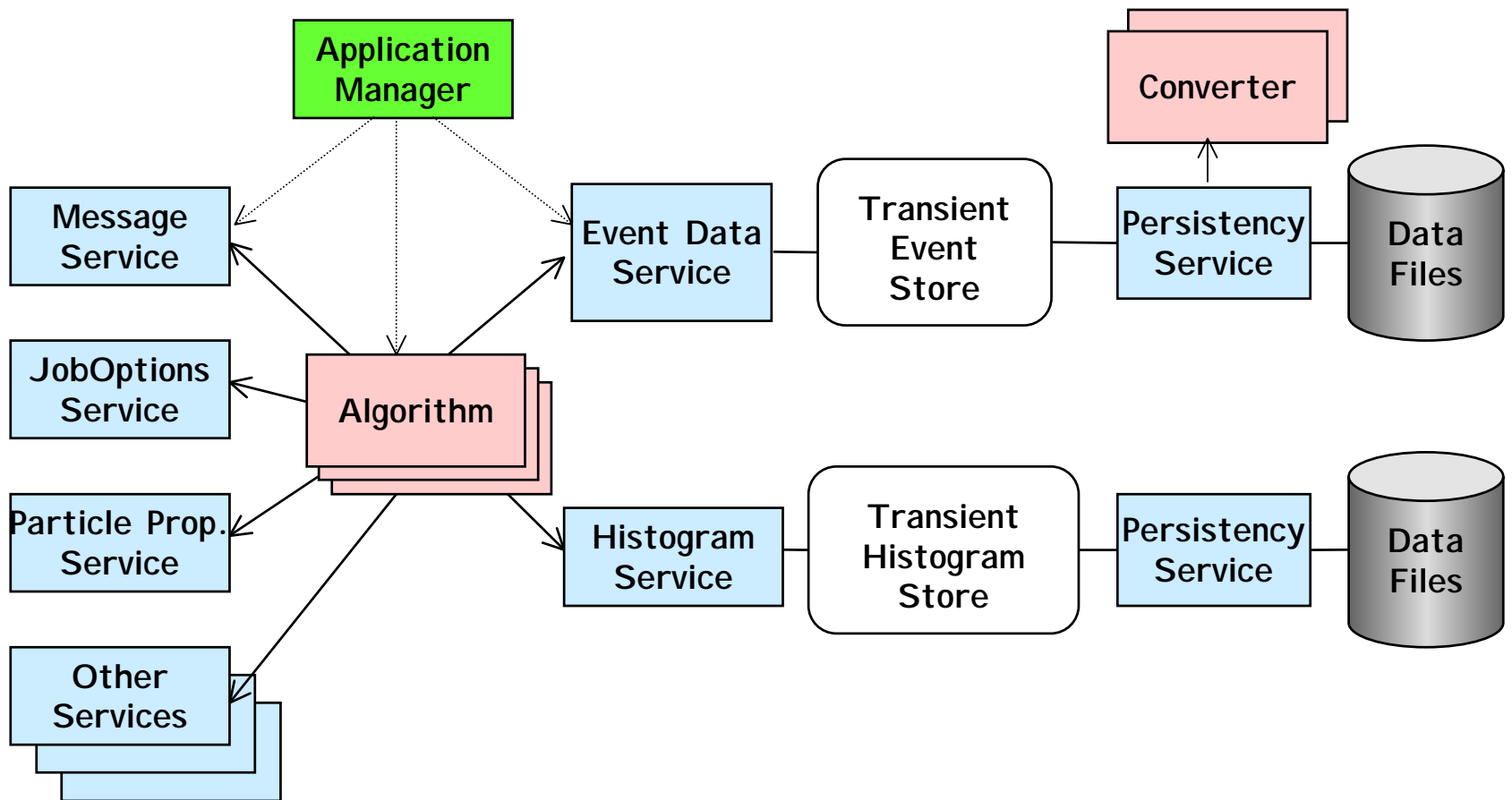


BES III Offline Reconstruction Event Data Model

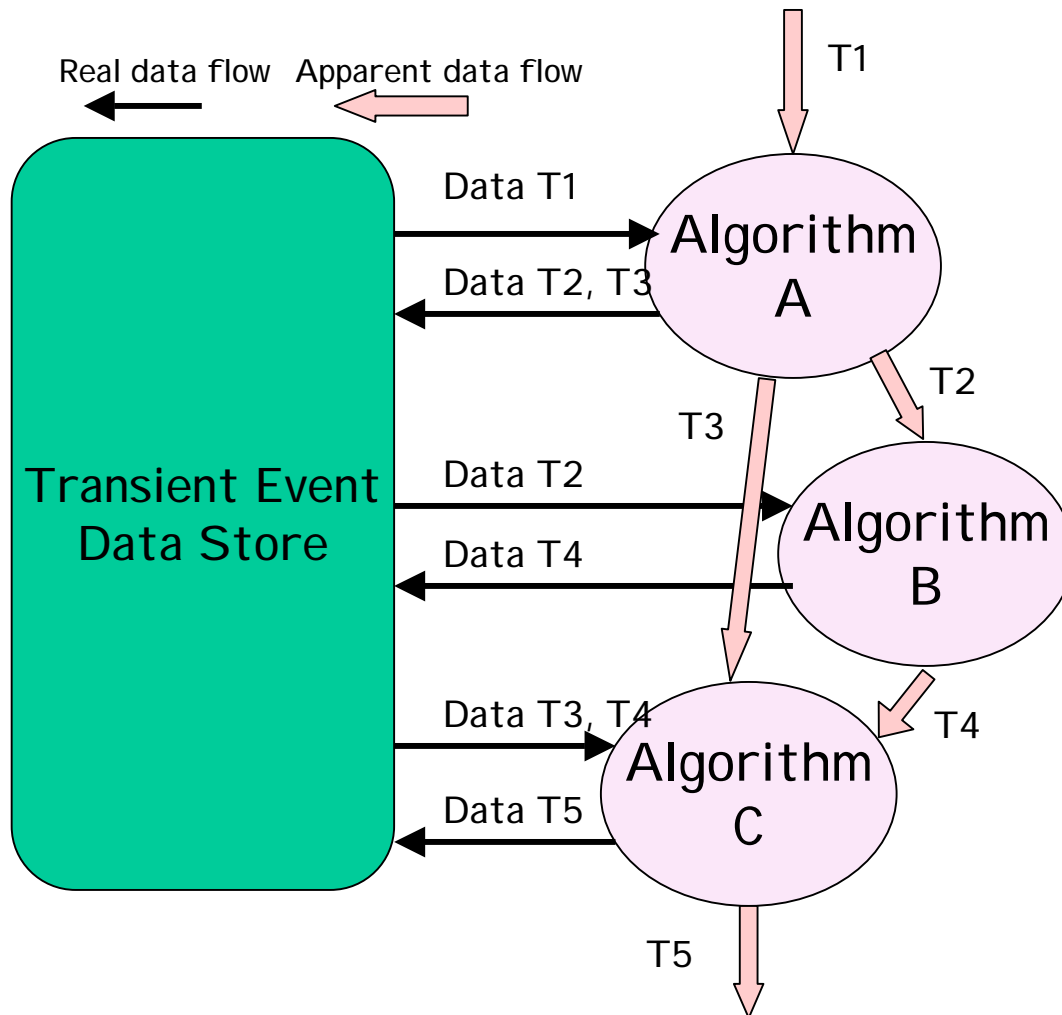
Weidong Li

24/03/2004

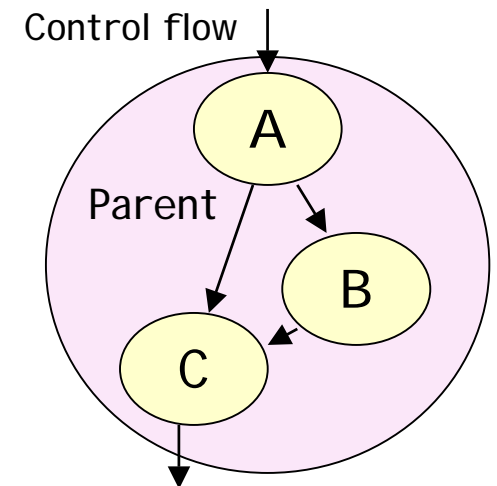
Gaudi Architecture Object Diagram



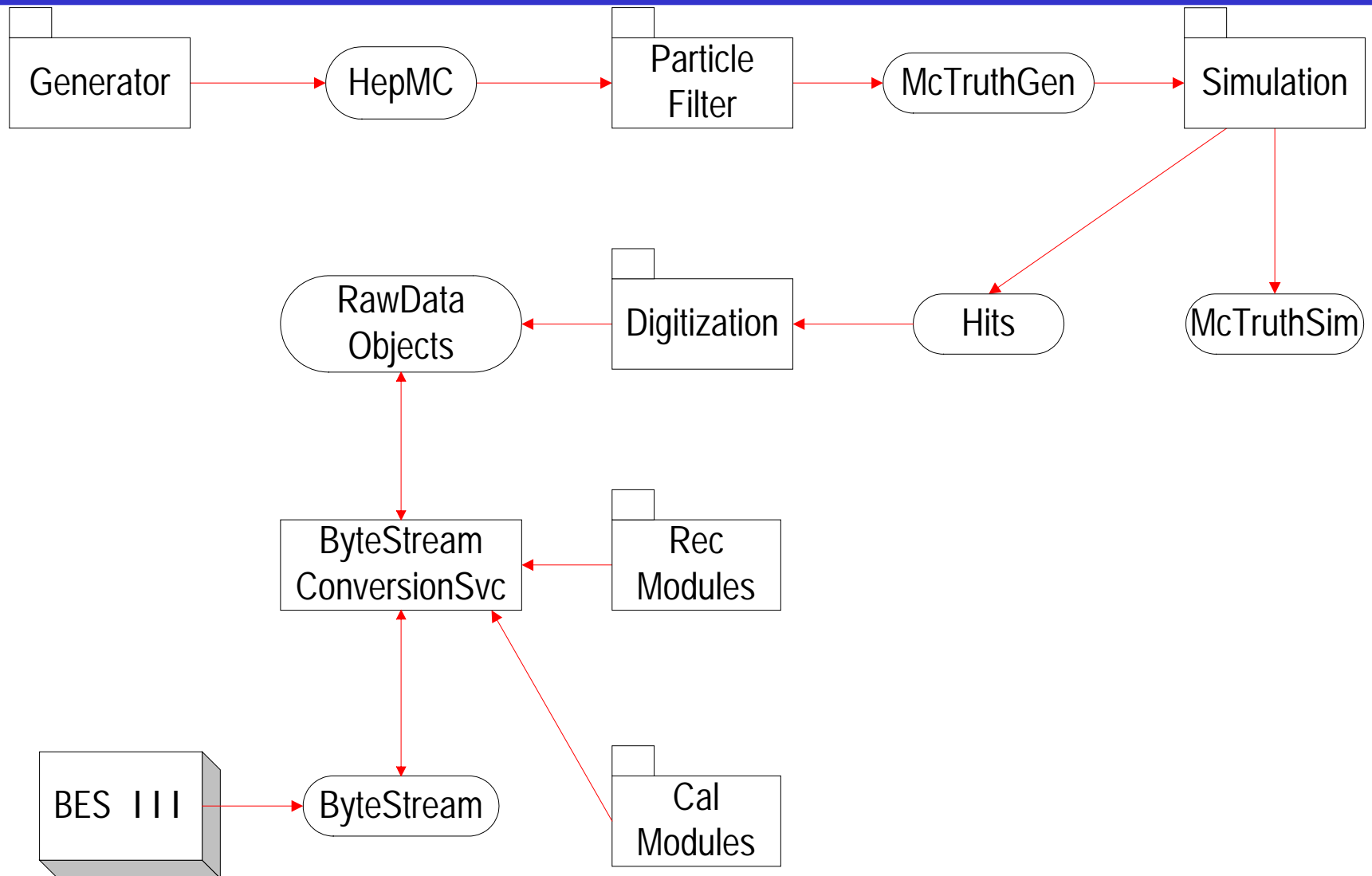
Gaudi Data Management and Algorithms



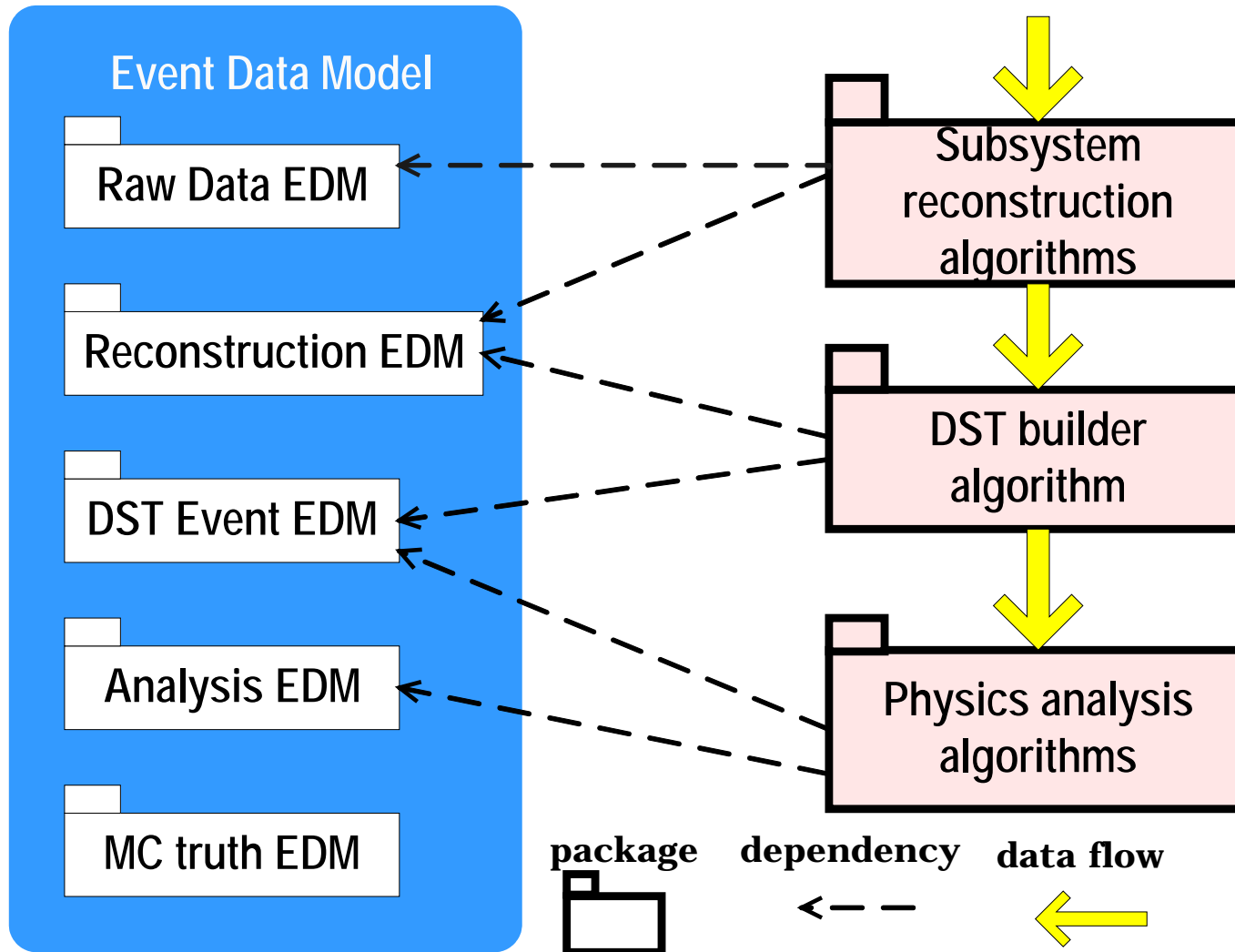
- Each algorithm only knows what data (type and name) is expecting as input and creating as output
- The only coupling is through the data
- **Scheduling of sub-algorithms** is responsibility of the parent algorithm



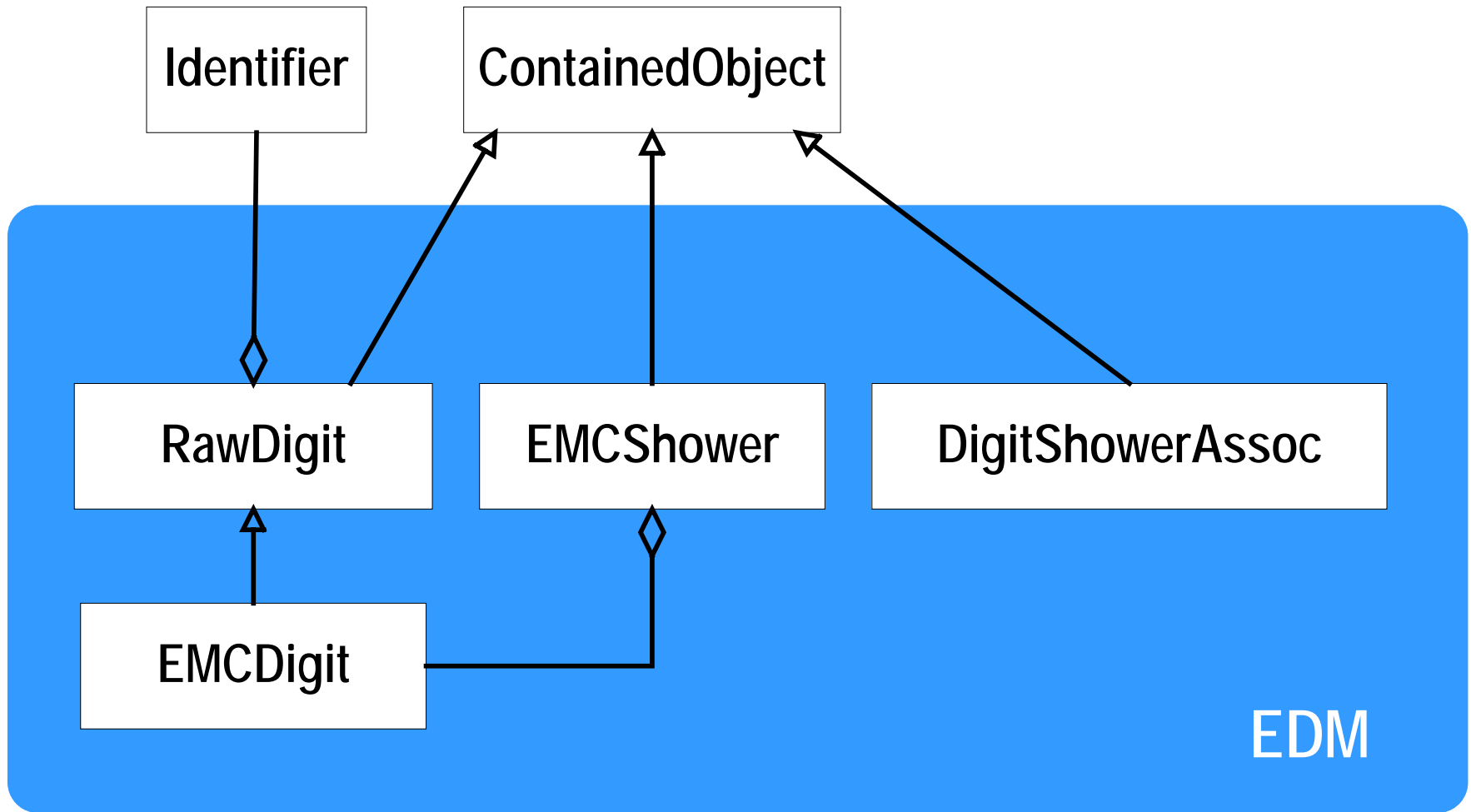
Raw Data Flow (19/11/03 sw meeting)



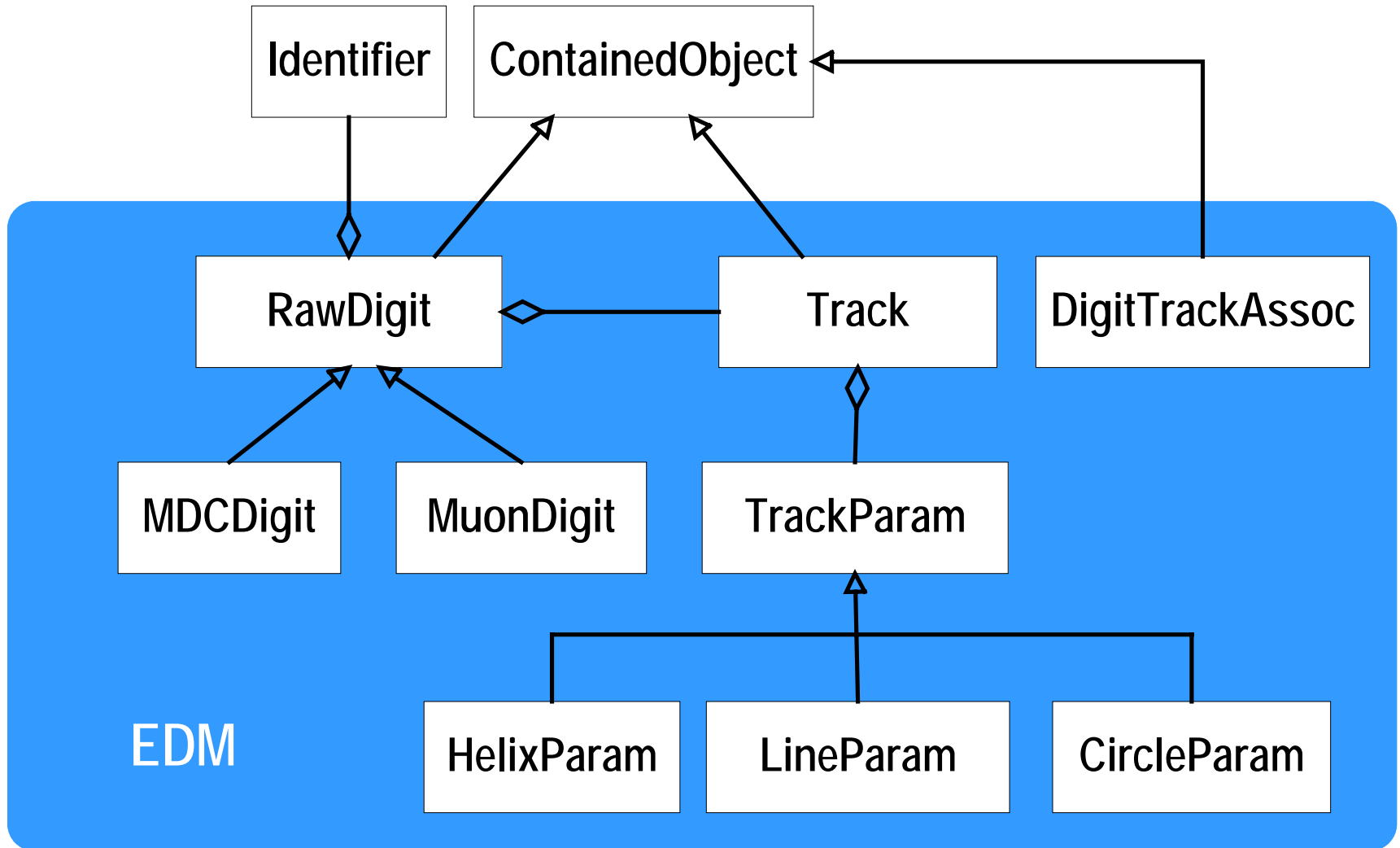
Reconstruction EDM and Data Flow



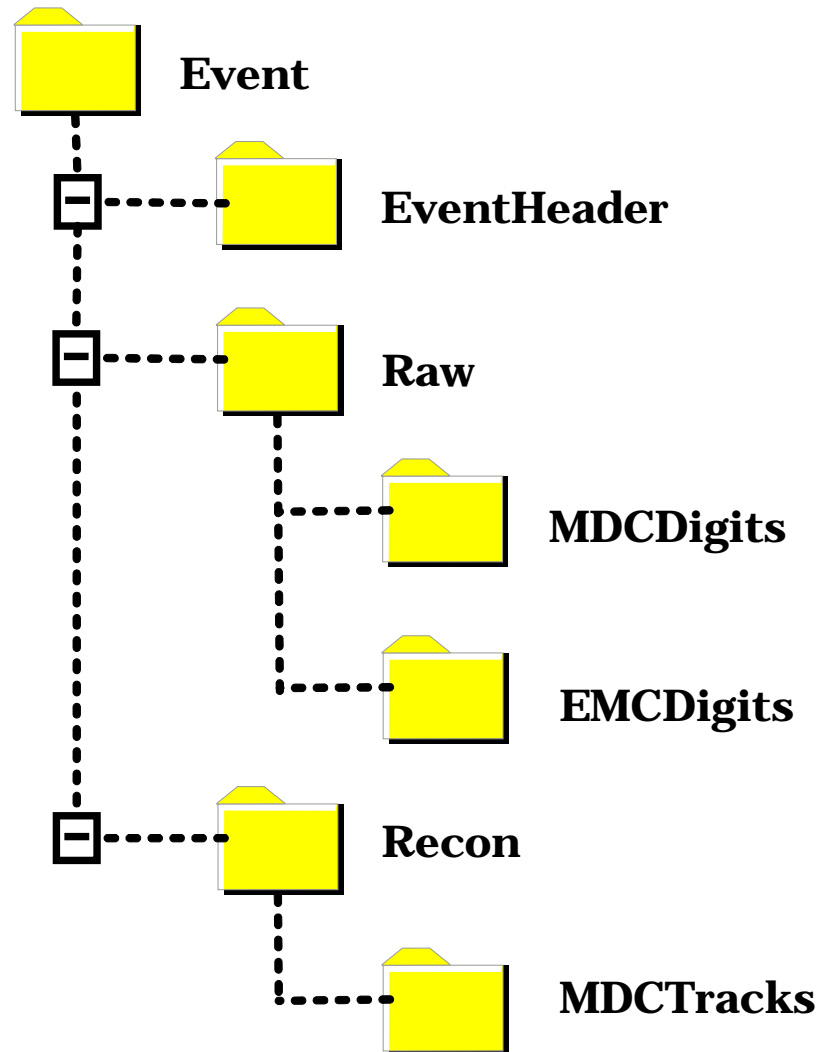
Calorimeter EDM



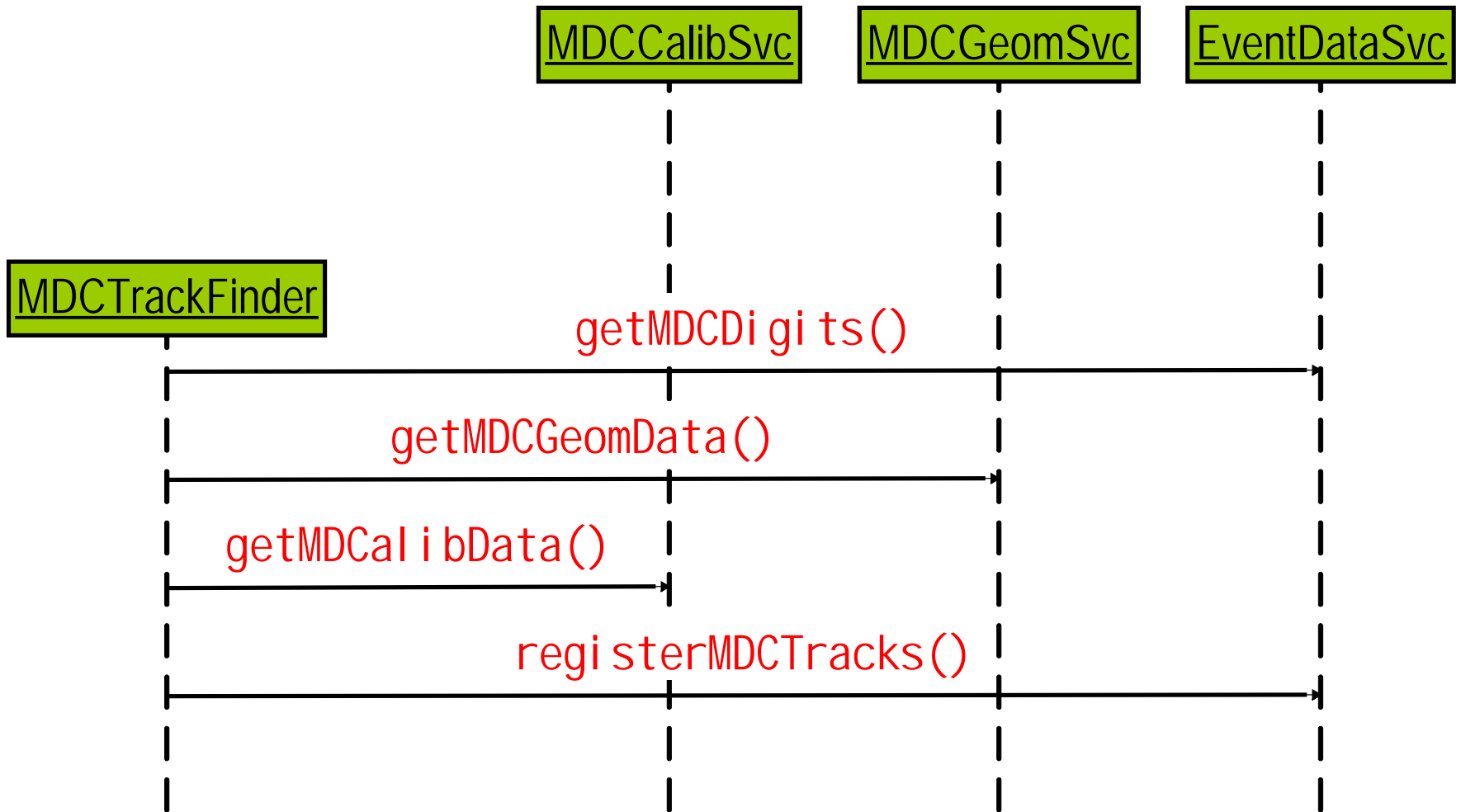
Common Tracking EDM



Event Structure in TDS



Tracking Sequence



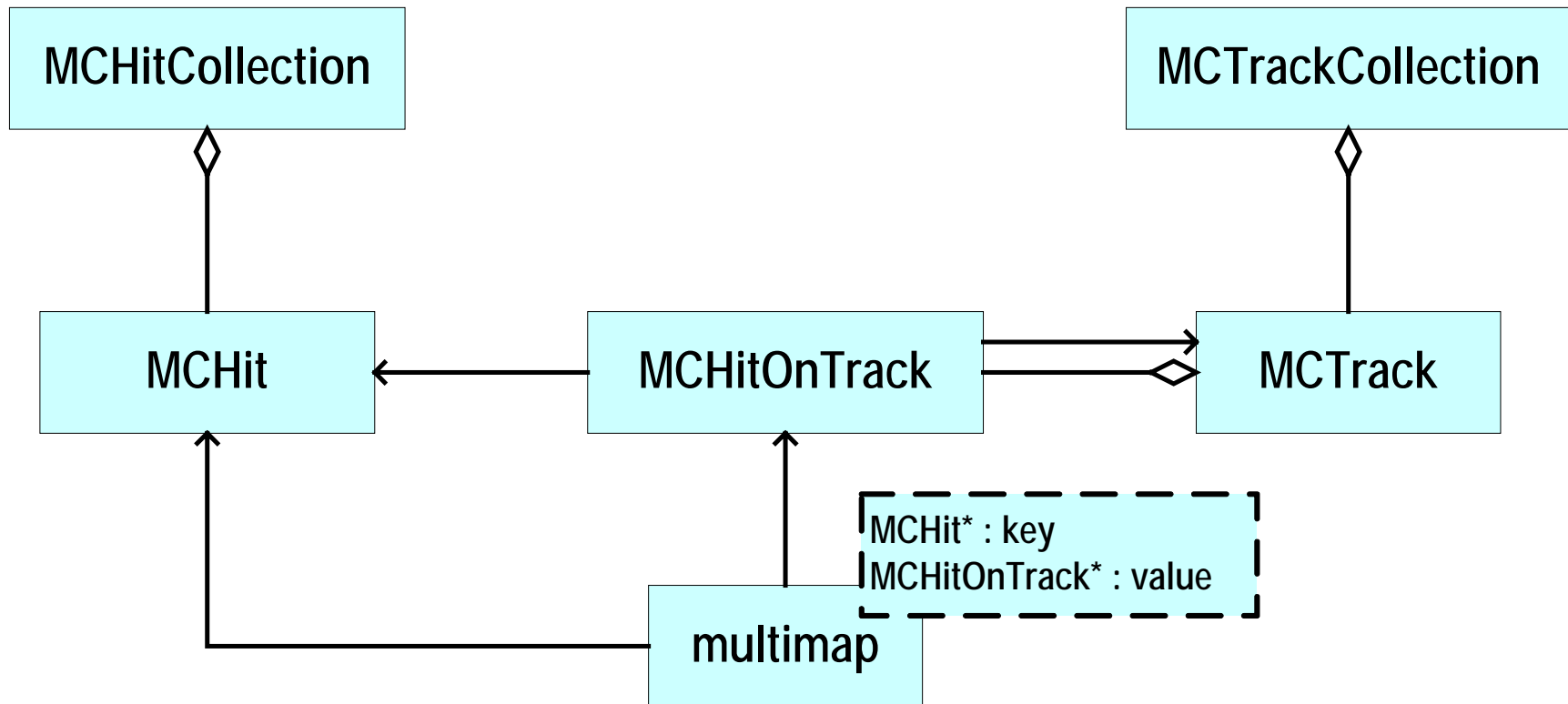
Data Object Navigation

- ❖ Use C++ pointers to implement causal object associations e.g. Hits are associated with Tracks by HitOnTrack objects.
- ❖ Reverse navigation like Hit to Track can be implemented by separate association objects:

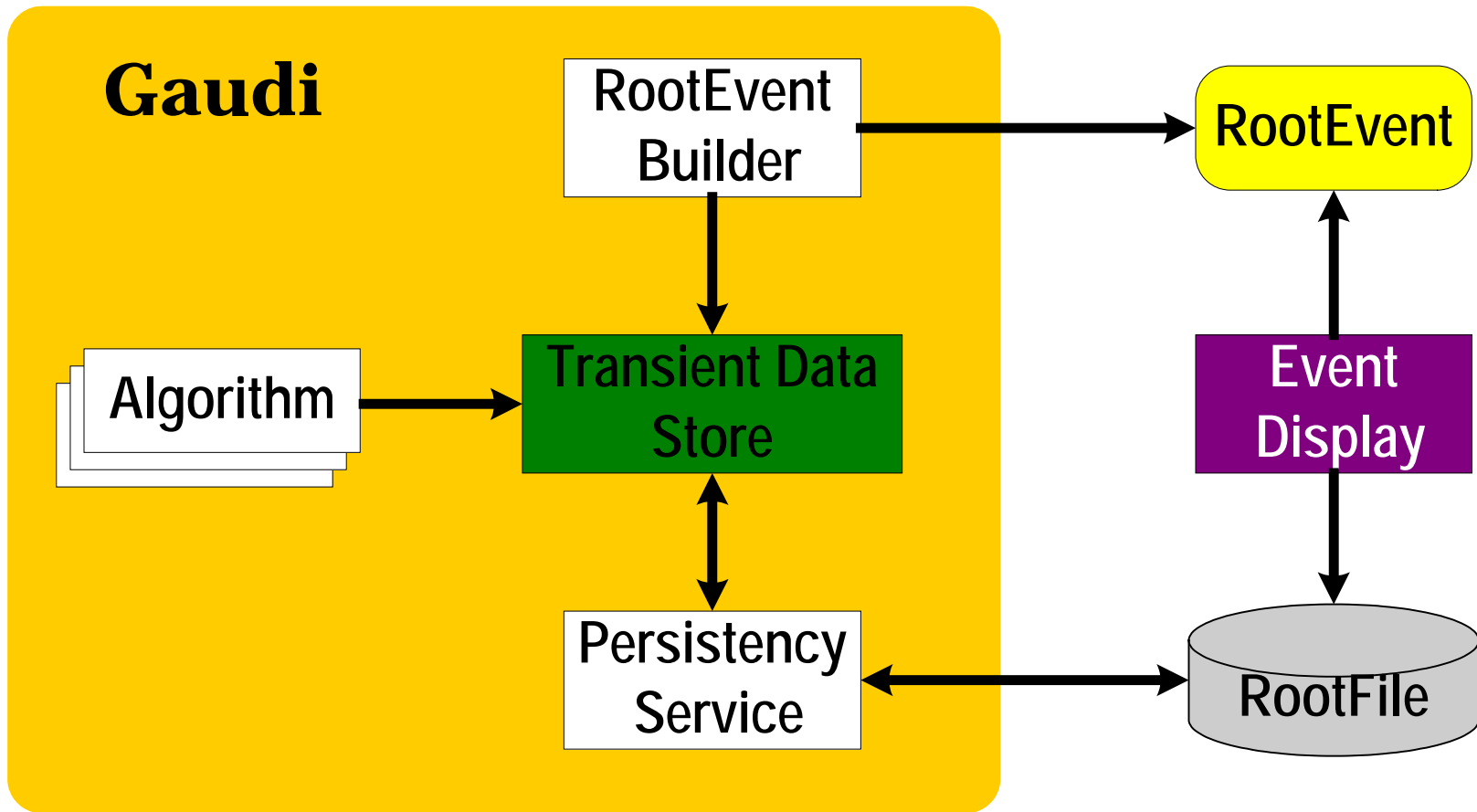
```
Class HitTrackAssoc {  
    Hit* m_hit;  
    Track* m_track;  
    ....  
}
```

Data Object Navigation (cont'd)

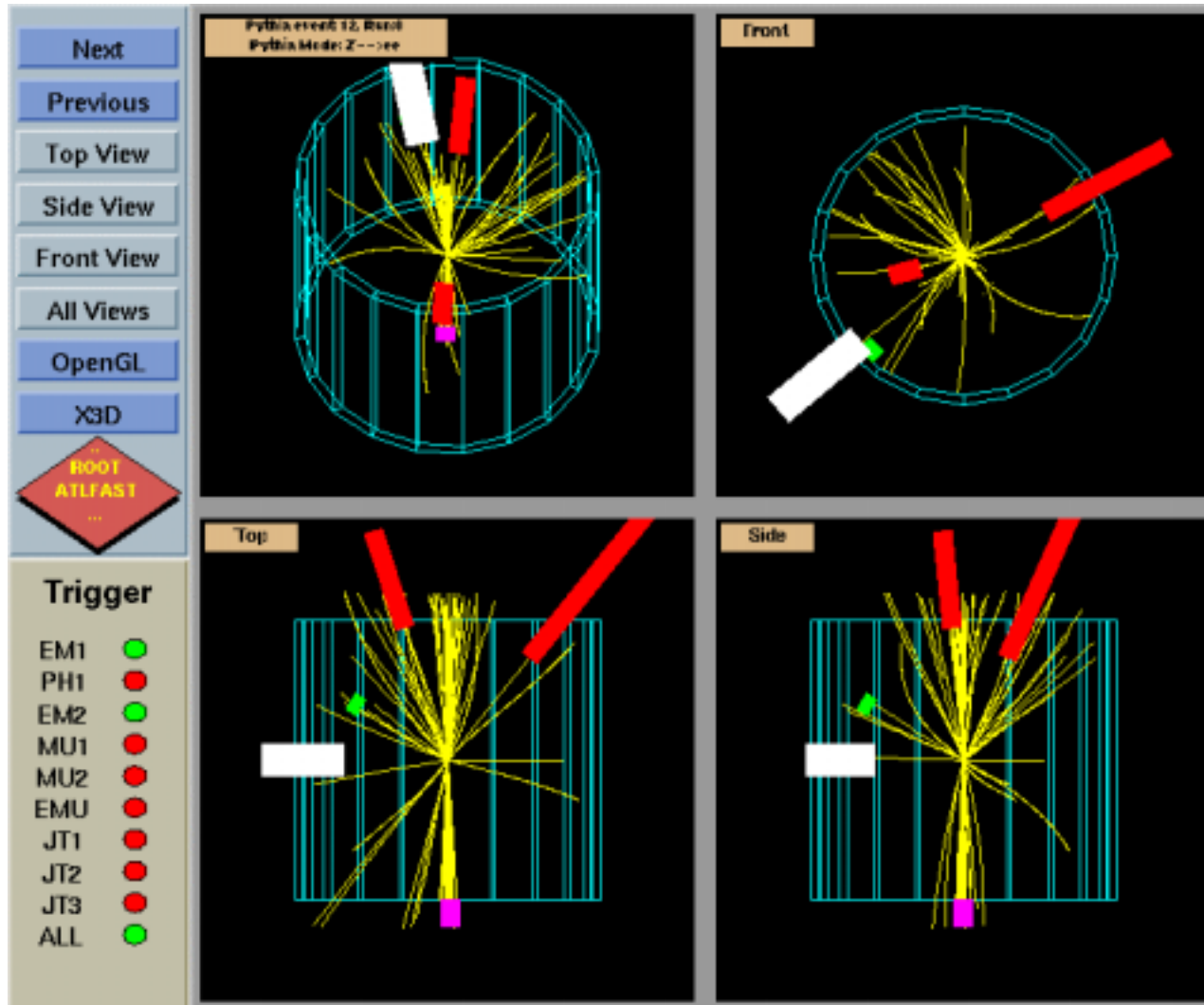
❖ Bi-directional associations



EDM and Event Display



ATLFAST Event Display



Status of Boss Gaudi Framework

- ❖ 12/01/04 Gaudi based ATLAS Athena control framework was successfully adopted. (SDU group)
- ❖ 09/02/04 Boss Gaudi framework was installed in Koala machine:
 - Removed unrelated packages
 - Added TestRelease
- ❖ 01/03/04 ASCII file conversion service was implemented.
- ❖ NDST file conversion service was implemented. (SDU group)
- ❖ Zhang Xiaomei is working on raw data conversion service.
 - Event Format (completed)
 - Event Selector and Event Iterator (completed)
 - Unpacking, online-offline identifier mapping and Raw Data Object formation (in progress)

Planning for Summer 04

- ❖ Setup the Boss developing environment on the Santest farm.
- ❖ Complete assessment of data management system:
 - ProxyDict (originally developed in Babar)
 - StoreGate (ATLAS)
 - DataService (Gaudi)
- ❖ Implement Raw Data and reconstruction EDM
- ❖ Complete Raw Data conversion service
- ❖ Design and preliminary implementation of DST Event Builder
- ❖ Import Database package, Geometry services and reconstruction algorithms to the Boss