



# LHCb Monitoring tools

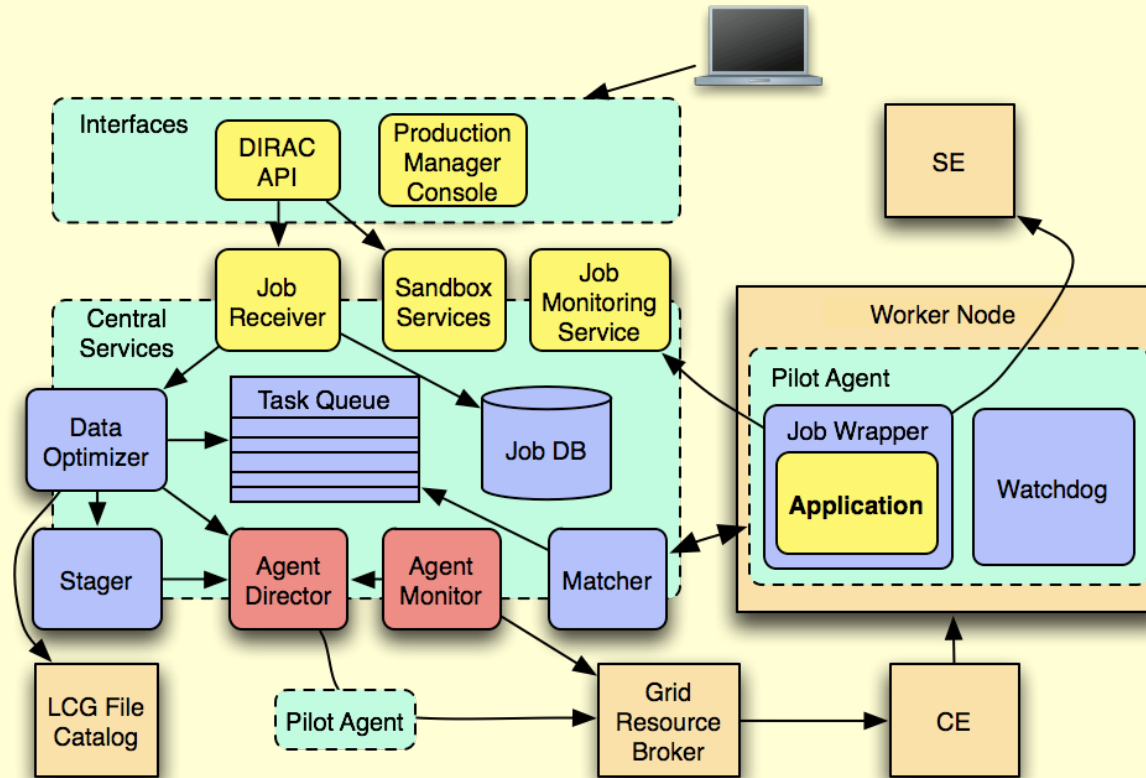
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# What is to be monitored

- ◆ Workload
  - ✦ Jobs progress and details
  - ✦ Production and analysis activities
- ◆ Data
  - ✦ Transfers
  - ✦ Quality, errors
- ◆ Services
  - ✦ LHCb (DIRAC) services
  - ✦ Grid services
- ◆ Resources
  - ✦ Capacity, availability

# DIRAC grid system



- ◆ Grid services and resources are accessed through the DIRAC system
- ◆ DIRAC provides among other facilities versatile monitoring and accounting tools

# DIRAC monitoring means

- ◆ DIRAC Web portal (<http://dirac.cern.ch>)
  - ✦ Single Web based monitoring and controls application
  - ✦ Job, productions monitoring
  - ✦ Data operations monitoring
  - ✦ LHCb configuration tools
  - ✦ Many other things
- ◆ Intensive use of modern Web 2.0 technologies
  - ✦ Desktop application “look and feel”
- ◆ Access to the LHCb accounting, monitoring database
  - ✦ Also accessible with command line and API
- ◆ Work in progress

# DIRAC Web Portal

Manage CS | World Domination Plan | Manage Configuration

DIRAC

Info Systems Jobs Data Web

systems > Configuration > Manage remote configuration

- LHCb Configuration
  - DIRAC
  - Systems
    - Configuration
    - WorkloadManagement
      - Development
        - URLs
        - Services
        - Databases
        - Agents
        - JobWrapper
        - PilotAgent
      - Production
    - RequestManagement
    - DataManagement
    - ProductionManagement
    - Logging
    - Monitoring
    - Accounting
    - Bookkeeping
    - Framework
    - LHCb
    - Stager
  - Resources
  - Users
  - Hosts

DIRAC

Jobs ▾ Selected Setup: LHCb-Development

Selections: <<

DIRAC Site: Select a site...

Job status: Select job status...

Application status: Brunel v32r4 Successful

Owner:

Job Monitoring

Select All Select None Reset Kill Delete

JobId	Status	Site	JobName	SubmissionTime [UT]	Owner
<input type="checkbox"/> 21355	Done	LCG-RAL.uk	00000112_00000008	2008-4-14 12:23	paterson
<input type="checkbox"/> 21060	Done	LCG-CERN.ch	00000112_00000531	2008-4-11 06:48	joel
<input type="checkbox"/> 21062	Done	LCG-CERN.ch	00000112_00000533	2008-4-11 06:49	joel
<input type="checkbox"/> 21063	Done	LCG-RAL.uk	00000112_00000002	2008-4-11 06:49	joel
<input type="checkbox"/> 21356	Done	LCG-RAL.uk	00000112_00000009	2008-4-14 12:23	paterson

DIRAC

Info Systems Jobs Data Web ▾ Selected setup: LHCb-Production

Site Map Job Summary Pilot Summary Data Storage

LCG.PDC.se

Site Info

Status: Allowed  
 Location: 12.6394° E, 55.6331° N  
 Category: T2

More Information

Legend: ■ Allowed ■ Banned ■ Unknown

web > Site map Anonymous (certificate login)

# Grid monitoring facilities

## ◆ SAM Database

(<https://lcg-sam.cern.ch:8443/sam/sam.py>)

- ◆ SE, CE monitoring
- ◆ SAM job submission system
  - LHCb SAM jobs submission is done by DIRAC WMS
- ◆ SAM job tasks
  - Site environment checks (user mapping, access rights, shared area sanity, etc)
  - LHCb software installation and verification

# Grid monitoring facilities

- ◆ SLS sensors
  - ✦ Grid services
  - ✦ DIRAC services
  - ✦ Exposed through GridMap portal, DIRAC portal
- ◆ GridMap portal
  - (<http://servicemap.cern.ch/ccrc08/servicemap.html>)
  - ✦ Uniform view of the LHCb services status
  - ✦ Uniform view of the LHCb activities

# Demonstration