LCG Database Deployment and Persistency Workshop 17/10/2005
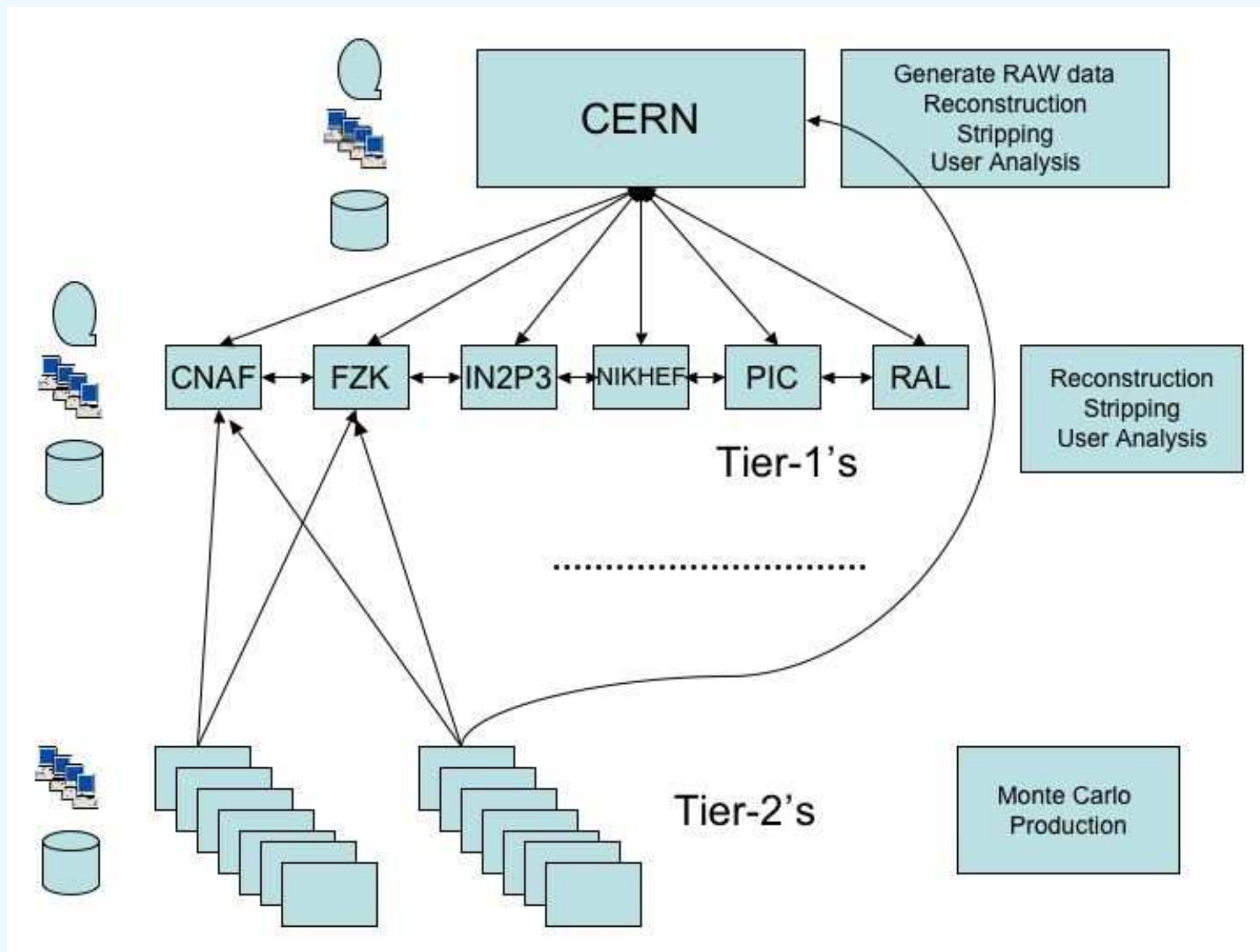
LHCb applications and plans

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Overview

▶ Computing Model

▶ DB Applications

▶ Deployment Plans

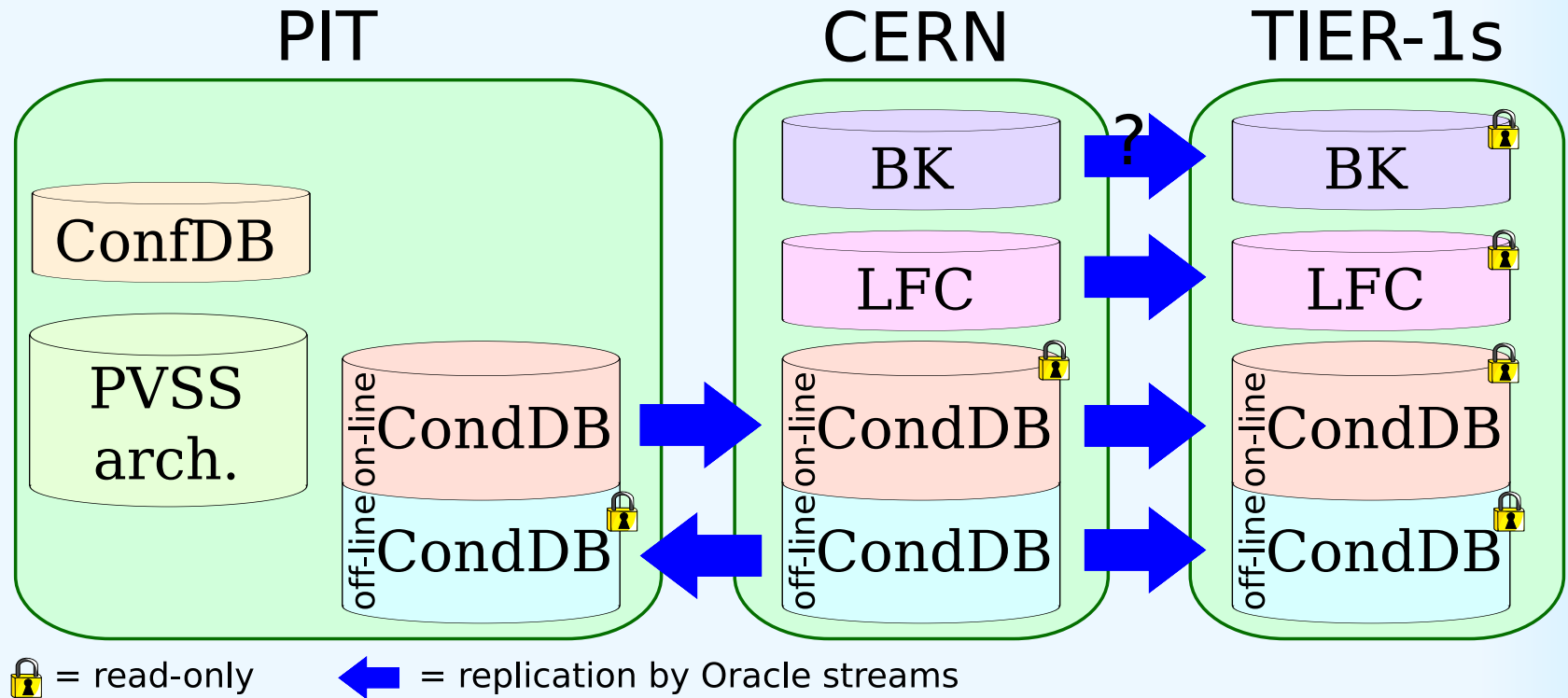▶ Requirements

▶ Status

▶ Summary

Computing Model

- ▶ **ConfDB**
  Contains informations needed to set up the hardware and run the experiment.

- ▶ **PVSS Archive**
  Where the PVSS data points are recorded.

- ▶ **CondDB**
  Database of the informations needed for reconstruction/analysis.

- ▶ **LCG File Catalog** (LFC)
  Maps 'Logical File Names' to 'Physical File Names'.

- ▶ **Book-keeping** (BK)
  List of produced files with metadata.

Deployment Plans

- ▶ **On-Line** (*ConfDB*, *PVSS A.*)
  - ▶ Single instance on a dedicated server at the pit
- ▶ **Off-Line** (*LFC*, *BK*)
  - ▶ Master instance at CERN (r/w)
  - ▶ Copies at Tier-1s (read only)
- ▶ **CondDB**
  - ▶ On-Line + Off-Line
    - ▶ Masters at the pit and CERN
    - ▶ Copies at Tier-1s (read only)

Deployment Plans (2)

PIT   CERN   TIER-1s

ConfDB

PVSS arch.

off-line | on-line CondDB

off-line | on-line CondDB

BK   ?   BK

LFC   LFC

off-line | on-line CondDB

off-line | on-line CondDB

off-line | on-line CondDB

off-line | on-line CondDB

🔒 = read-only   ⬅ = replication by Oracle streams

Requirements

- ▶ ConfDB
  - ▶ Volume: $\sim$ GB
  - ▶ Clients: *few*
  - ▶ Accesses: *begin run*
- ▶ PVSS Archive
  - ▶ Volume: 20-100 GB/y
  - ▶ Clients: *few*
  - ▶ Accesses: *depend on PVSS*

- ▶ CondDB
  - ▶ Volume: $\sim$ GB
  - ▶ Clients: $\sim$1000/day/site
  - ▶ Accesses: *many*
- ▶ LCG File Catalog
  - ▶ Volume: $\sim$ GB
  - ▶ Clients: $\sim$7000/day
  - ▶ Accesses: *few*

Status of Applications

- **ConfDB**
  - Features ready, tests ongoing
- **PVSS Archive**
  - *Depend on PVSS*
- **CondDB**
  - LCG COOL project
  - "CondDB Challenge" before the end of the year
- **LCG File Catalog**
  - "GRID" middleware
- **Book-keeping**
  - In production

Summary

- ▶ Pit
  - ▶ 3 DBs (ConfDB, PVSS arch., CondDB)
  - ▶ Part of CondDB replicated to Tier-0
- ▶ Tier-0
  - ▶ 3 DBs (CondDB, LFC, BK)
  - ▶ Part of CondDB replicated to Pit
  - ▶ All DBs replicated to Tier-1s
- ▶ Tier-1s
  - ▶ Read-only copies of Tier-0's DBs
- ▶ Tier-2s
  - ▶ No DB