

CCDB vs. RCDB

in the Offline Context

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Basic Issue

- Offline Reconstruction and Analysis will need access to online quantities.
- Should we copy from RCDB to CCDB and access from there or access RCDB directly?

RCDB

- database server in counting room
- keyword/value model
- entries for each run
- no data history mechanism
- design for recording running conditions
- no C++ interface, but easy to develop

CCDB

- database server in Computer Center
- data tables of various formats
- entries applied to range of runs
- comprehensive history mechanism
- design for applying calibration constants developed asynchronous to data taking
- C++ interface through JANA, in extensive use now
- MySQL and SQLite

Simplicity

- Data is already in RCDB, just get the values from there.
- Copying implies a system for doing copies: Cron job? Daemon? Every run? Every day? Monitor successful transfers?
- Offline already instrumented for CCDB, why have another system to worry about?

Distribution

- CCDB distribution problem solved
- RCDB only available in Counting House now (replication to CC easy, however)
- No SQLite for RCDB (but one can be created)
- Need to copy another file for non-network use
- RCDB could be broken into run-range-specific databases, even single-run database

Beneficial Side Effects of Copying

- creates history mechanism automatically
- only selected quantities can be copied
- copy can be done modifying run ranges for quantities that do not change

Harmful Side Effects of Copying

- Need to maintain list of items to copy
- Will end up copying everything anyway.
- Behavior of errors from RCDB different from that of CCDB

Third Way: Hybrid Database

- put CCDB and RCDB tables in the same database, retain current table structure
- solves distribution problem for RCDB
- still need C++ interface

Fourth Way: CCDB wrapper

- RCDB access uses native RCDB API
- CCDB API hides use of RCDB under the hood
- breaks experiment independence of CCDB

Summary

- pluses and minuses either way
- will not present conclusions here
- discuss...