

# Resources for HLT and Express Production

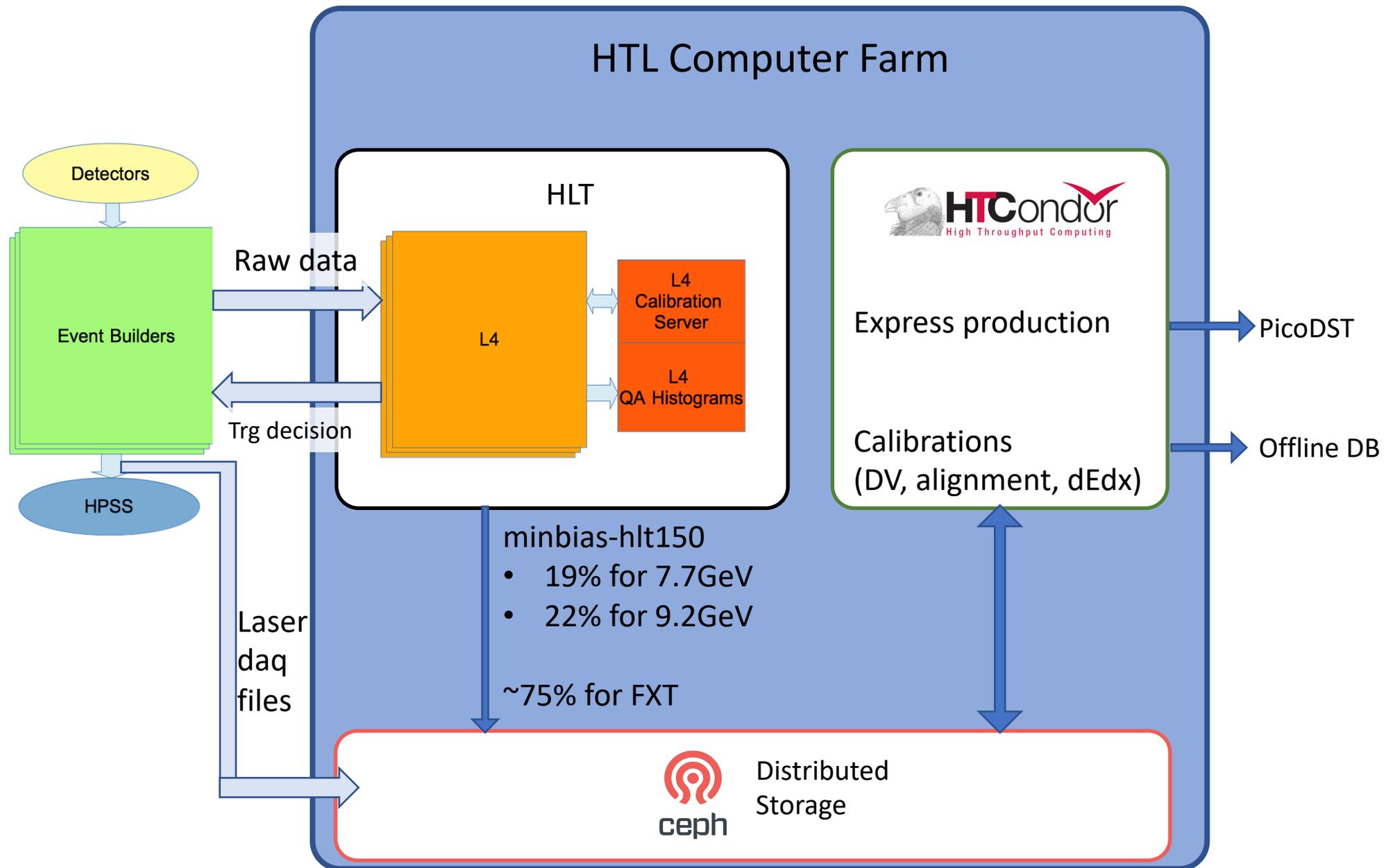
Hongwei Ke

BNL

- Recap of resources
- Activities
- Relation to fast-offline/offline calibrations

# Computing Resources on HLT Farm

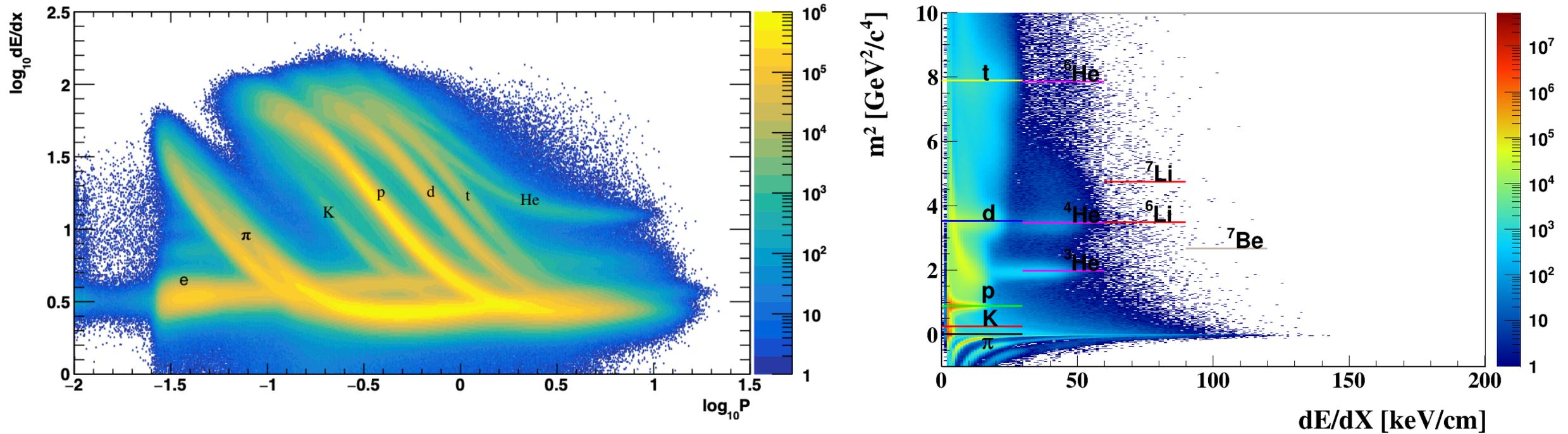
- High-Level Trigger:
  - Five tracking nodes
  - One event pool for QA
- Express Production and calibrations:
  - 17 condor jobs nodes, ~400 job slots
- Service Nodes
  - One interactive node / entry point
  - Three service nodes: offline DB replicas, NFS disks, Ceph metadata service, condor central manager
- Ceph storage system:
  - 120TB usable space
  - High performance
  - Working area for express production and calibrations
- NFS disks:
  - 70TB usable space
  - Low performance
  - picoDst file and other files



# How does express production benefit the TPC calibration?

- Express production (only available for BES-II due to limited computing resources)
  - Process cosmic ray data and HLT good events
  - Use HLT CPU power
  - Supplement the fast-offline and final production by providing a production sample that is much larger than the fast-offline and much faster than the final production
  - QA and Monitor the run condition and new calibration parameters
  - Express analysis for higher order QA and fast physics results.
- Calibrations
  - TPC drift velocity: consistently calibrated through the data taking
  - TPC alignment with cosmic ray data, e.g. 100M comic events produced for Run19
  - dEdx and alignment
    - 1<sup>st</sup> round at the beginning for the run to start the express production
    - Run 21, retain a few daq files for each day/run through the run, and keep iterating the calibration processes. Hopefully get the (close-to-) final calibration values at run stop. Overlapping the calibration and data taking give us chance to finalize the calibrations sooner.
  - All calibration parameters should be automatically available for fast-offline and offline production as we use the same DB.

# Calibration Example



- Initial calibrations for Run20 9.8GeV FXT

# Express Analysis Example

