

Distributed Database Operations Workshop  
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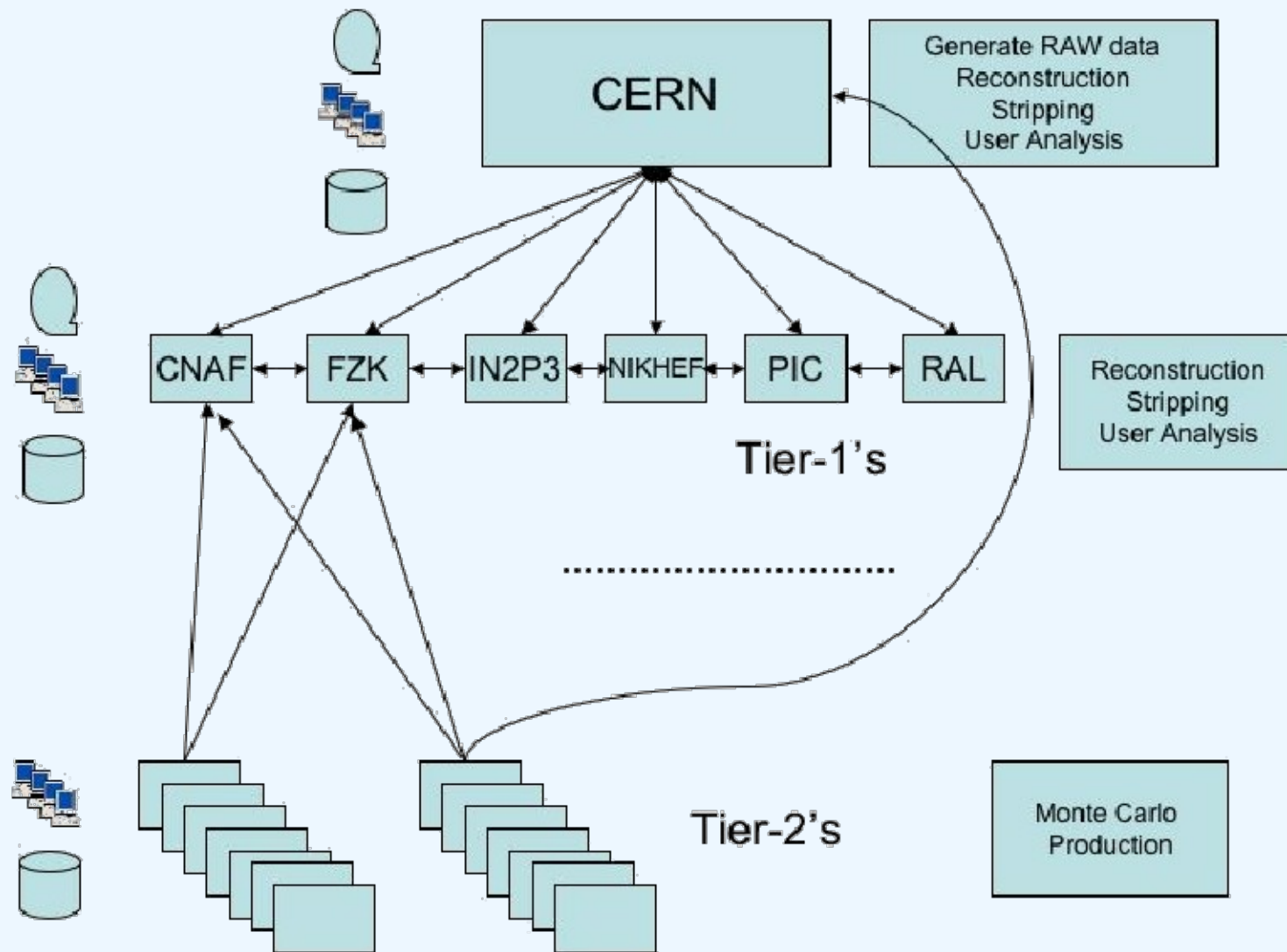
# LHCb Database Strategy

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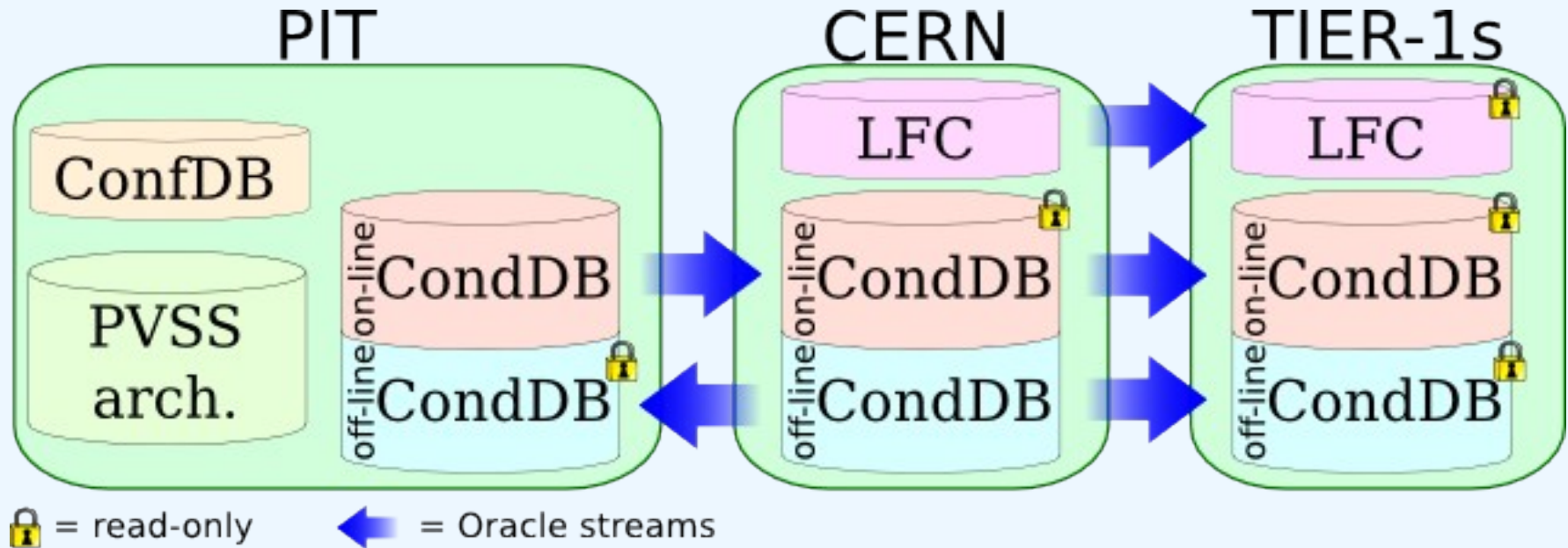
- Introduction
  - Database Applications in LHCb
  - Computing Model
  - DB Deployment Models
- Usage
- Status
- Plans

- Conditions Database
- Bookkeeping
- LFC
- Configuration Database

# LHCb Computing Model



# LHCb DB Deployment Model



## ➤ CondDB

- many requests per job
- for reconstruction, analysis and HLT

## ➤ LFC

- for reconstruction, analysis and job scheduling

- Applications
  - Reconstruction and analysis jobs
  - Direct connection from the CEs to Oracle
  - Via COOL/CORAL libraries
- Pattern
  - Limited amount of data transfer (~40MB) in the first few minutes
- SQLite used in special cases (MC)

- LFC and Bookkeeping
  - Interrogated by the grid tools to organize the jobs
- ConfDB
  - Used in the online environment to configure the detector
- PVSS archive
  - Records information from sensors in the PIT

- **CondDB**
  - Oracle DB used at all the tier-1 sites
  - Good support for streams
  - SQLite still used for some cases
- **LFC**
  - Oracle DB available at all tier-1 site
  - Should be used to balance the load
- **ConfDB and PVSS archive**
  - Oracle DB only at the PIT



- Keep things stable during the data taking
- Preparation for next year
  - Evaluate usage of resources
    - CPU and disk
  - Test new developments (CORAL server)
  - Investigate optimizations of data layout

- Successful startup
  - Required some work-arounds
  - Good response for problems
- We need to keep an eye on the DBs
  - Fundamental part of the infrastructure
- Prepare for the 2011 data taking
  - More challenging