 2 m, crossingAngle = 329 n Magnetic field: -1

Beam energy: 5 TeV Detector: VeloClosed

Generator: Pythia Luminosity: nu = 2, bunch spacing > 50

Event

Type: 30012004 - minbias=DiMuon,Both,p3GeV

Number: 100000

Processing pass

Processing Pass (not registered yet)

Description: FEST-Reco03

Step 1

Application: Brunel v35r6 CondDB: head-20090508

Option files: \$APPCONFIGOPTS/Brunel/Default.py DDDB: head-20090508

Extra packages: AppConfig.v2r8

Step 2

Application: DaVinci v24r2p2 CondDB: head-20090508

Option files: \$APPCONFIGOPTS/DaVinci/DVMonitorDs DDDB: head-20090508

Extra packages:

Processing Pass (not registered yet)

Description: FEST-Reco03

Step 1

Application: Brunel v35r6 CondDB:

Option files: DDDB:

Extra packages:

Step 2

Application: Select application Version CondDB:

Option files: DDDB:

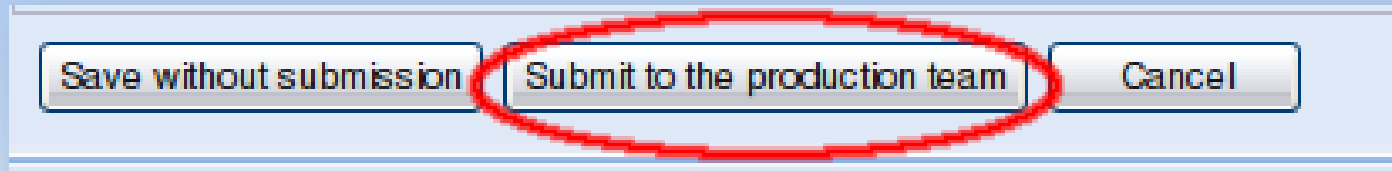
Extra packages:

- Do NOT specify anything you do not understand
- Do NOT select from the Bookkeeping something which just looks like what you want
- Add your wishes to the comments instead

Subrequests

- If several requests are different in the event type only, subrequests will:
 - Reduce time the production team must spend for signing, creating and tracking productions.
 - Reduce the number of mails you and other receive
 - Reduce the number of request names you have to define
 - Reduce the number of requests in the monitoring table

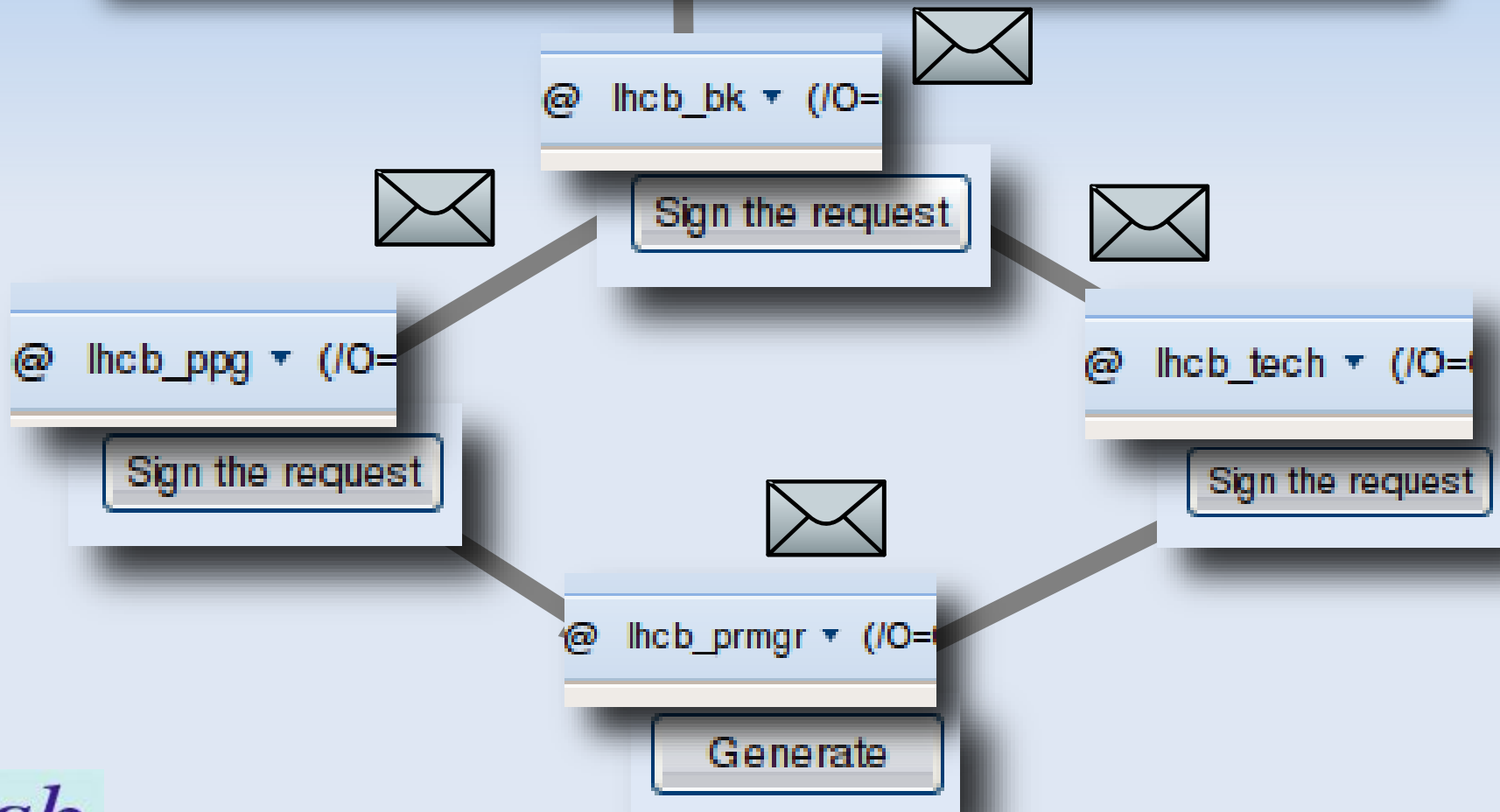
Submit the request



- Submit to the production team when ready
 - No modifications afterwards
- Save without submission if unsure
 - You can modify the request any time
 - Do not forget to submit (or delete) it at the end

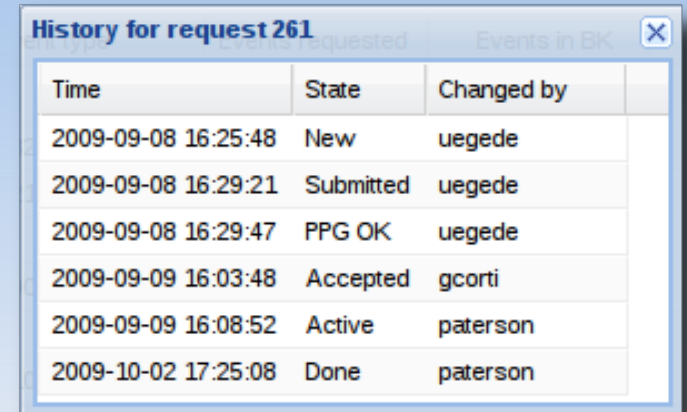
Behind the scene

320	Stripping	Active	2b	MC09 min bias stripping
319	Stripping	Submitted	2b	MC09 min bias stripping
318	Reconstruction	Accepted	2b	FEST07-EXPRESS



After submission

- You will be informed by E-mail about processing progress



Time	State	Changed by
2009-09-08 16:25:48	New	uegede
2009-09-08 16:29:21	Submitted	uegede
2009-09-08 16:29:47	PPG OK	uegede
2009-09-09 16:03:48	Accepted	gcorti
2009-09-09 16:08:52	Active	paterson
2009-10-02 17:25:08	Done	paterson

- After production(s) for your request is(are) created, you can monitor the progress

Id	Name	Event type	Events requested	Events in BK	Progress (%)
293	CP WG: requests (nu=3) correction		4,000,000	3,716,347	92
294		13264001	2,000,000	1,875,419	93
295		12143001	2,000,000	1,840,928	92
286	CP WG requests (15/9/09)		41,000,000	10,134,870	24

Summary

- Production team is using the interface for all kind of productions (simulations, reconstruction and stripping). More than 200 (sub)requests was processed so far.
- The interface is ready for everyday operations
- There are parts to improve...

Known issues

- Several custom controls in Production Request Web interface have non trivial logic
- “Simulation condition” is for human, “Processing Pass” is for program. Both must be filled manually and there is no consistency checks.
- Several minor bugs in the software...

Want to know more?

There is printable documentation!

Systems ▾ Jobs ▾ Production ▾ Data ▾ Web ▾ **Help**

Registered Production Requests

/ Requests

Id	Type
339	Reconstr
335	Simulation

Help for production > Requests

-- [StuartPaterson](#) - 14 Aug 2009

DIRAC Production Request Web Portal

Most questions can be answered in the following documentation [Production Request Manual \(.pdf\)](#).

Production Request system user manual

Draft V0.4

The DIRAC production request system is a web interface to request, define and monitor MC, reprocessing and stripping productions.

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