



ALICE and the LCG Service Data Challenge 3

P. Cerello (INFN – Torino)
LCG-SC meeting
Lyon
March 15th, 2005



Service Challenges vs. Data Challenges

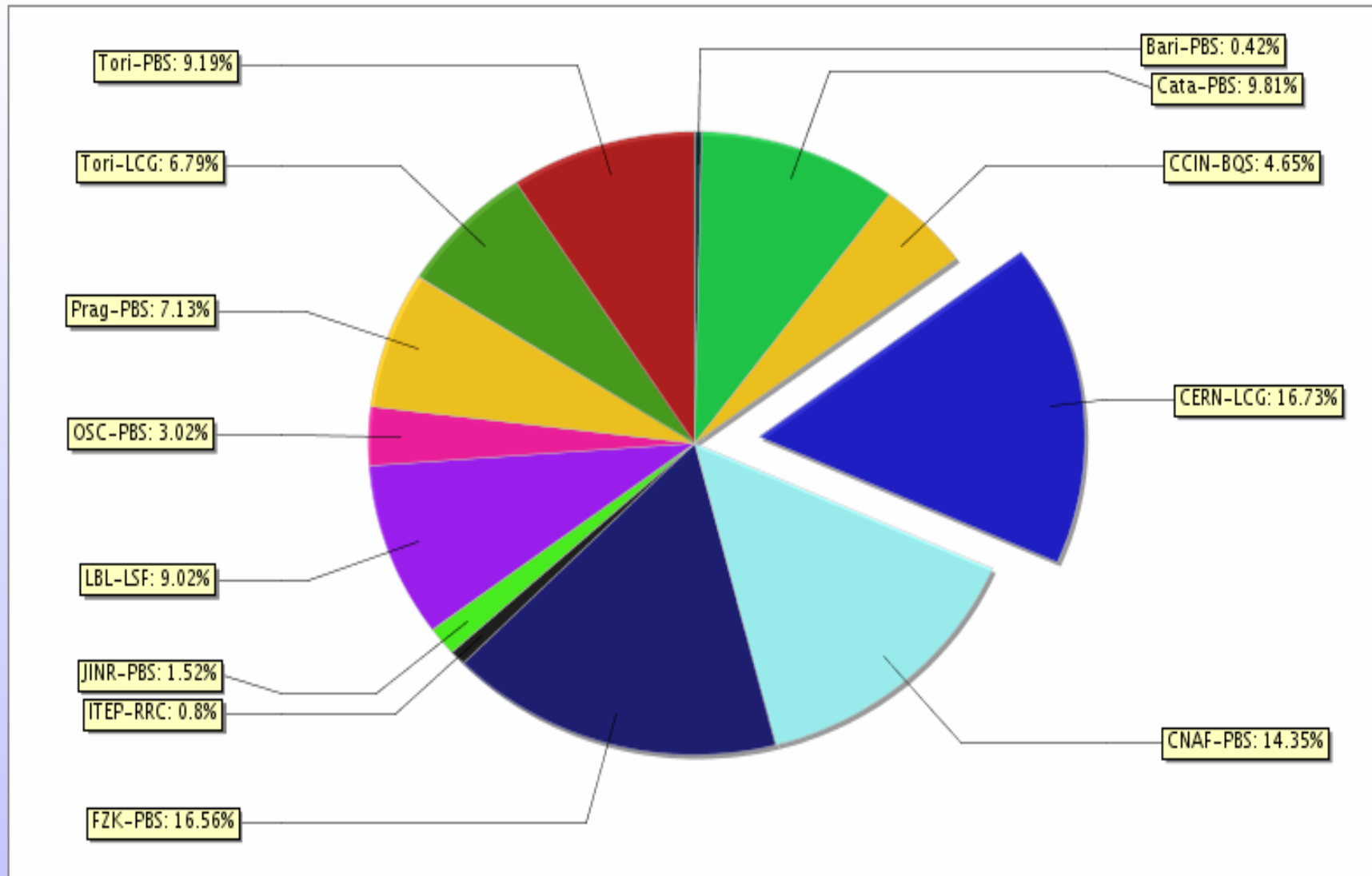
Data Challenges: increasing functionality at a given scale



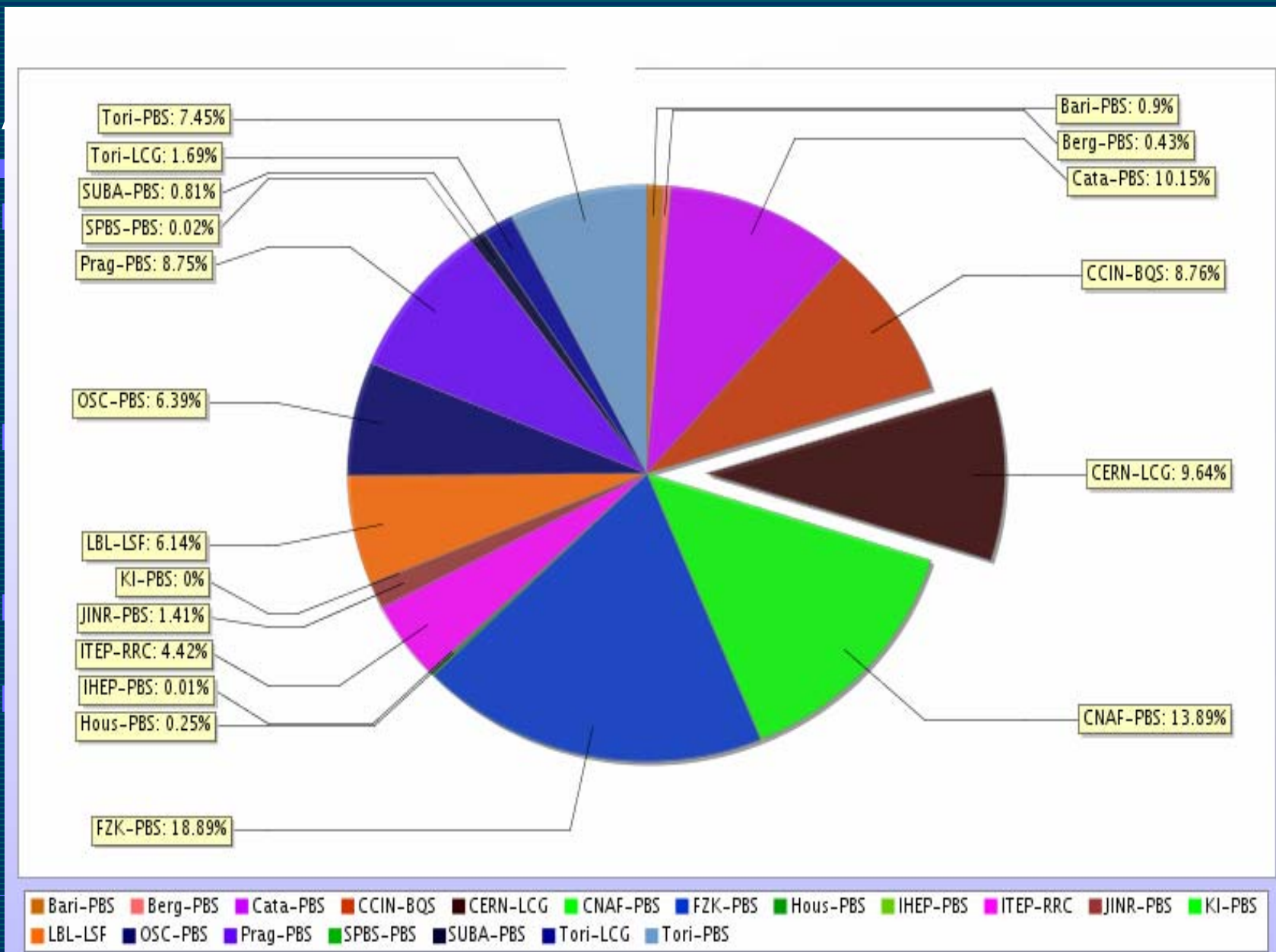
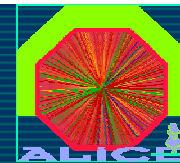
Service Challenges: increase scale and progressively add functionality



Jobs done



- Bari-PBS
- Cata-PBS
- CCIN-BQS
- CERN-LCG
- CNAF-PBS
- FZK-PBS
- ITEP-RRC
- JINR-PBS
- LBL-LSF
- OSC-PBS
- Prag-PBS
- Tori-LCG
- Tori-PBS





ALICE 2005 Plan

- Physics Data Challenge
 - Minimum requirements on computing time and storage capability (numbers by end march)
 - But if the system allows for more, we will try do more
 - Until July 2005, generate MC events on available resources
 - Register them in the AliEn DC and store them at CERN
- ASAP (July?-September?), make the Physics and Service Challenges converge on the same system



ALICE vs.

LCG Service Challenge 3



ALICE vs. LCG Service Challenges

- How can we take advantage of LCG Service Challenge 3?
- What can we learn?
- How do we start?
- 2005 goals



ALICE vs. LCG Service Challenges

- SC3 is due to start soon (July 2005)
- Can we use it for a “Data Challenge like” exercise?
 - worrying about the scale of data generation/transfer and the LCG efficiency
 - **AND** processing useful data
- What would we learn for our computing/data model?
- **What middleware will be on LCG-SC3?**



EGEE Schedule

- E. Laure @ ARDA Workshop

- Most of the Services are being deployed on the LCG Preproduction Service
 - Initially at CERN, more sites once tested/validated
 - Scheduled in April-May
- Schedule for deployment at major sites by the end of May
 - In time to be included in the LCG service challenge that must demonstrate full capability in July prior to operate as a stable service in 2H2005



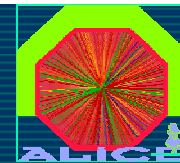
ALICE vs. LCG Service Challenges

□ Assumption:

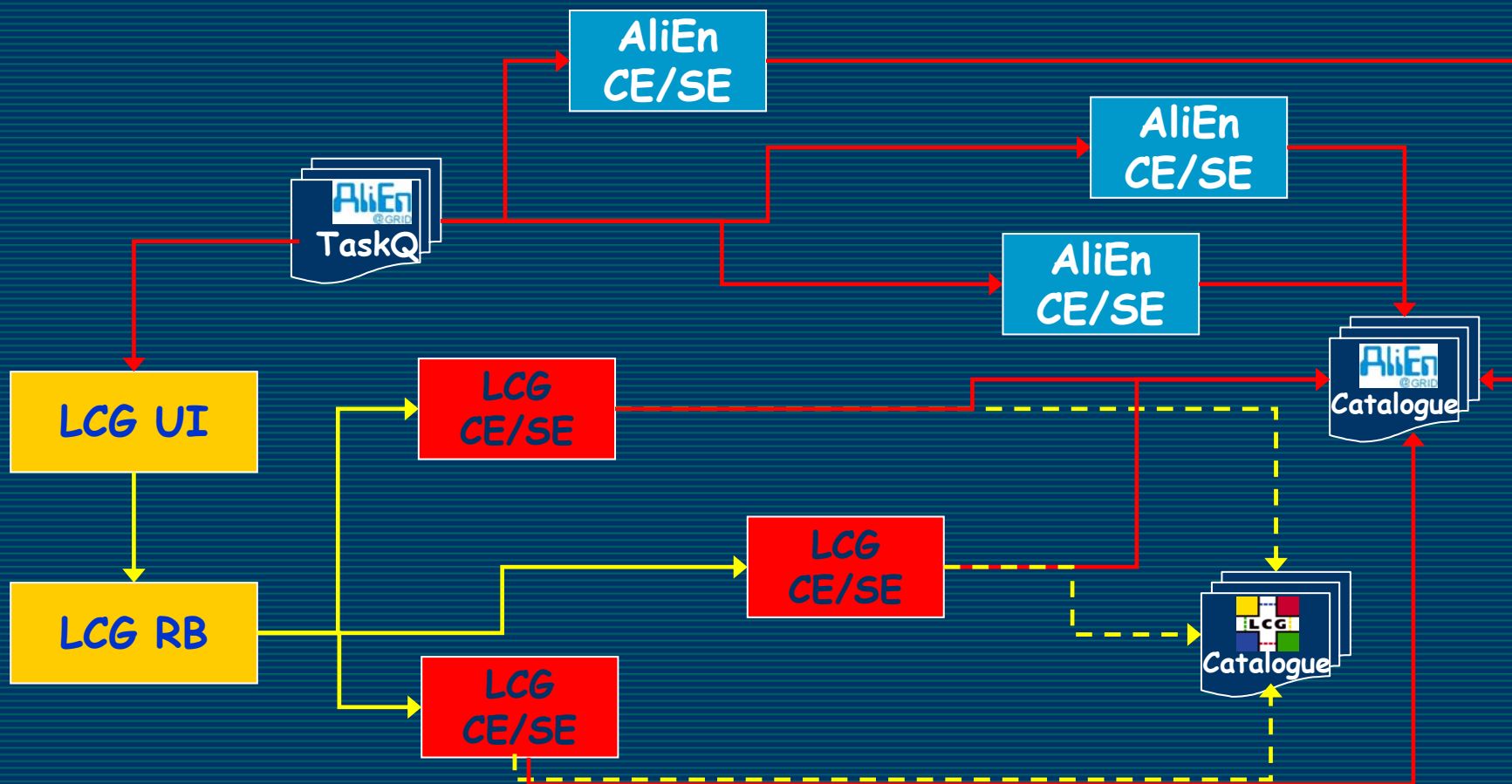
- EGEE middleware available on LCG-SC3

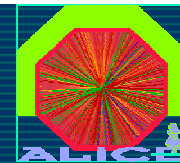
□ We could:

- Sample (bunches of) "RAW" events stored at T0 from our Catalogue
- Reconstruct at T0
- Ship from T0 to T1's
- Reconstruct at T1 **with calibration data**
- **Store/Catalogue the output**

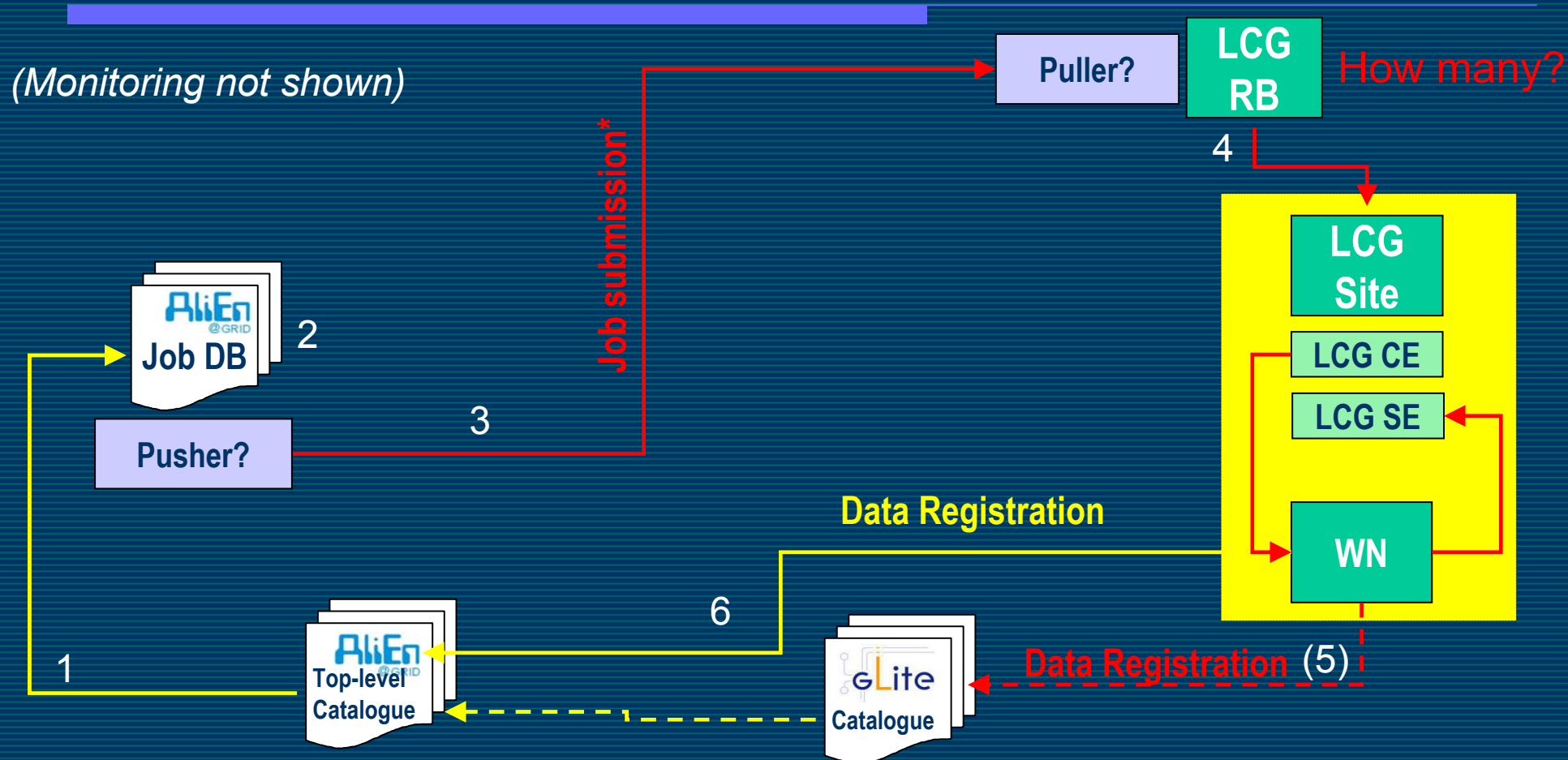


ALICE DC2005/SC3 layout





ALICE SC3 layout





ALICE vs. LCG Service Challenges

- As soon as T2's start to join SC3:
 - Keep going with reconstruction steps
 - +
 - Simulate events at T2's
 - Ship from T2 to T1's
 - Reconstruct at T1's and store/catalogue the output



ALICE vs. LCG Service Challenges

- In other words:
 - Mimic our data (raw-like + simulated) flow
 - test the reconstruction
 - measure the performance of the LCG/SC3 for different services:
 - Job completion efficiency
 - Data transfer efficiency
 - Storage Element efficiency
 - As new sites keep coming in, increase the scale of the exercise
 - As new middleware comes in, add more functionality



ALICE vs. LCG Service Challenges

- What would we need for SC3?
 - AliRoot deployed on LCG/SC3 sites - ALICE
 - Our AliEn server with: - ALICE
 - task queue for SC3 jobs
 - catalogue to sample existing MC events and mimic raw data generation from DAQ
 - UI(s) for submission to LCG/SC3 - LCG
 - WMS + CE/SE Services on SC3 - LCG
 - Appropriate amount of storage resources - LCG
 - Appropriate JDL files for the different tasks - ALICE
 - Access to the ALICE AliEn Data Catalogue from LCG



ALICE vs. LCG Service Challenges

- Last step:
 - Try the analysis of reconstructed data
- That is SC4:
 - We have some more time to think about it



ALICE vs. LCG Service Challenges

- We will measure the LCG performance in average conditions
- We would certainly need support from LCG and we will put some of our manpower in for SC3
- We are willing to start as soon as possible so as to be ready for:
- SC4, that should see the convergence of our whole team on using the "LCG Production Service"