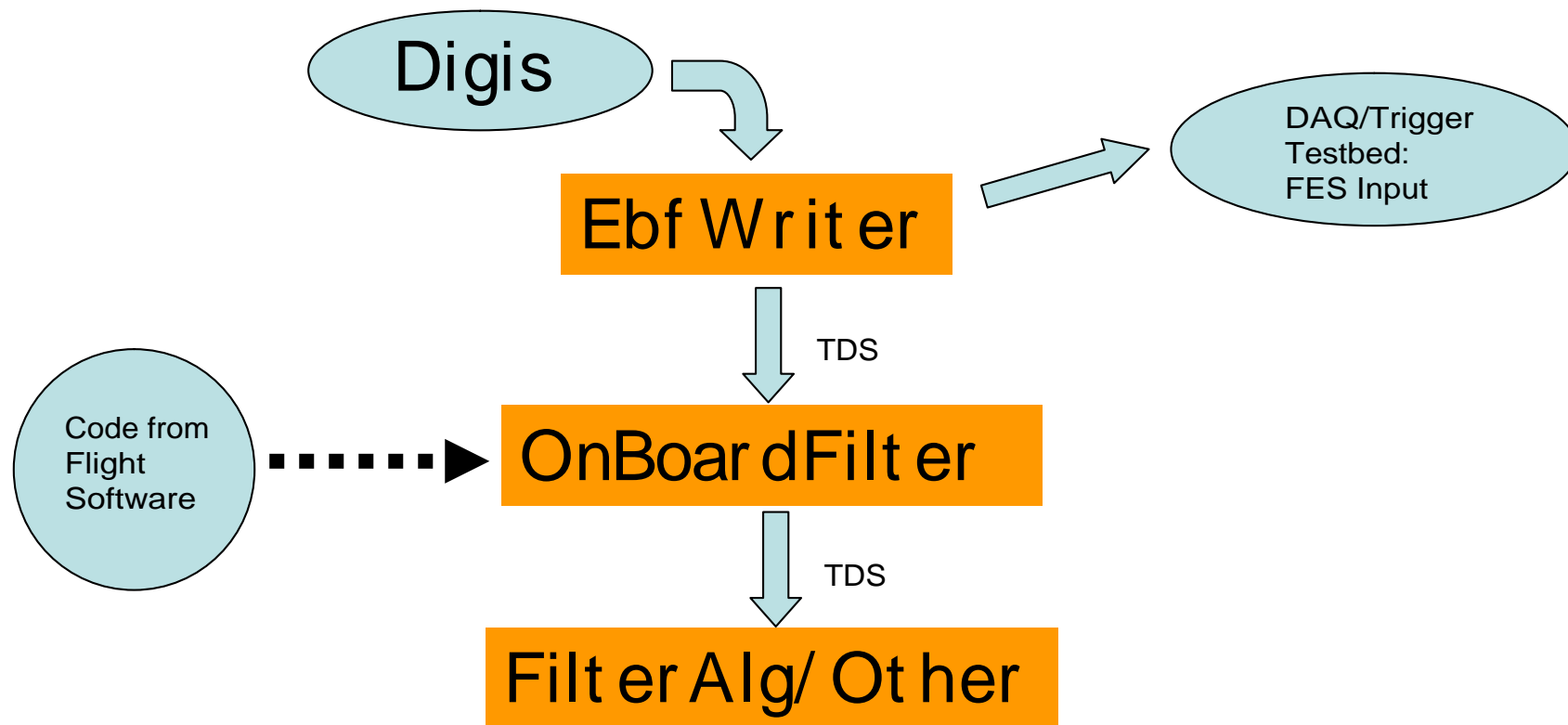


Overview

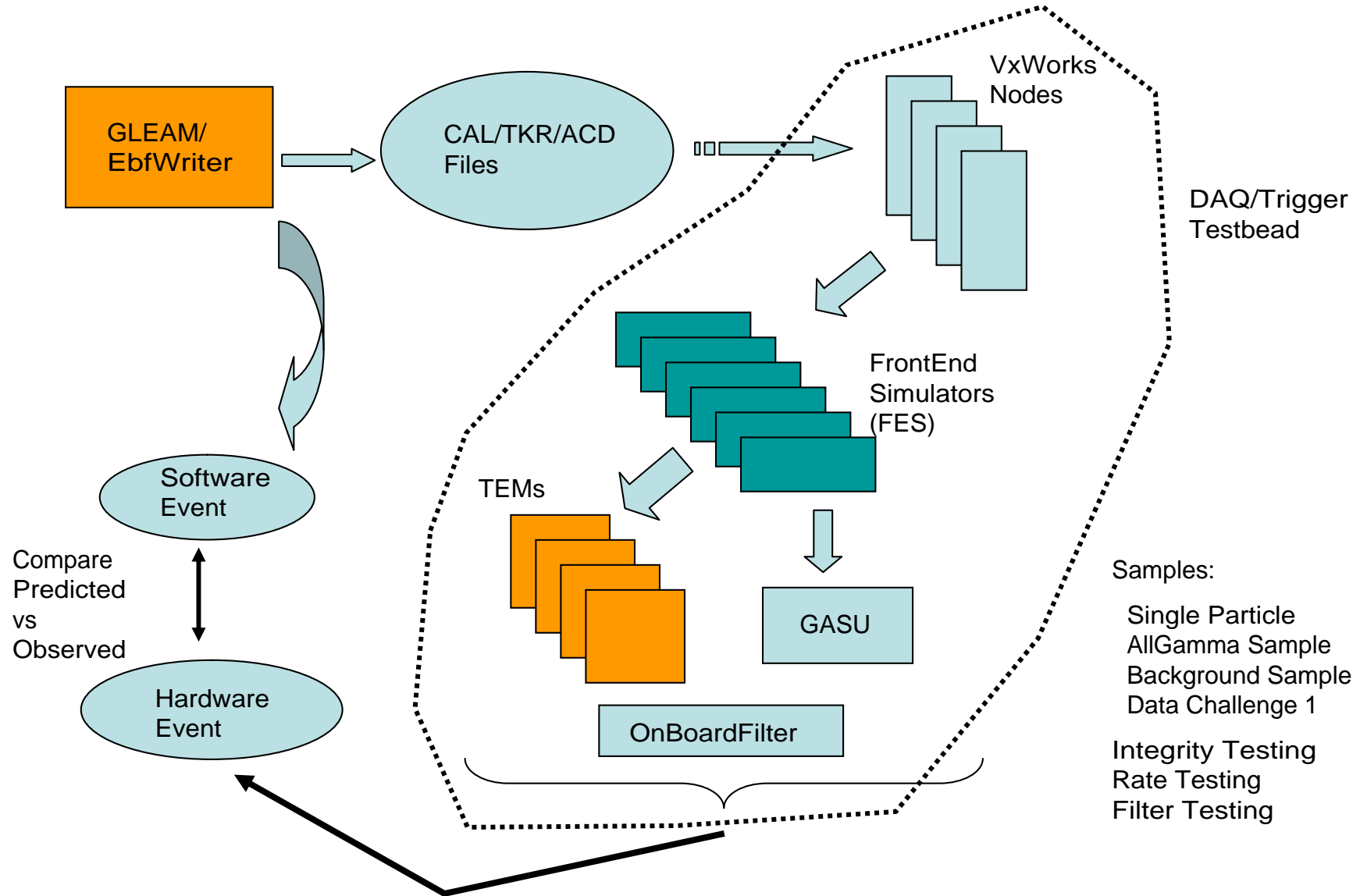
- Two ground software packages will be changed soon.
 - EbfWriter Package
 - OnBoardFilter Package
- The changes must be performed together.



EbfWriter Changes

- Minor Changes
 - Bring event contributions from LAT components into compliance with the hardware design
 - ❑ GEM Contribution Words
 - ❑ LATp Header words
 - Model Contribution (Tkr) Truncation
 - ❑ i.e. too many hits on a tracker layer end/tower.
 - ACD Veto Mapping Updated
 - Bug fixes.
- Major Change
 - Model event "truncation" for large events
 - Event contributions larger than ~4K get separated into pieces.
 - The new EbfWriter models this aspect of the hardware.
 - The Ebf format of the data is placed on the TDS in this fashion and the new OnBoardFilter properly receives the data.
- Major Addition
 - Testing the DAQ and Trigger System with the Testbed.
 - Requires files that represent the output of the Front-end Elec.
 - The new EbfWriter produces these files. (16 CAL, 16 TKR, 4 ACD)

DAQ/Trigger Testbed



OnBoardFilter

- Current version
 - Has a wrapper (OnboardFilter.cxx) plus modified version of JJ's actual c-code source
 - JJ's code has undergone significant revision since this was done (~1year ago)
- New version
 - Depends on 2 CMX packages: EFC (Event Filter Code) and EDS (Event Data Store), which are actual flight software
 - ❑ Dependency is through header files and libraries.
 - ❑ Libraries are compiled via CMX
 - ❑ These are accessed via External packages (like LDF)
 - OnboardFilter.cxx wrapper is modified to handle new call structure of EFC/EDS
 - Same output as previous, placed on TDS

OnboardFilter Validation

- The primary method we have used for validation is to compare to JJ's filter code itself:
 - Create EBF file from some sample (e.g. AllGamma) using EbfWriter
 - Run JJ's code (driver "filter" in EFC package) on this sample, and create summary table #1
 - ❑ The summary table contains a breakdown of which events were rejected by the filter
 - Run OnboardFilter code on AllGamma digi's
 - ❑ Use EbfWriter to write EBF onto TDS
 - ❑ Create summary table #2
 - Compare the summary tables

Next Steps

- Finish adding OnboardFilter info to the TDS
 - Added: result vector, energies, etc.
 - Still to do: Projections, TKR hits, etc.
- Need to validate OnboardFilter TDS
 - Use FilterAlg to do this
 - Compare Filtering of current version to previous
 - AllGamma
 - Background
- Need to decide on versioning
 - How to link changes in flight software packages to new versions of OnboardFilter

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