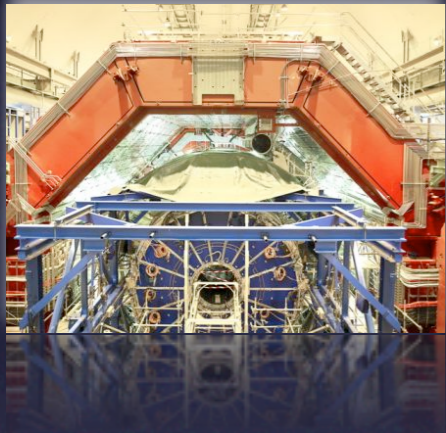


ALICE and the T2s

- The role of the Tier2s in the Computing Model
- What do we expect from the Tier2s
- What are the communication channels

GDB, 8 October 2008

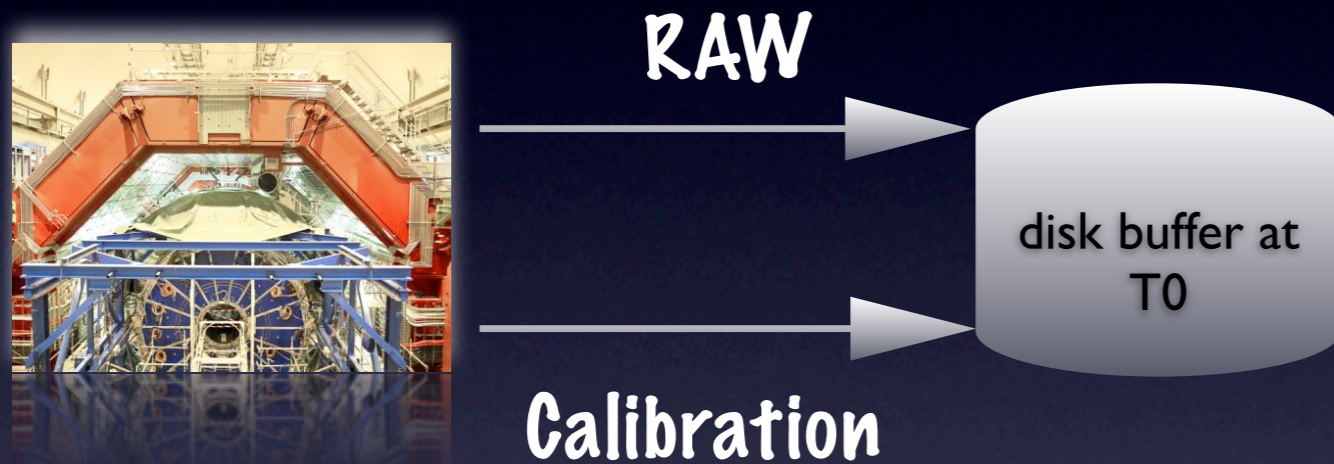
Data Flow for pp



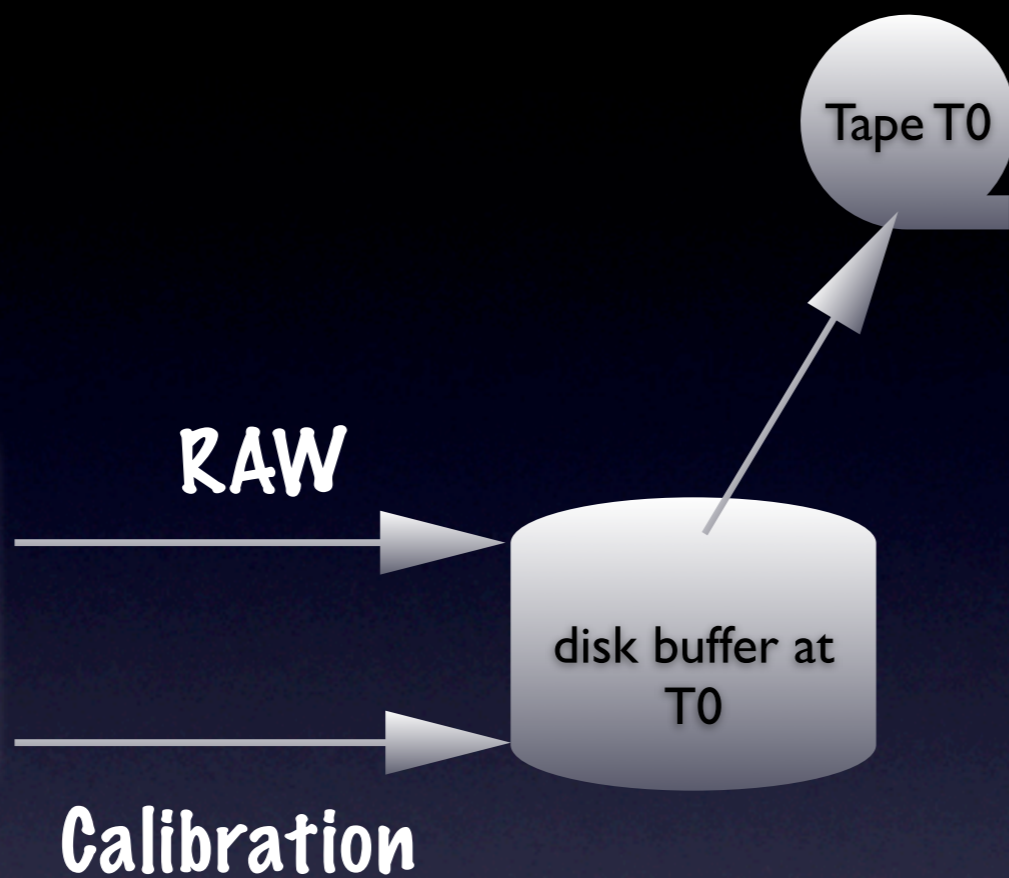
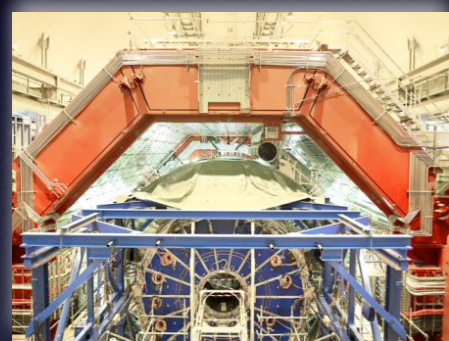
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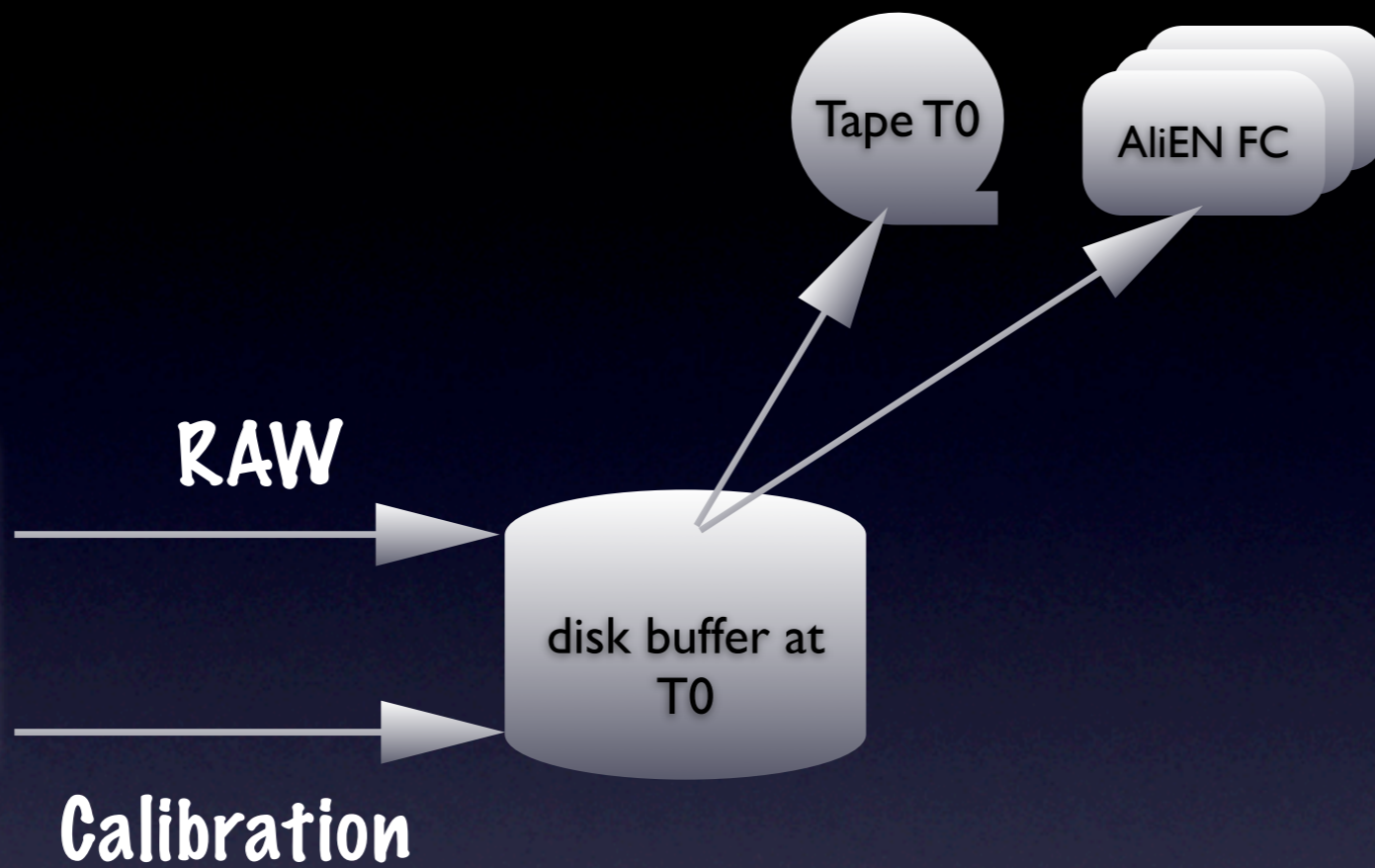
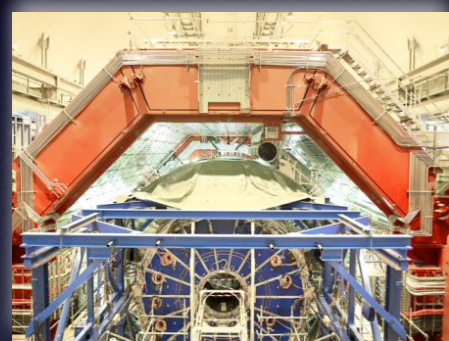
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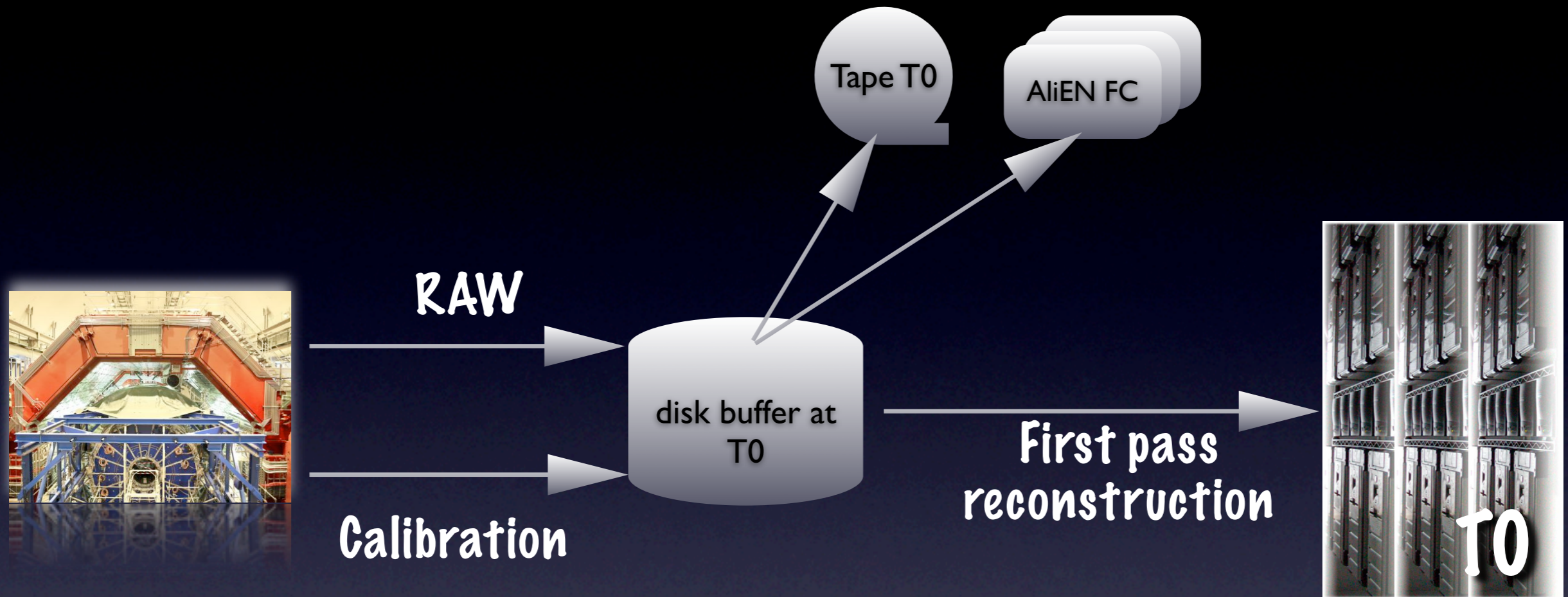
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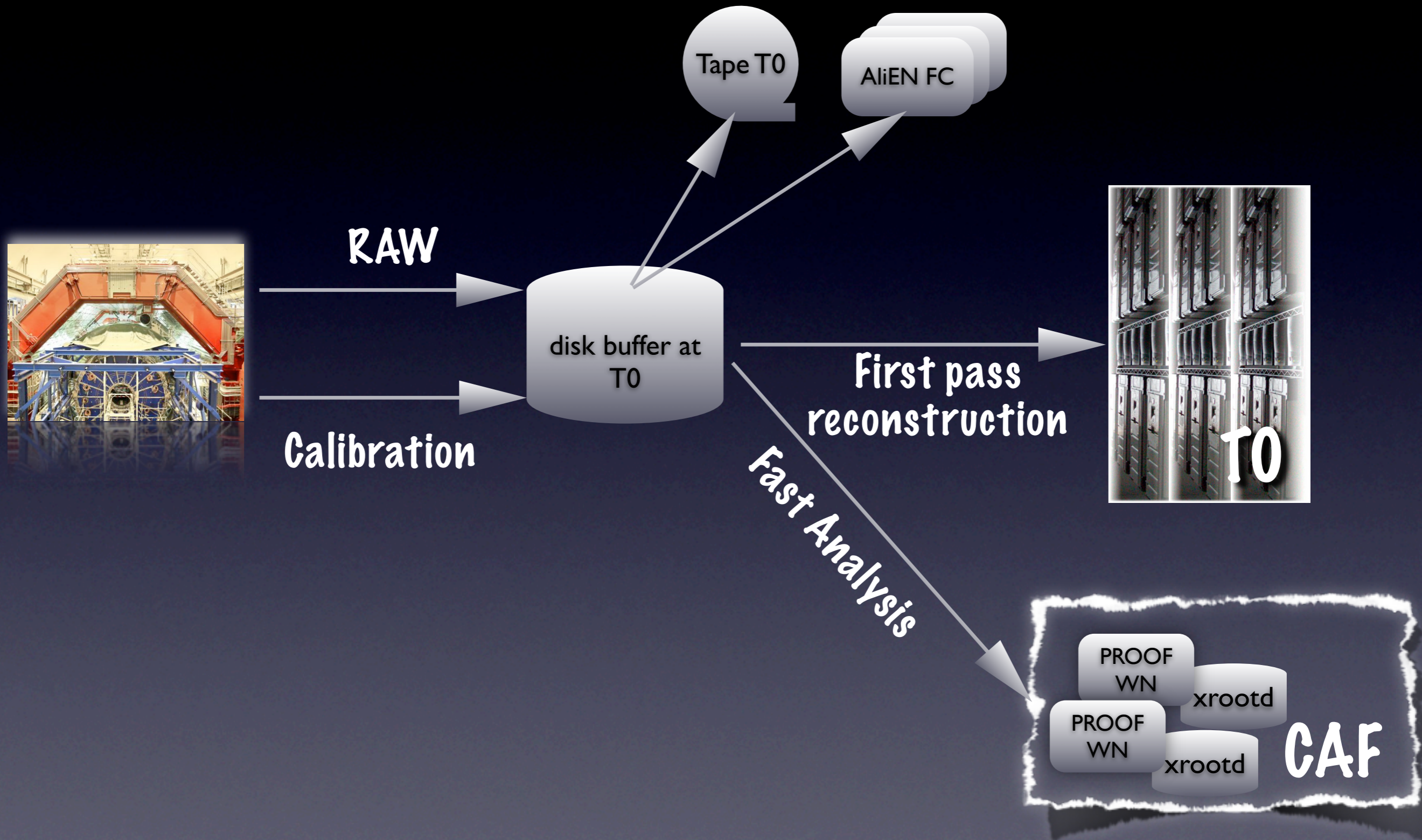
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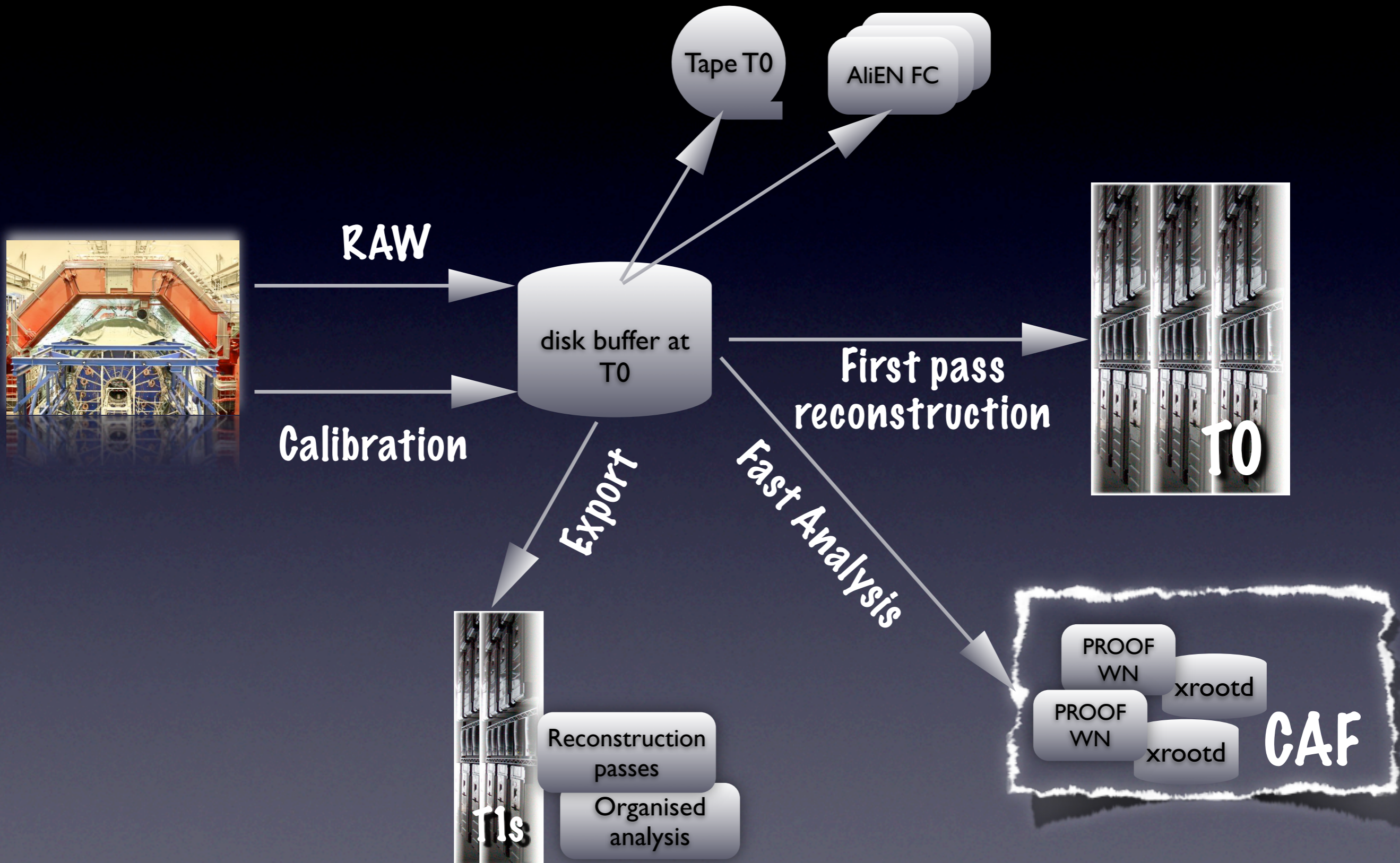
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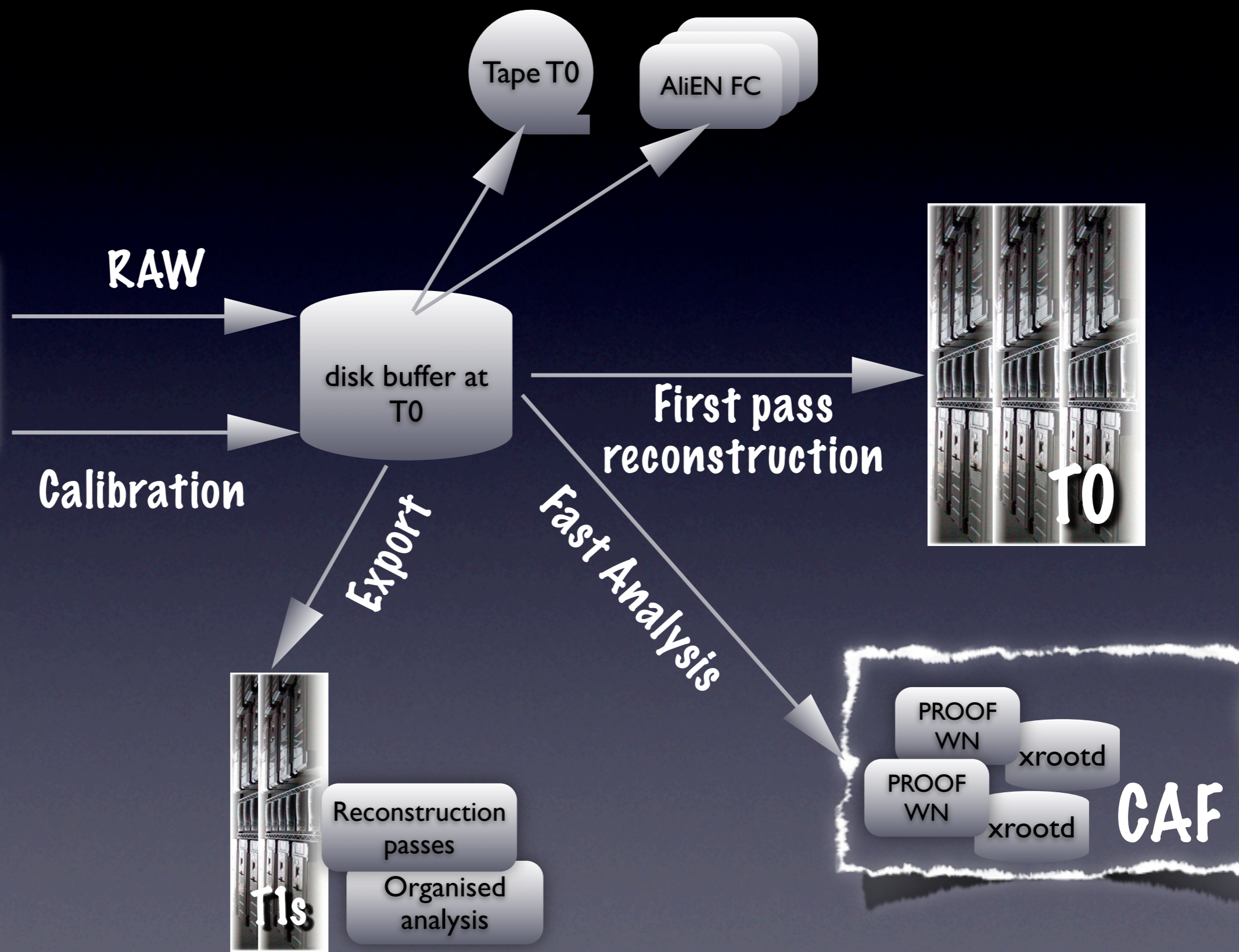
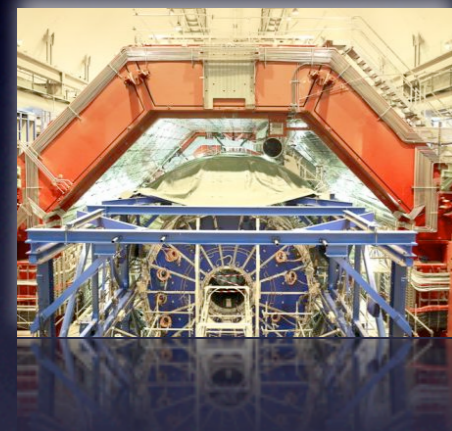
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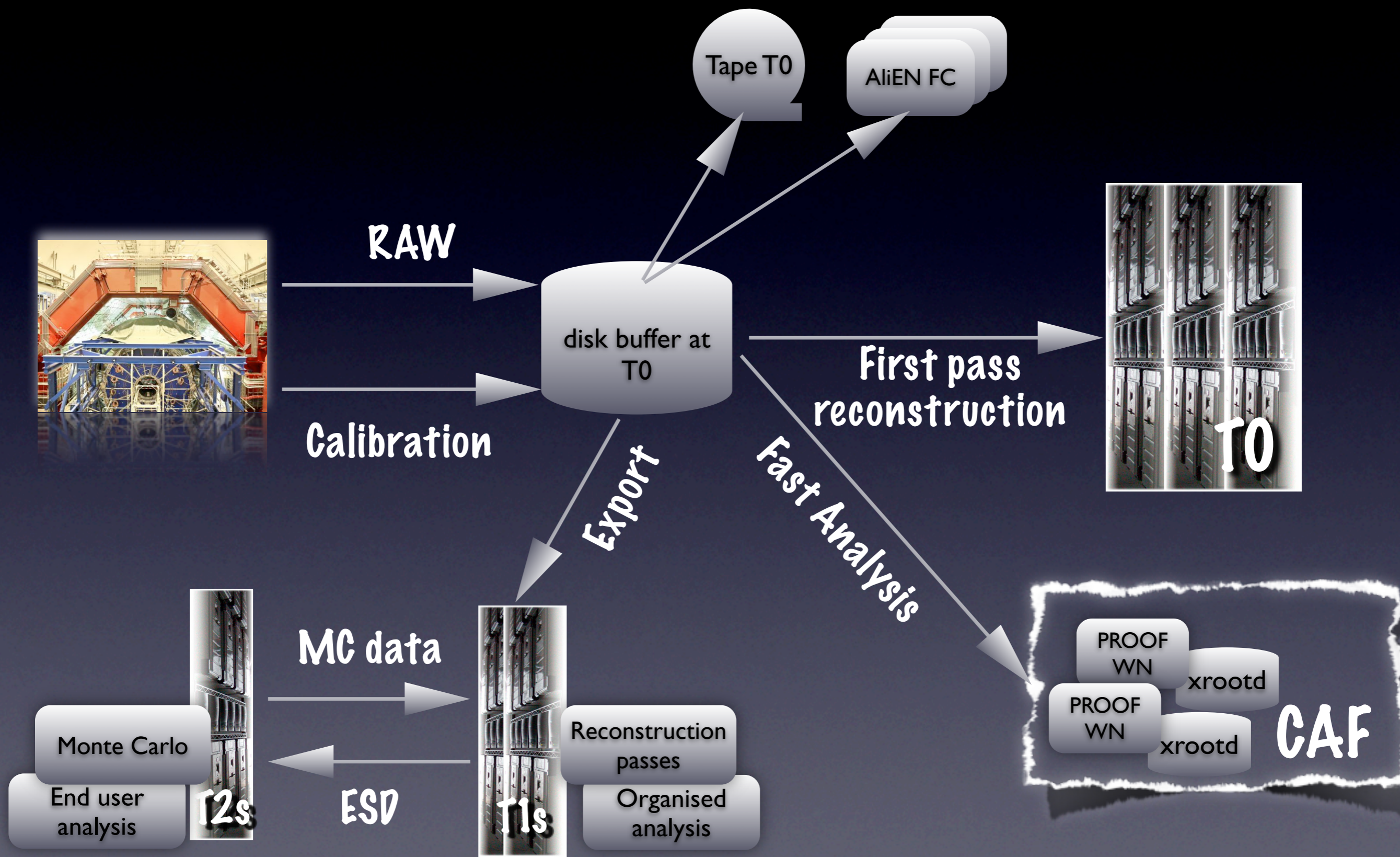
Data Flow for pp



Data Flow for pp



Data Flow for pp



Tier2s & the CM

- Process
 - ▶ Continuously produce and reconstruct MC data
 - ▶ Perform end-user (chaotic) data analysis
- Data storage
 - ▶ hold the MC ESDs/AODs produced locally
 - ▶ hold a fraction of replicated ESDs/AODs from real data
- Data flow via WAN xrootd
 - ▶ Ship to any SE (Tier I) MC data
 - ▶ Retrieve from any SE (Tier I) ESDs for analysis
 - ▶ Close by Tier I chosen for efficiency reasons

Tier2s & the Grid

- Tasks

- ▶ MC production is centrally driven and submitted to Tier2 according their CPU availability
- ▶ End user analysis is either:
 - Driven locally and submitted to the Tier2s according the availability of data in the SE (high statistics samples)
 - Run locally and data are accessed through the Grid wherever they are (for test purposes)
 - Run locally on a PROOF cluster data being local (moderate statistics samples, low latency)

Tier2s & the Grid

- Tasks

- ▶ No distinction (in terms of services) between Tier2s and lower Tiers
 - Any site providing resources to ALICE must be connected to the Grid infrastructure
- ▶ Flexible data processing strategy
 - Tier1s and Tier2s can perform the same kind of tasks if needed

Expectation from Tier2s

- Resources
 - ▶ CPU and Storage resources represent about 50% of the total resources available for ALICE (external Tier1s & Tier2s)
 - ▶ A typical Tier2 should offer in 2009
 - 1.1M SI2K CPU
 - 270 TB of disk storage
 - Disk/CPU ratio = 0.25 TB/KSI2K
- No special relation with local community
 - ▶ All Tier2s serve all ALICE physicists

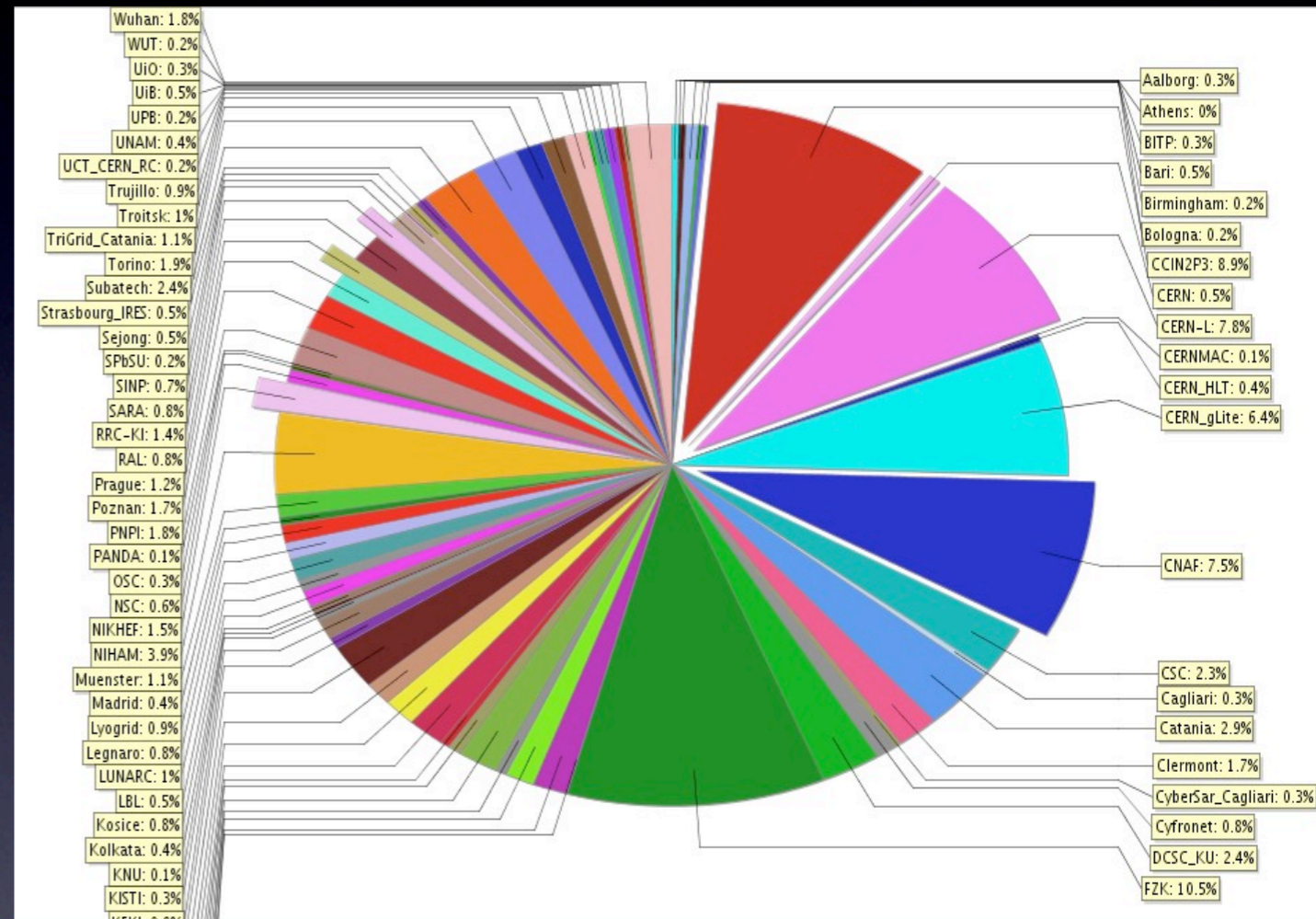
Expectation from Tier2s

- Services
 - ▶ A standard LCG VO-box running the ALICE services
 - Installation guide: <http://alien.cern.ch/twiki/bin/view/AliEn/HowToInstallLcgVoBox>
 - ▶ A shared file system for VO software
 - ▶ A xrootd enabled SE (native, DPM, dCache)
- Site support amounting to 0.5 FTE

Delivered by Tier2s

- CPU

- ▶ 50% of the ALICE computing power in 62 Tier2 sites
 - MC production and end user analysis (SE required)
- ▶ SE with xrood support deployed in 30 sites
 - Locally produced MC
 - production and replicas of ESDs/AODs from T0/T1s/other T2s



Communication channels

- Coordination with central operation:
 - ▶ 1 out of 3 Core Offline person offers a privileged contact with the Tier2 site manager
 - ▶ Weekly coordination meetings (phone, EVO, F2F)
- Regional coordination
 - ▶ Tier2s federation provide a single contact person
 - ▶ Tier2s coordinate with their regional Tier I