DST:

- Why?
  - Reconstructed files are too large to keep on disk

  → faster access to smaller files allows for higher turnaround
- What?
  - Reduced event content after the reconstruction is done

  → ReconstructedParticle

  → drop all Hits
  - How?

  → pto

DST Specification

Ideally:

ValidatedRecoList – ReconstructedParticle

VertexList – LCVertex

Vertex_RPList – ReconstructedParticle

MCParticleList – MCParticle

TruthMap – LCRelation

That is all that's needed for a physics analysis that we can finish in time for the DBD

DST History

In the LOI:

- Lists of different n-jets
- List of ReconstructedParticles (Pandora / UIowa)
  - Different quality selections for CLIC CDR
- List of Tracks
- List of Clusters

Every analysis did their own b-tagging (if necessary)

What do we need to support this time

- Some overlap between analysts / reconstruction experts
  - Need enough info to supply at least some extra information to developers
- LCFIVertexPlus has to run in the production
  - Store Vertices
- Flavor tagging training done by analysts
  - Need to keep tracks
- BCAL Particles
- V0 Vertices
- Space constraints
  - We need **at least** two copies of every DST **on (grid) disk**
  - Should fit on home PC for analysis

Concrete list of collections CDR

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COLLECTION NAME	COLLECTION TYPE
ClusterMCTruthLink	LCRelation
[illegible]	[illegible]
MCParticlesSkimmed	MCParticle
PandoraPFOCollection	ReconstructedParticle
RecoMCTruthLink	LCRelation
ReconClusters	Cluster
[illegible]	[illegible]
[illegible]	[illegible]
TrackMCTruthLink	LCRelation
Tracks	Track

MarlinReco

COLLECTION NAME	COLLECTION TYPE
[illegible]	[illegible]
MCParticlesSkimmed	MCParticle
PandoraPFANewClusters	Cluster
PandoraPFANewPFOs	ReconstructedParticle
RecoMCTruthLink	LCRelation
SelectedLDCTracks	Track
[illegible]	[illegible]
[illegible]	[illegible]
V0Vertices	Vertex

Agreed DST Proposal

- MCParticles: one collection.
  - Complete Generator Event
  - Any particle that leaves a hit + its genealogy
- Tracks and Clusters: one collection. Needed for training of b-tagging
- PFO collection: one default collection of PandoraPFA PFOs
- Truth linking between rec – MC.
  - Comparison between concepts to be done
- LCFIVertex objects: Primary and secondary vertices. Corresponding ReconstructedParticles.
- BCAL particles
- V0 particles
- DefaultAnalysisPFOs: Consolidated list of particles belonging to the BCAL particles, V0 particles, and particles belonging to the LCFI secondary vertices