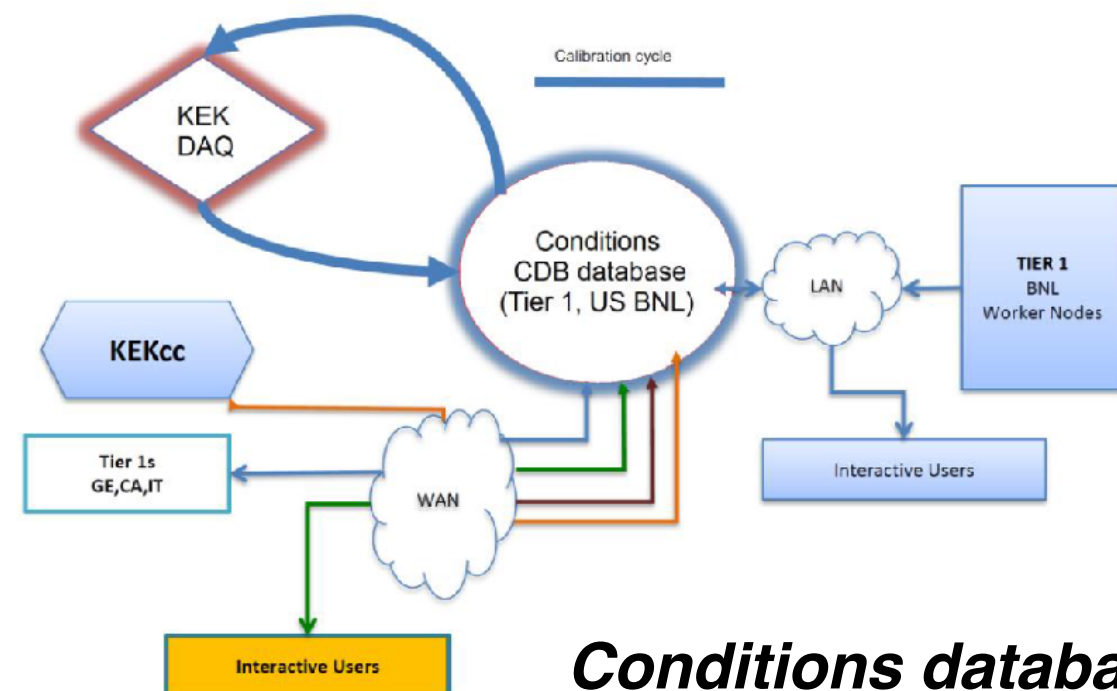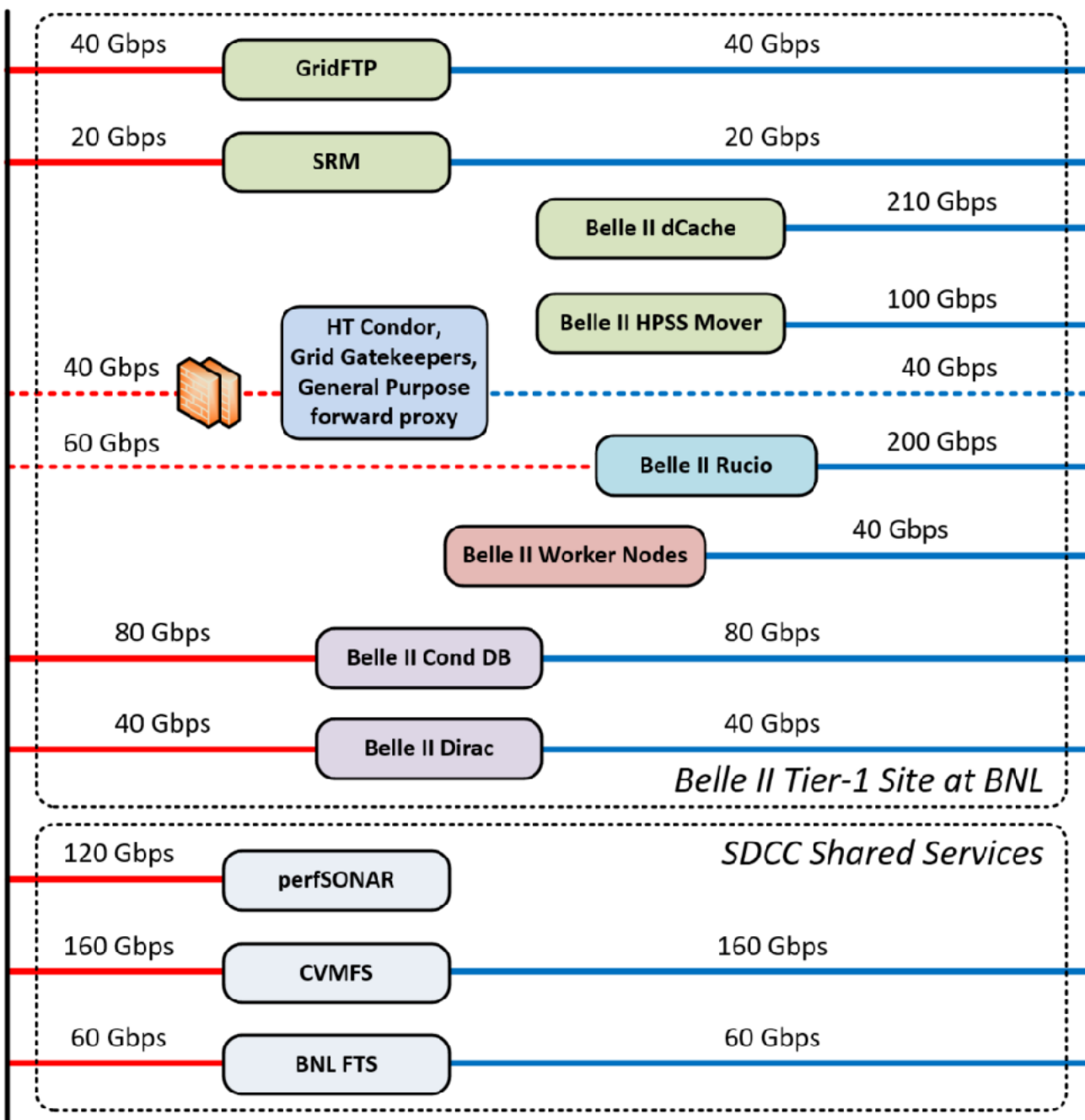# Belle II Activities

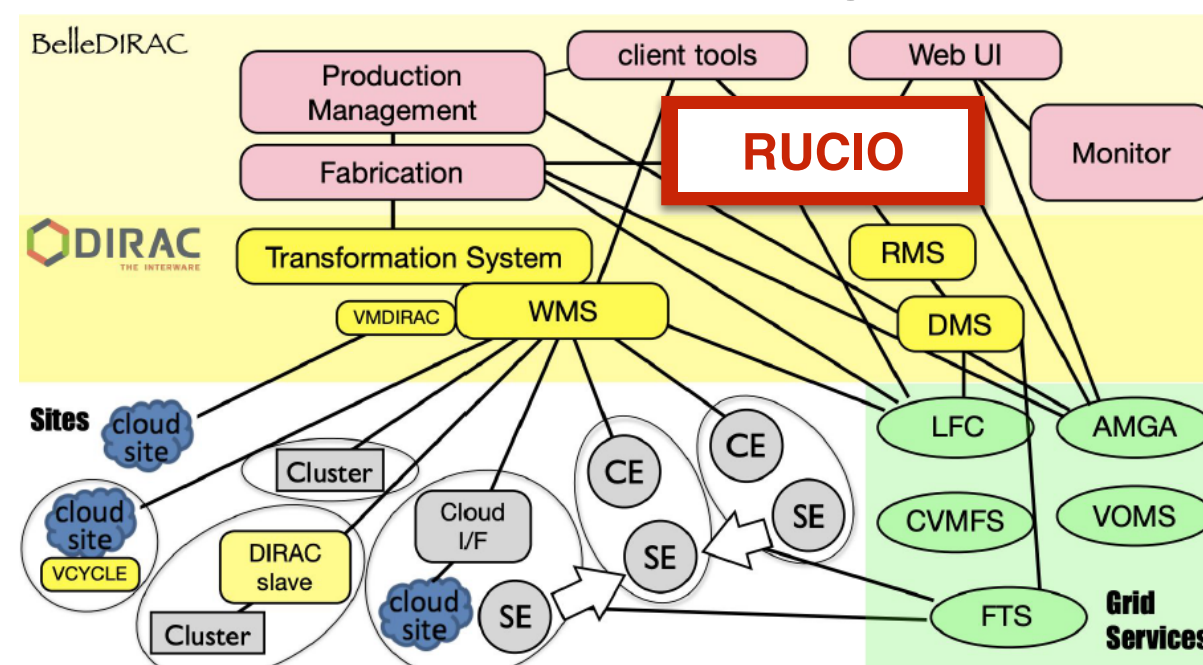Paul Laycock for the BNL team

US Belle II Computing Scope

- **BNL** assumes responsibility for provision all pledged computing resources for the contributions from **US Belle II**

  - Pledges are proportional to PhD share in **Belle II** computing model

- The **US Tier-1** computing facility for **Belle II**

  - **Raw data centre**: 100% JFY2018-2020, 30% thereafter

- **US** responsibilities in **Belle II** computing services

  - *Conditions database (CDB) service*

  - *Distributed data management (DDM)*

    - Migrated to *Rucio* in 2021 - a major milestone and a vCHEP plenary talk!

US Belle II Computing Scope

Conditions database

Distributed data management

RUCIO

The US Tier 1 and Raw data center:
100% Raw copy through JFY2020
30% Raw copy thereafter

BNL Belle II computing & software people

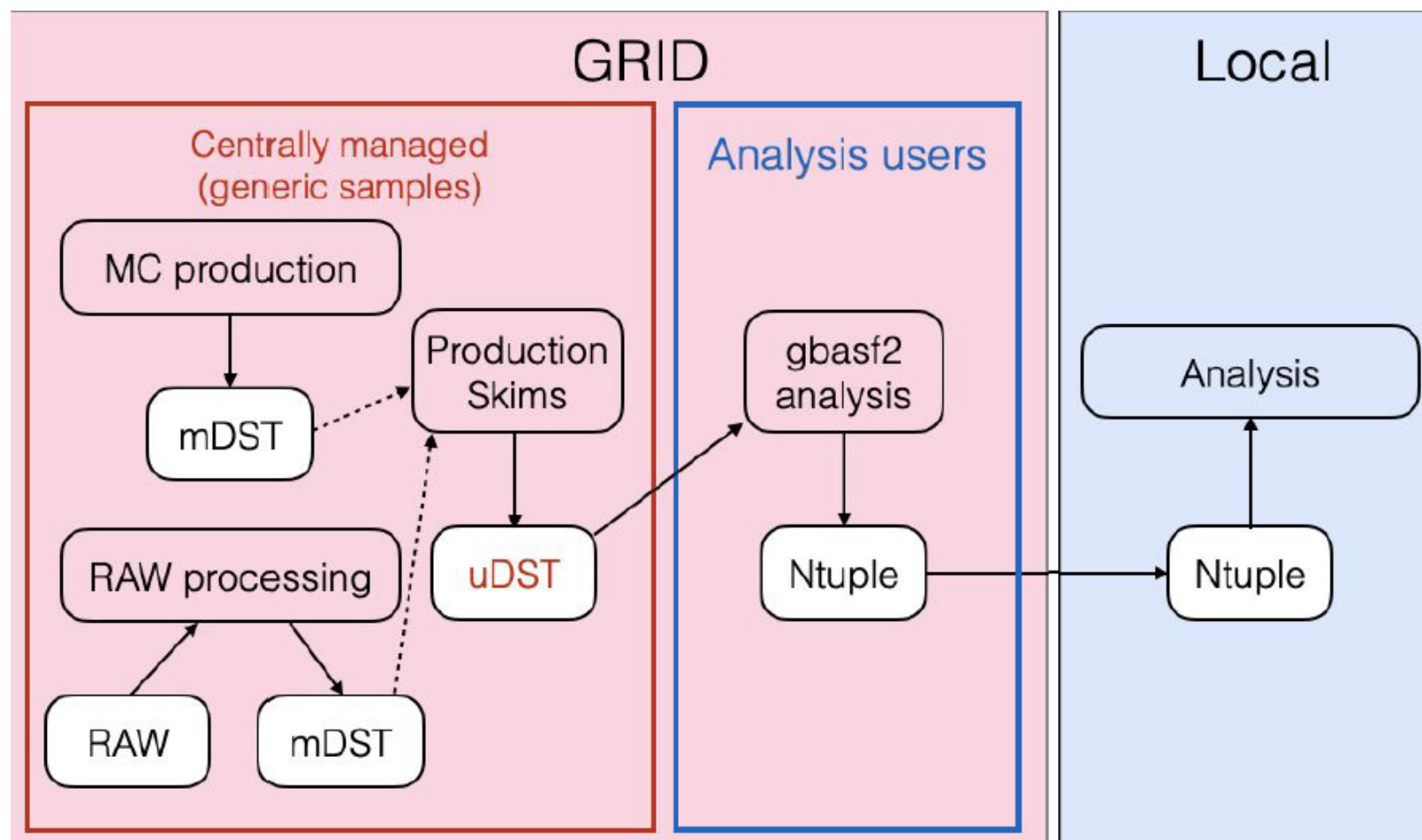| Project	Core team (SDCC & NPPS)	Support
Conditions database (CDB)	Carlos Gamboa	
	Ruslan Mashinistov	**Support**
	Paul Laycock	SDCC support team Including the Tier-1 (6 persons)
Distributed data management (DDM)	*Paul Laycock*	
	Ruslan Mashinistov	
	Cedric Serfon	Nisar Nellikunnummel (EDG group, operations)
	Hironori Ito	
	John De Stefano	

Belle II Computing Model

- Expect the computing model to evolve with the experiment

- Case in point, ***prompt calibration*** required significant dedicated resources at a calibration centre, ***will use computing resources at BNL from FY21***
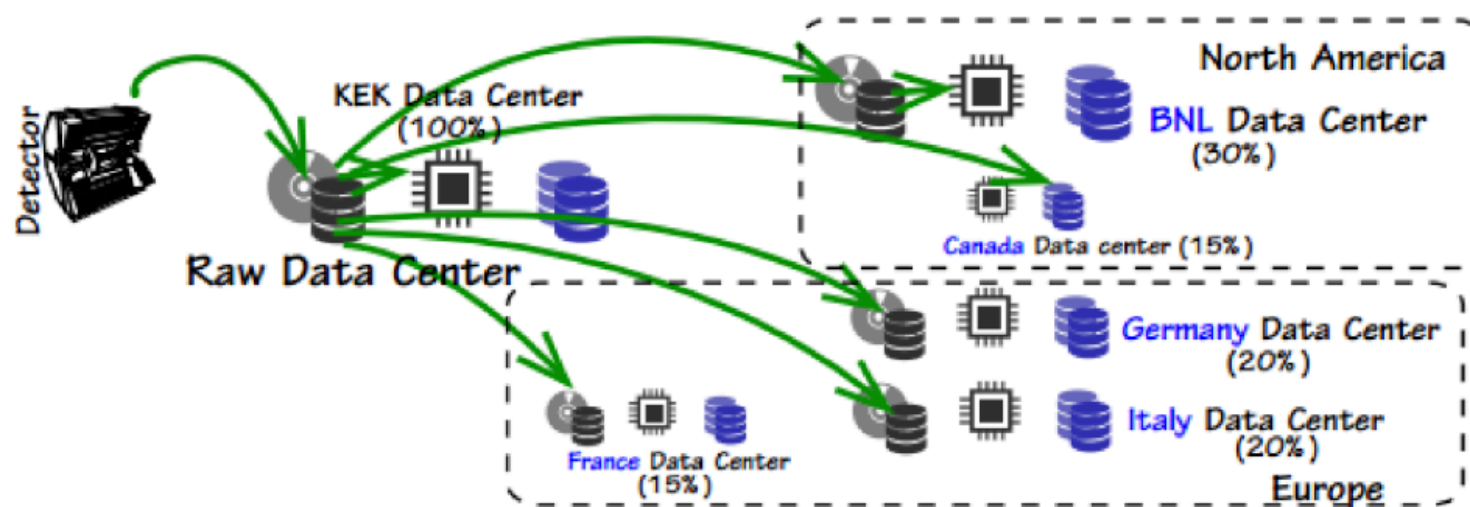
Belle II Data Model

Raw data distribution and archival
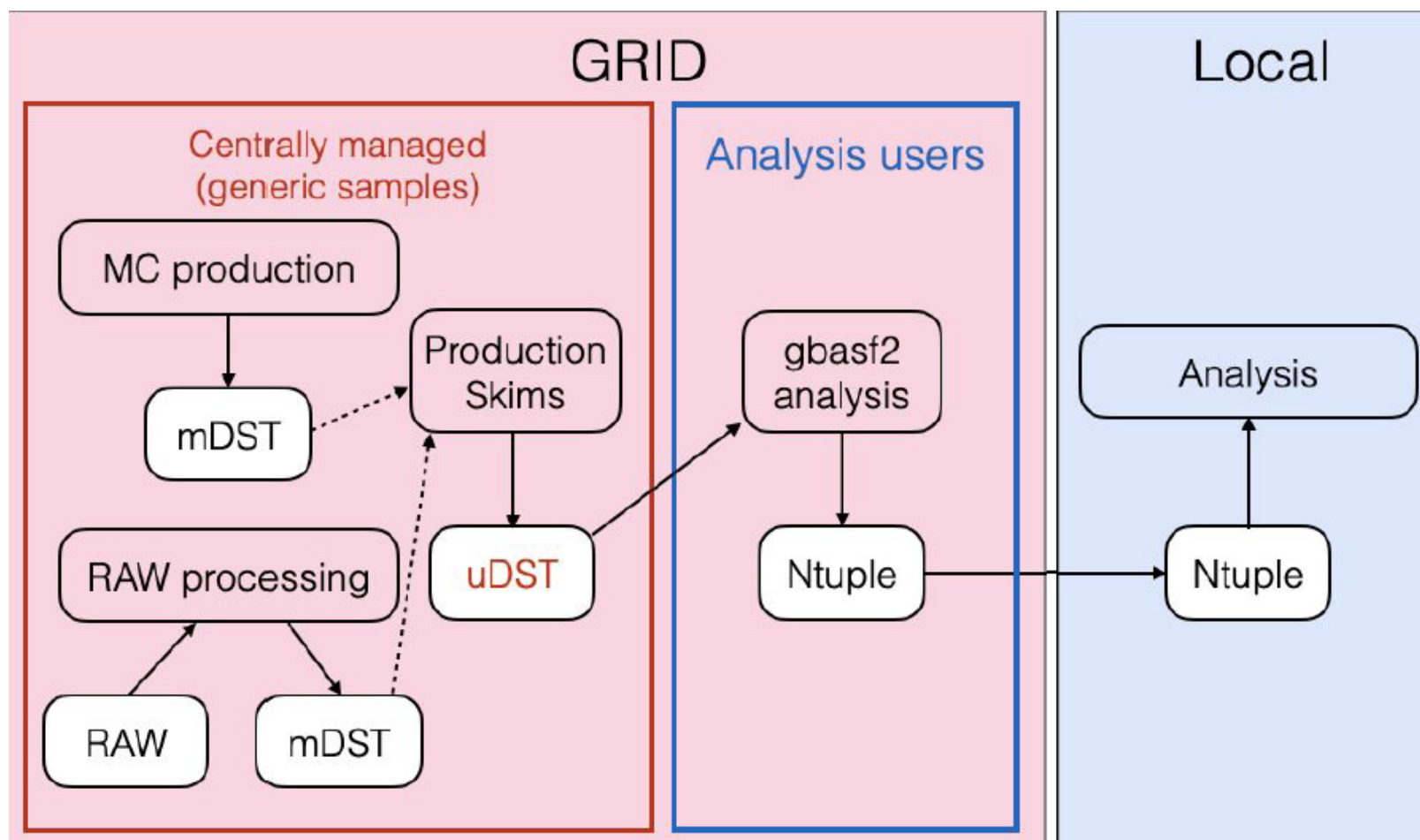
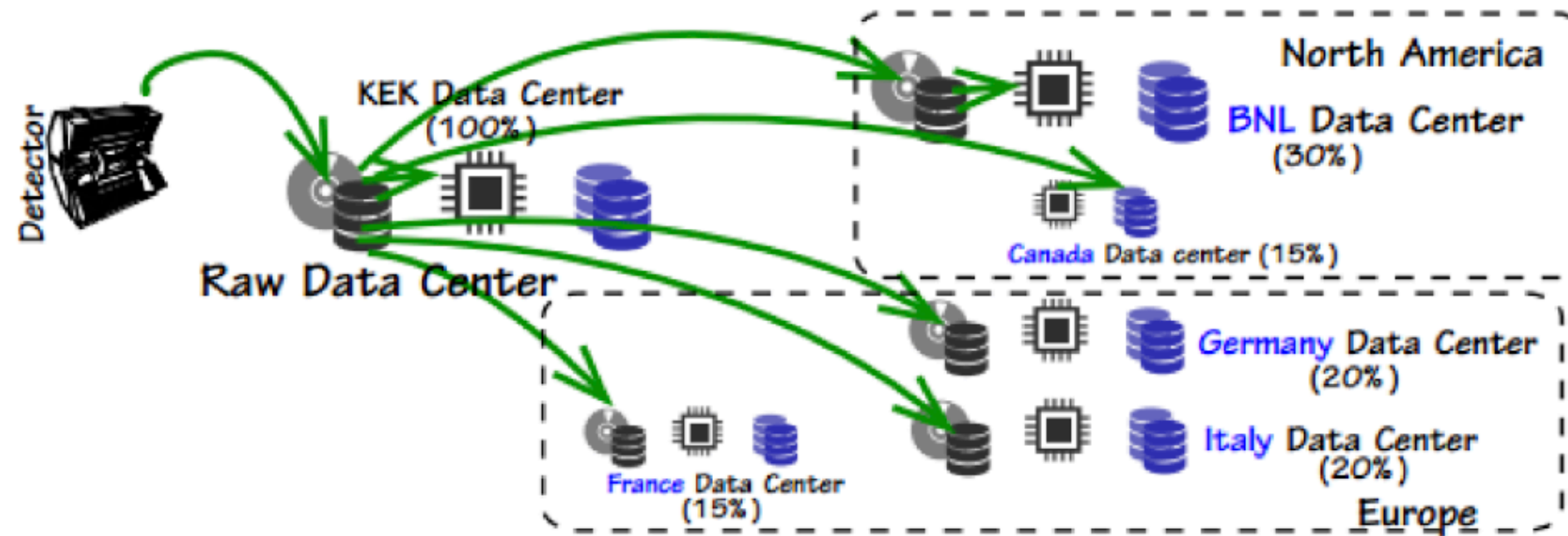Real and simulated data processing workflows

Belle II Data Model

Raw data distribution and archival

- Perform **prompt calibration at BNL**

- Reconstruct **RAW** data to make **mDST at BNL**

- Apply event selections (skims) to **mDST** to produce **uDST**

- Analysts run over **uDST** to produce **ntuples** and onward to fame and glory
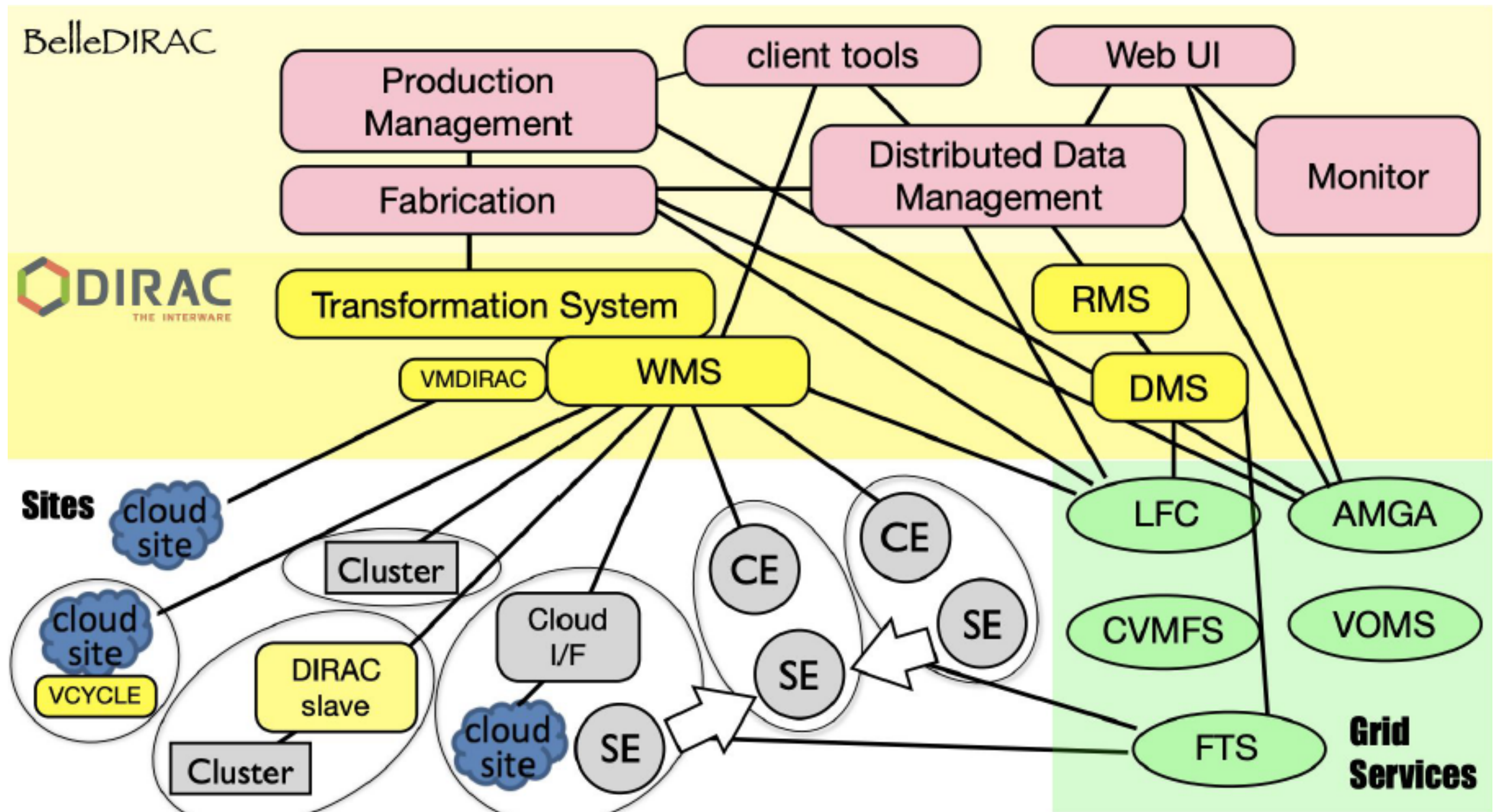
Belle II Raw Data

- In April, more raw data centres (RDCs) were brought online
  - Online raw data not deleted until copy available on tape at KEKCC and remote RDC

- Back-pressure now higher risk, more points of failure, critical!

- Start of April, some FTS settings (@BNL) updated on request of Belle II
  - Slow transfers seen to BNL, eventually causing a backlog to KEKCC

- Diagnosed by *Hiro* - kernel parameters on the gridftp doors (tcp memory) that shouldn't be relevant but they are because…
  - Thanks to *Hiro*, better transfer monitoring in progress using Rucio (*Cedric*)
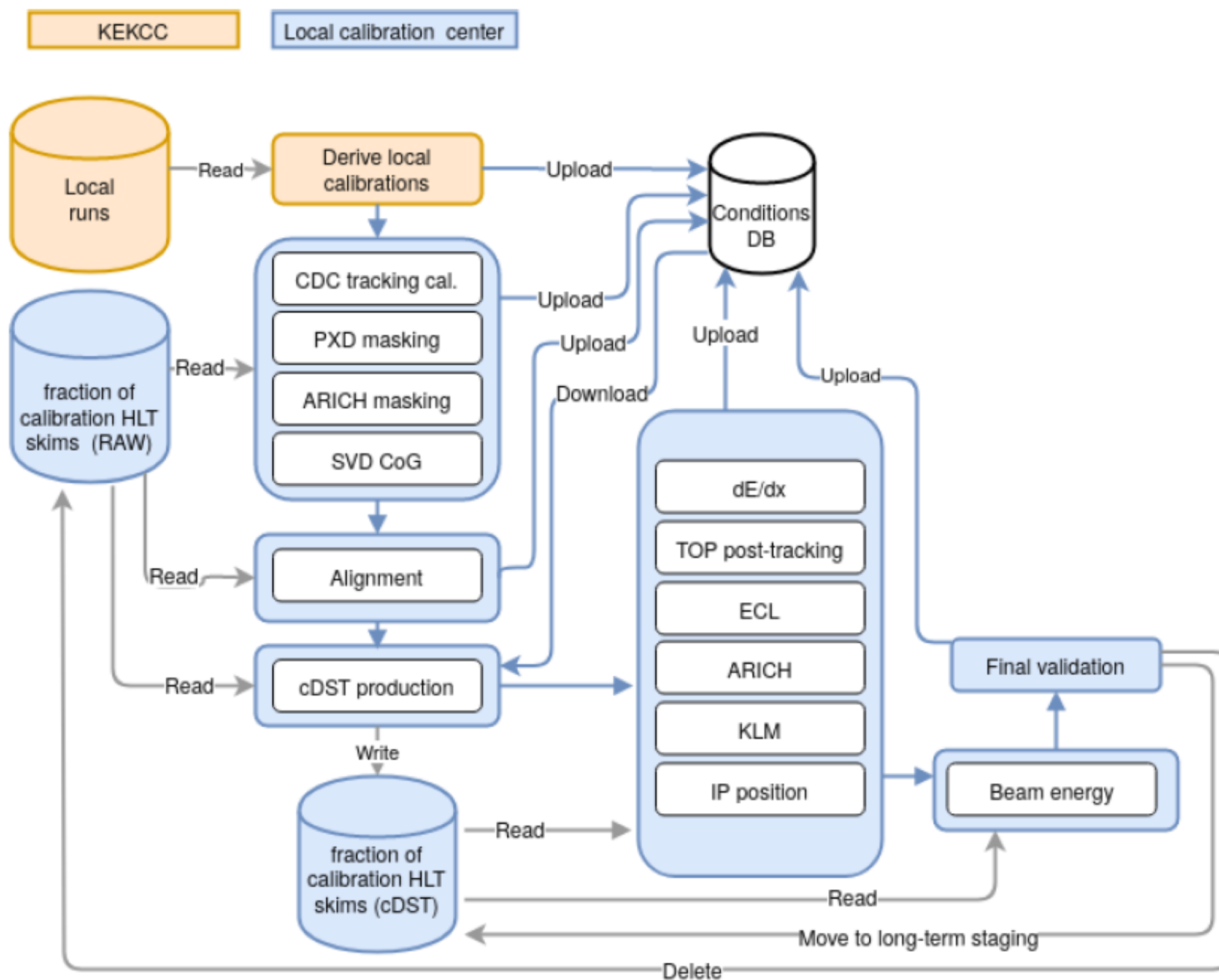
Backup

US Belle II Operations Review

Belle II Distributed Computing

Prompt calibration

Raw data volume growth (all)