m **Production activities**

- o **Started in July**
- o **Simulation, reconstruction, stripping**
  - P **Includes file distribution strategy, failover mechanism**
  - P **File access using local access protocol (rootd, rfio, (gsi)dcap, xrootd)**
  - P **Commissioned alternative method: copy to local disk**
    - d **Drawback: non-guaranteed space, less CPU efficiency, additional network traffic (possibly copied from remote site)**
- o **Failover using VOBOXes**
  - P **File transfers (delegated to FTS)**
  - P **LFC registration**
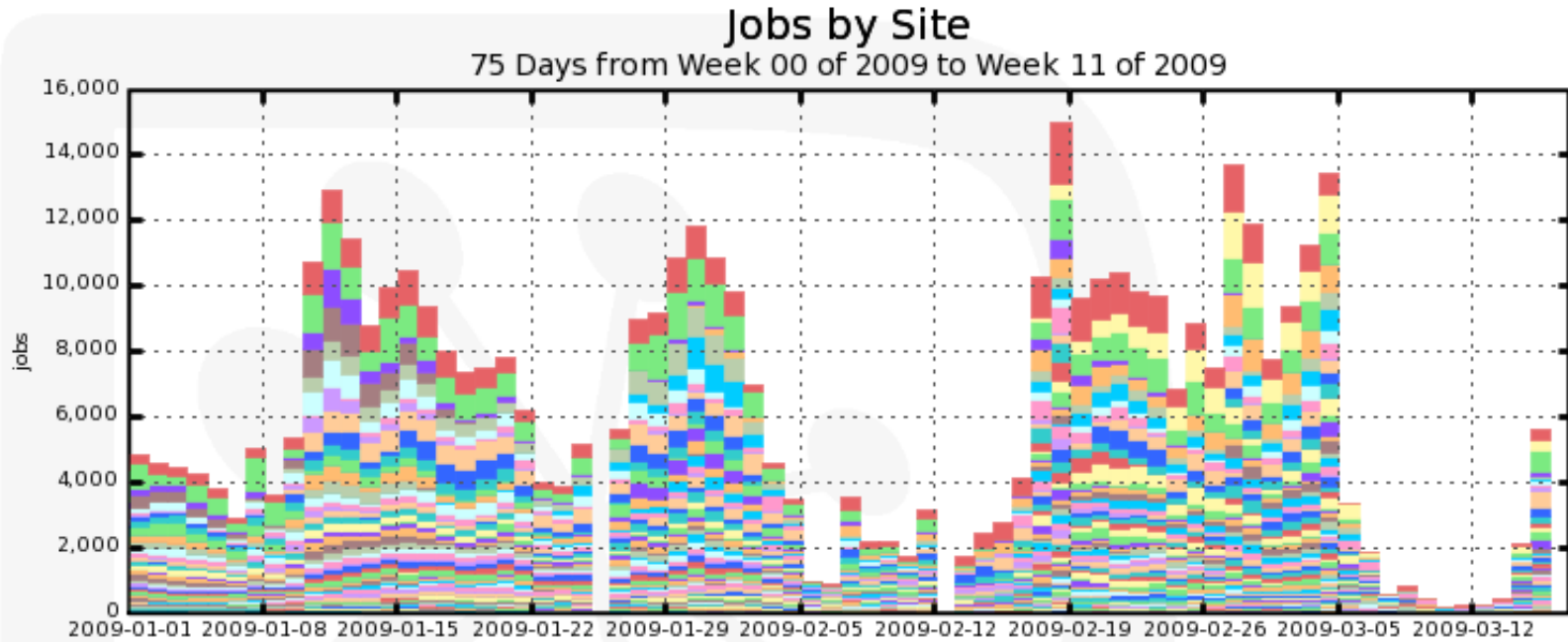  - P **Internal DIRAC operations (bookkeeping, job monitoring…)**

m **Analysis**

- o **Started in September**
- o **Ganga available for DIRAC3 in November**
- o **DIRAC2 de-commissioned on January 12th**

*Call me DIRAC now….*

MI D c !3 1 1 :  lR  2 isf g p  su



## Jobs by Site
### 75 Days from Week 00 of 2009 to Week 11 of 2009

| | LCG.IN2P3-T2.fr | LCG.Glasgow.uk | LCG.Manchester.uk | LCG.LAL.fr |
| --- | --- | --- | --- | --- |
| | LCG.CNAF-T2.it | LCG.UKI-SCOTGRID-GLASGOW.uk | LCG.UKI-LT2-IC-HEP.uk | LCG.Krakow.pl |
| | LCG.CSCS.ch | LCG.CERN.ch | LCG.UKI-SCOTGRID-ECDF.uk | LCG.Liverpool.uk |
| | LCG.SARA.nl | LCG.USC.es | LCG.UKI-LT2-QMUL.uk | LCG.Durham.uk |
| | LCG.RAL-HEP.uk | LCG.Legnaro.it | LCG.DESY.de | LCG.CPPM.fr |
| | LCG.LAPP.fr | LCG.TCD.ie | LCG.MPI-RZG.de | LCG.CBPF.br |
| | LCG.PIC.es | LCG.Dortmund.de | LCG.BHAM-HEP.uk | LCG.Oxford.uk |
| | LCG.UKI-LT2-Brunel.uk | LCG.JINR.ru | LCG.GRIDKA.de | LCG.INR.ru |
| | LCG.Lancashire.uk | LCG.LPNHE.fr | LCG.Cambridge.uk | LCG.KIAE.ru |
| | LCG.Torino.it | LCG.Barcelona.es | LCG.SRCE.hr | ... plus 72 more |

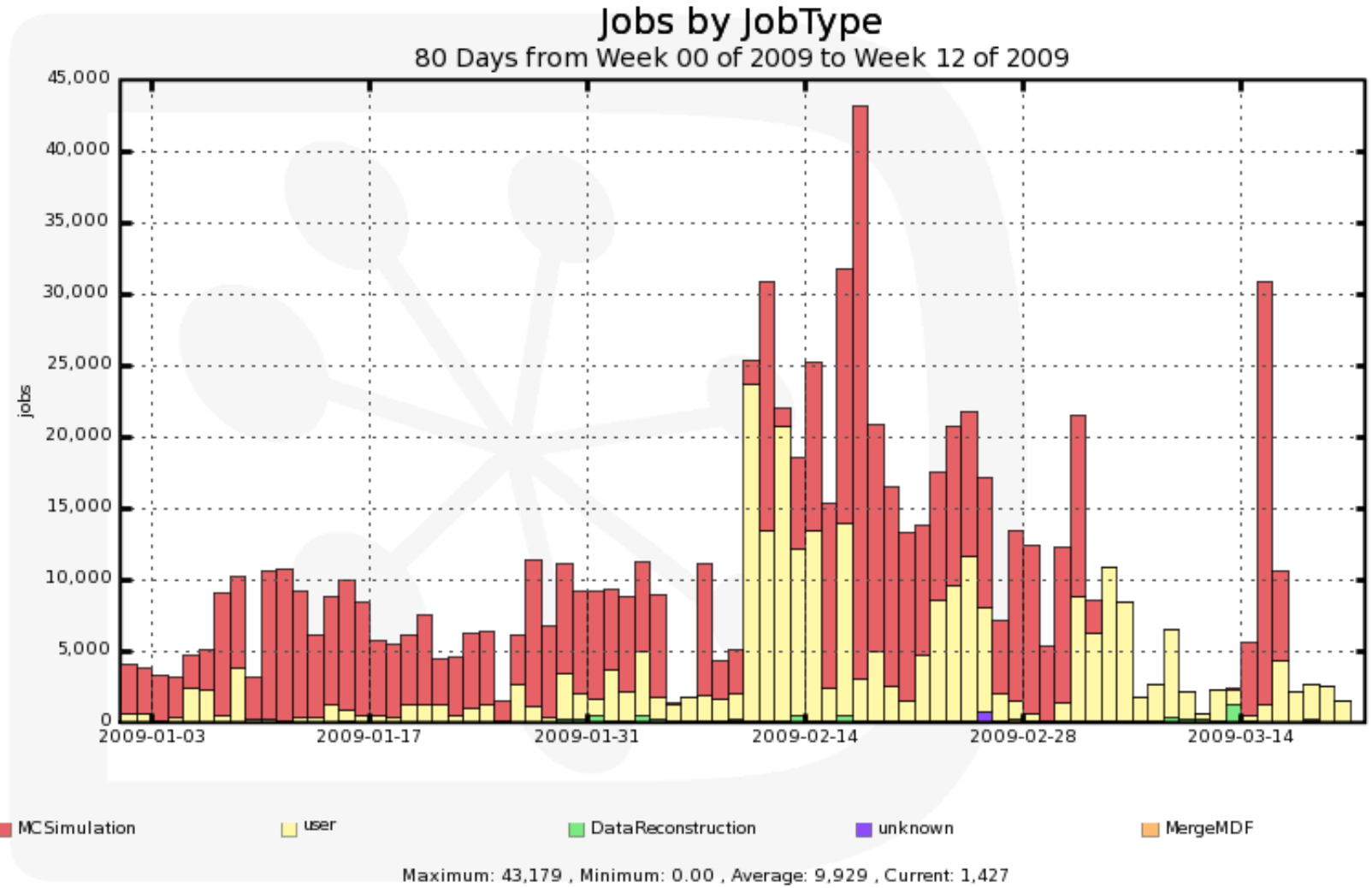Maximum: 14,984 , Minimum: 0.00 , Average: 6,153 , Current: 5,603

## 111 sites

Jobs by JobType
80 Days from Week 00 of 2009 to Week 12 of 2009

Legend: MCSimulation, user, DataReconstruction, unknown, MergeMDF

Maximum: 43,179 , Minimum: 0.00 , Average: 9,929 , Current: 1,427

- <sup>m</sup> **Mainly functionality tests**
  - <sup>o</sup> **Improving Data Management (testing pinning, debugging with each site)**
  - <sup>o</sup> **Running large simulation productions for certifying the largest possible number of sites**
    - <sub>P</sub> **Software repository availability**
    - <sub>P</sub> **Settings of batch queues, memory limitations**
    - <sub>P</sub> **Many GGUS tickets to small sites for fixing configuration**
  - <sup>o</sup> **Final commissioning of the new bookkeeping system**
    - <sub>P</sub> **New schema**
    - <sub>P</sub> **New user interface**
    - <sub>P</sub> **Used also for processing production requests**
- <sup>m</sup> **Simulation activity**
  - <sup>o</sup> **Certification of applications**
    - <sub>P</sub> **New version of Geant4 (bugs found, fixed and reported)**
    - <sub>P</sub> **New reconstruction software (performance tests)**
- <sup>m</sup> **Preparation for a new major release of Gaudi**
  - <sup>o</sup> **In collaboration with ATLAS, to be ready in May**

- m **As usual data access, storage stability…**
  - o **Several tickets open at Tier1s for storage issues…**
  - o **Configuration of sites**
    - P **Hardware setup**
    - P **Storageware versions still unstable**
  - o **Still SRM v2.2 is not uniformly implemented**
    - P **LHCb fully relies on SRM**
- m **Workload management issues**
  - o **Several outstanding issues with gLite WMS in 2008**
  - o **Were due to be fixed by the "mega patch"**
    - P **Several were not…**
  - o **Minor impact on LHCb due to pilot jobs**
- m **During Q1, LHCb started to use generic pilots wherever possible**
  - o **Working extremely well**
  - o **Expect the VOMS role=pilot will be implemented everywhere**
  - o **Missing "time-left" functionality for using filling mode**
    - P **gLExec was tested on test sites: basic but OK…**

- m **Simulation… and its analysis (starting in May)**
  - o **Tuning stripping and HLT for 2010 (MC09)**
    - P **4/5 TeV, 50 ns (no spillover), $10^{32}$ cm$^{-1}$s$^{-1}$**
    - P **Benchmark channels for first physics studies (~10 Mevts)**
      - d **B➜$\mu\mu$, $\Gamma_s$, B➜Dh, B$_s$➜J/$\psi\phi$, B➜K$^*\mu\mu$ …**
    - P **Large minimum bias samples (~ 30 mn of LHC running, $10^9$ events)**
      - d **Estimate 2 to 3 months for simulation**
    - P **Stripping performance required: ~ 50 Hz for benchmark channels**
    - P **Tune HLT: efficiency vs retention, optimisation**
  - o **Physics studies (MC09-2)**
    - P **Signal and background samples (~500 Mevts)**
    - P **Used for CP-violation performance studies**
  - o **Long term physics studies (DC09)**
    - P **Nominal LHC settings (7 TeV, 25 ns, 2 $10^{32}$ cm$^{-2}$s$^{-1}$)**
  - o **Preparation for very first physics (if required)**
    - P **450 GeV to 2 TeV, low luminosity**
    - P **Minimum bias sample ($10^8$ events)**
- m **Commissioning for 2009-10 data taking (FEST'09)**
  - o **Uses simulated data as LHCb can't take cosmic rays…**

- **Need to report on our view of usability**
  - Tests reproduce standard use cases
  - Should run as normal jobs, i.e. not on special clean environment
- **Reserve lcg-admin for software installation**
  - Needs dedicated mapping for permissions to repository
- **Use normal accounts for running tests**
  - Running as "Ultimate Priority" DIRAC jobs
  - Matched by the first pilot job that starts
    - Scans the WN domain
      - Often see WN-dependent problems (bad config)
    - Regular environment
  - Should allow for longer periods without report
    - Queues may be full (which is actually good sign) but then no new job can start!