

Level 1 (Calo) Databases

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- Overview
- Answers to Questions



Use of Databases



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Online DB @ CERN



- (1,2) Which DBs are used to configure Detector/DAQ?
 - OKS: about 5MB of L1Calo specific files to configure hardware, monitoring, etc
 - CORAL: trigger configuration database (details from David)
 - L1Calo specific calibration from COOL
 - still stored in local SQLite file, move to Oracle "soon"
 - currently about 100MB historical data in total
 - roughly 1MB loaded at each RC configure transition
 - Separate COOL DB for Receiver gains (see LAr talk)
 - LV1 DCS configuration from PVSS (move to DB in future)
 - No POOL files
- (3) Which DBs are used in the trigger algorithms
 - Only trigger configuration database at the moment
 - Need L1Calo calibrations (eg dead channels) in future?



- (4) How often are the contents updated?
 - OKS: small changes weekly
 - Trigger menus changed occasionally (monthly?)
 - Prescales changed frequently (daily)
 - L1Calo COOL database
 - masked channels and noise cuts: every few days
 - preprocessor calibrations (1MB)
 - results of calibration runs: roughly weekly or more?
 - validated calibrations (significant changes): hope less than weekly
 - digital timing (few kB): infrequently
- (5) Procedures for moving data offline to online?
 - Updates to SQLite files copied manually via atlasgw
 - Expect to use procedure from Hans von der Schmitt in future



Questions from Giovanna (3)

• (6) What data is produced online for offline use?

- CTP (more details from David)

- used menus and prescale sets to COOL
- rates of L1 items archived to COOL per lumi block
 - heavily used to monitor rates over various time periods, eg see https://twiki.cern.ch/twiki/bin/view/Atlas/LevelOneCaloTriggerRates
- start/end of each lumi block, etc

– L1Calo

- Nothing to COOL yet
 - Intend to store run parameters, summary of used calibrations, menus, hardware configurations, masks of disabled regions (easier than checking OKS offline)
 - Minimal summary of DCS information (eg crate status) to COOL in the near future
- Detailed rates per tower and higher granularities through the system
 - Snapshots every minute, differences every few seconds
 - About 0.5GB per day with cosmics, expect more with beam
 - Currently stored as files at point 1, archived to CASTOR occasionally
 - Might want to put this in a database in future...?



Use of Archived Rate Information

culprit #00120401

Trigger Item T000: L1_EM3 Run/LB 92160/47 - 92226/54





Felix Müller: Rate Metering Software, CERN 05.11.2008

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