

# LHCb Grid Operations

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for the LHCb Grid Operations team

# Decommissioning of services

- The following services can be decommissioned at Tier1 sites for LHCb as of now
  - LFC read-only instances
  - Oracle conditions databases
  - Oracle streaming to the services above
- LHCb will continue using LFC read/write and read-only instances currently installed at CERN
- Conditions data to sites is currently distributed via CVMFS
- Continuing to use conditions databases at CERN with Oracle, including online-offline streaming

# Current and future activities

- 2012 data reprocessing
  - Started 17. September, currently ahead of schedule
  - Using Tier1 sites for the full reconstruction workflow
  - Several Tier2 sites attached to work on part of the workflow (data reconstruction)
  - Activity will continue until the end of this year
- Current first pass (prompt) processing
  - Carried out at CERN+ attached sites (Yandex, CSCS-LCG2)
  - Only parts of data are being reconstructed (data quality)
- 2011 data reprocessing
  - Scheduled to be started after the Xmas break

# T0/1 sites

- Started to use EOS storage at CERN
  - Using as an intermediate “buffer” storage+ all new prompt and reprocessing data for CERN is written on EOS
  - Last issues with SRM have been sorted out
- CNAF unscheduled downtime
  - Hardware intervention caused a cascade of failures and resulted in a 10 days downtime of all LHCb disk storage
    - -> recovery of the data (including time intensive rebuilding and checking of raids)
  - CNAF has temporarily granted an increased number of jobslots to LHCb -> today the delay is almost completely caught up. Many thanks to CNAF for their help !!!

# Tier2 sites for reprocessing

- Dynamically (re)-attaching sites to Tier1 storage as needed
  - During the time of re-attaching it can happen that the number of concurrent running jobs drops a bit
  - If less reprocessing activities, site will be used for Simulation productions
- Selecting all sites with CVMFS installed
  - Also during the campaign. If new sites show up they will be added (eg RO-11-NIPNE)

# WLCG sites involved in data reprocessing

CBPF, CYFRONET-LCG2, DESY-ZN, FZK-LCG2, GRIF,  
IN2P3-CC, IN2P3-CC-T2, IN2P3-CPPM, IN2P3-LAPP,  
IN2P3-LPC, INFN-CNAF-LHCB, INFN-T1, ITEP, JINR-LCG2,  
NIKHEF-ELPROD, pic, RAL-LCG2, RO-07-NIPNE,  
RO-11-NIPNE, RRC-KI, RU-Protvino-IHEP, SARA-MATRIX,  
TECHNION-HEP, UB-LCG2, UKI-LT2-Brunel,  
UKI-LT2-IC-HEP, UKI-LT2-QMUL, UKI-LT2-RHUL,  
UKI-NORTHGRID-LANCS-HEP, UKI-NORTHGRID-LIV-HEP,  
UKI-NORTHGRID-MAN-HEP, UKI-NORTHGRID-SHEF-HEP,  
UKI-SCOTGRID-DURHAM, UKI-SCOTGRID-ECDF,  
UKI-SCOTGRID-GLASGOW, UKI-SOUTHGRID-BHAM-HEP,  
UKI-SOUTHGRID-CAM-HEP, UKI-SOUTHGRID-OX-HEP, UKI-  
SOUTHGRID-RALPP, UNI-DORTMUND, USC-LCG2