

TOF Offline/Calibration Status

- **Current status**
- **Offline/Calibration framework**
 1. **TOF Event Class**
 2. **TOF Calib Class**
 3. **TOF Calibrator Class**

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Current Status

Subsystem Readiness Checklist *Last update 4/11 by Jeff. Michel*

This page contains a snapshot of the software run readiness for the PHENIX detector. When data comes, all boxes should be filled with yes. The Questions are referenced by number in the table, and listed after the table.

Question	MVD	BBC	ZDC	DCH	PAD	CRK	TEC	TOF	PbSc	PbGl
1	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
2	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
3	No	Yes	No	Yes	Yes	Yes	Yes	Almost	Almost	Almost
4	No	No	No	Yes	No	No	Yes	No	No	No
5	Yes	Yes	Yes	Yes	Yes	No	Yes	Almost	Yes	Yes
6	No	Yes	No	Yes	No	No	Yes	No	No	No
7	No	No	No	Yes	Yes	No	Yes	No	Almost	Almost
8	No	No	No	Yes	No	No	Yes	No	No	No
9	No	Almost	No	No	Yes	No	No	No	Almost	Almost
10	No	No	No	No	Almost	No	Almost	No	Yes	Yes
11	No	Almost	No	No	Yes	No	Yes	No	No	No
12	No	No	No	Yes	No	No	Yes	No	No	No
13	Almost	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
14	Yes	Yes	Almost	Yes	Yes	Yes	Yes	No	Almost	Almost
15	No	Yes	No	No	Yes	No	Yes	No	Yes	Yes
16	No	No	No	No	No	No	Almost	No	Yes	Yes
17	Yes	Yes	No	Yes	Yes	No	Yes	No	No	No
18	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No
19	14, 5/5	3/3, 3/3?	2/2, 2/2	4/6, 4/6	2/3, 5/5	4/3, 5/4	3, 2	2/2, 1/1	??	??
20	No	Yes	No	Yes	Yes	No	Yes	No	Yes	Yes

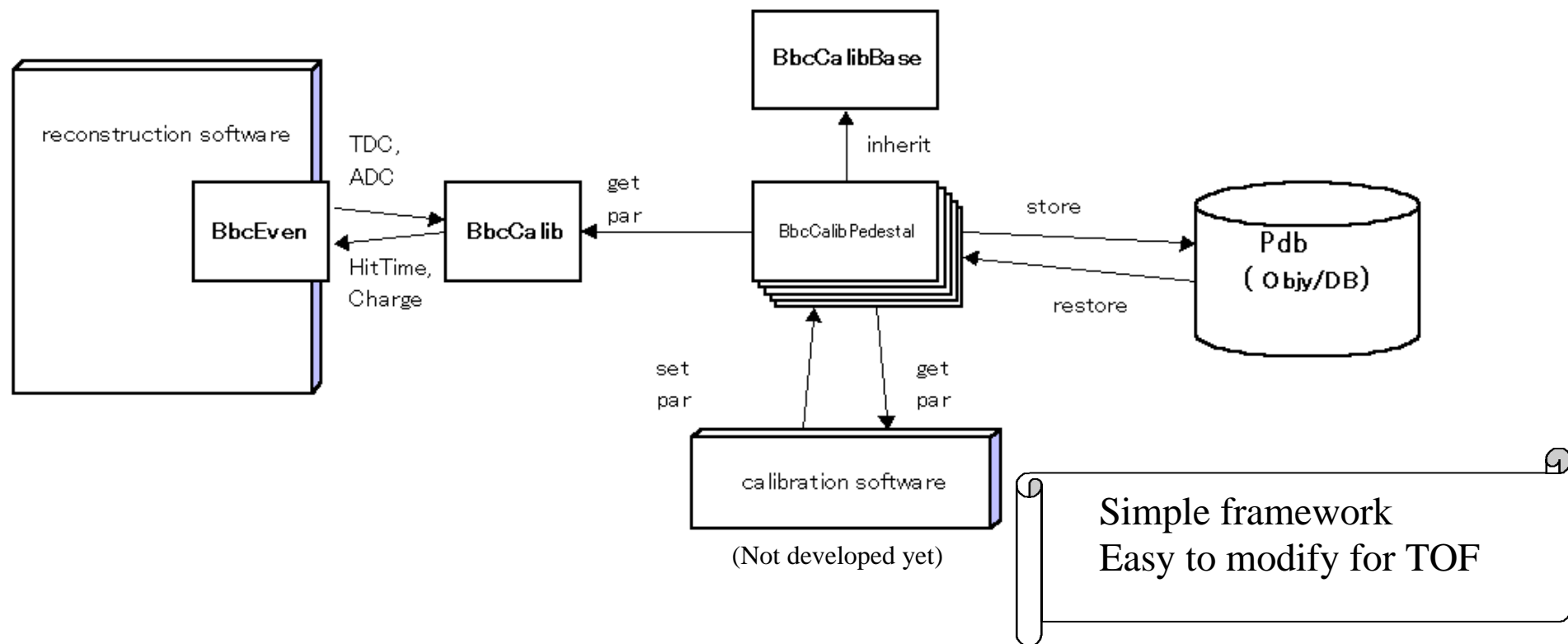
<http://www.phenix.bnl.gov/WWW/software/luxor/org/readiness.html>

- Many “No” (= pink) boxes are found in TOF part, *1 out of 20*
- It should be turned on “Yes” (= green) for all subsystem by Day-1 (5/15)
- What should we do in order to catch up with status of other subsystems?

• *Problem*

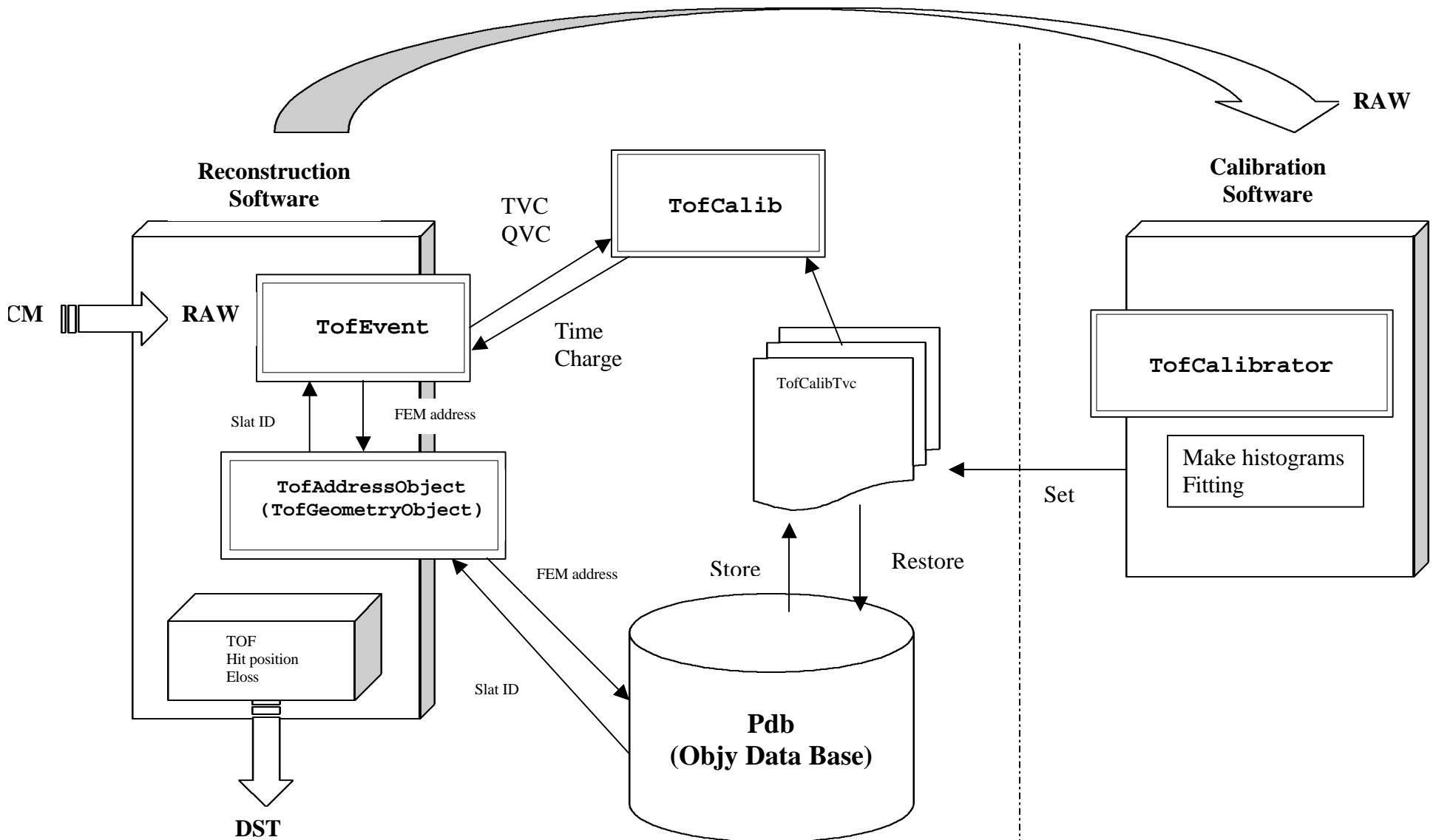
Existing codes are NOT easy to modify and many legacy of STAF (wrapped, wrapped... modules)

How BBC offline code works?



- * Let's start from scratch and make "pure" PHOOL base code!
- * Same structure as BBC/ZDC
- * Add Address and Geometry Object including database access (done by A. Kiyomichi)
- * Add Calibration Base class (1st version is in CVS repository by H. Ohnishi)
- * Writing TofEvent, TofCalib, TofCalibrator code (by T.Chujo)

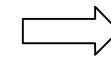
TOF Offline/Calibration Framework



TOF Event Class (reconstruction chain)

- Hold all information of an event and calculate TOF, hit position, energy loss as an end product (DCM-RAW-DST)

- Existing Code: *mTofUnpack.c* (DCM → RAW)
mTofRawRec.c (RAW → DST)



TofEvent.cc

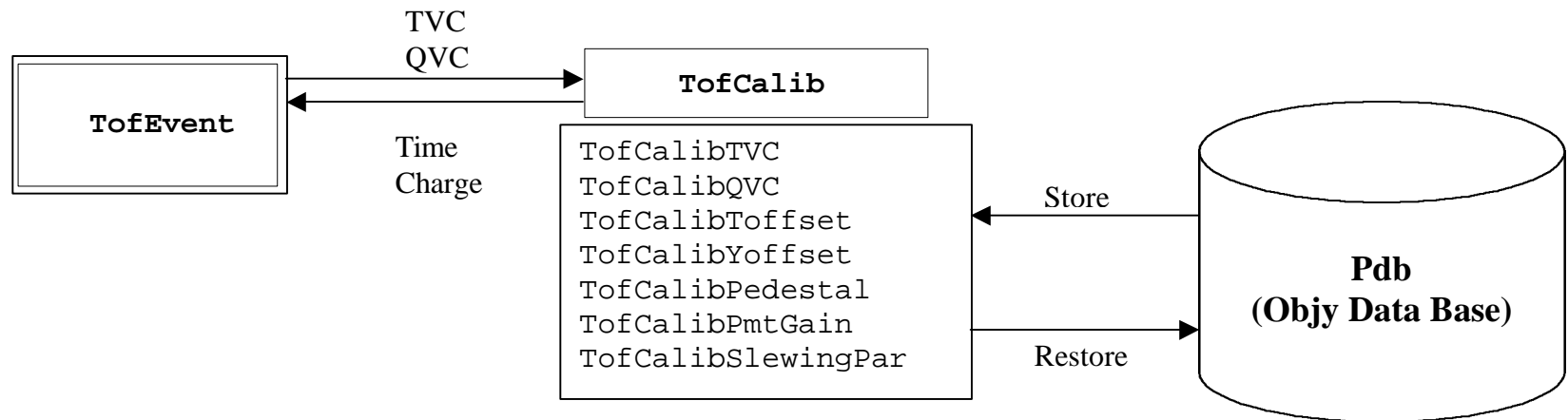
Address Object: TofAddressObject.cc (FEM map ↔ slat ID converter)
Geometry Object: TofGeometryObject.cc (slat ID ↔ slat position converter)

Calib Class: TofCalib.cc (calibration parameters I/O by DB access)

- Status: Close to reach CVS repository (at least, next week)

TOF Calib Class (calibration parameters I/O)

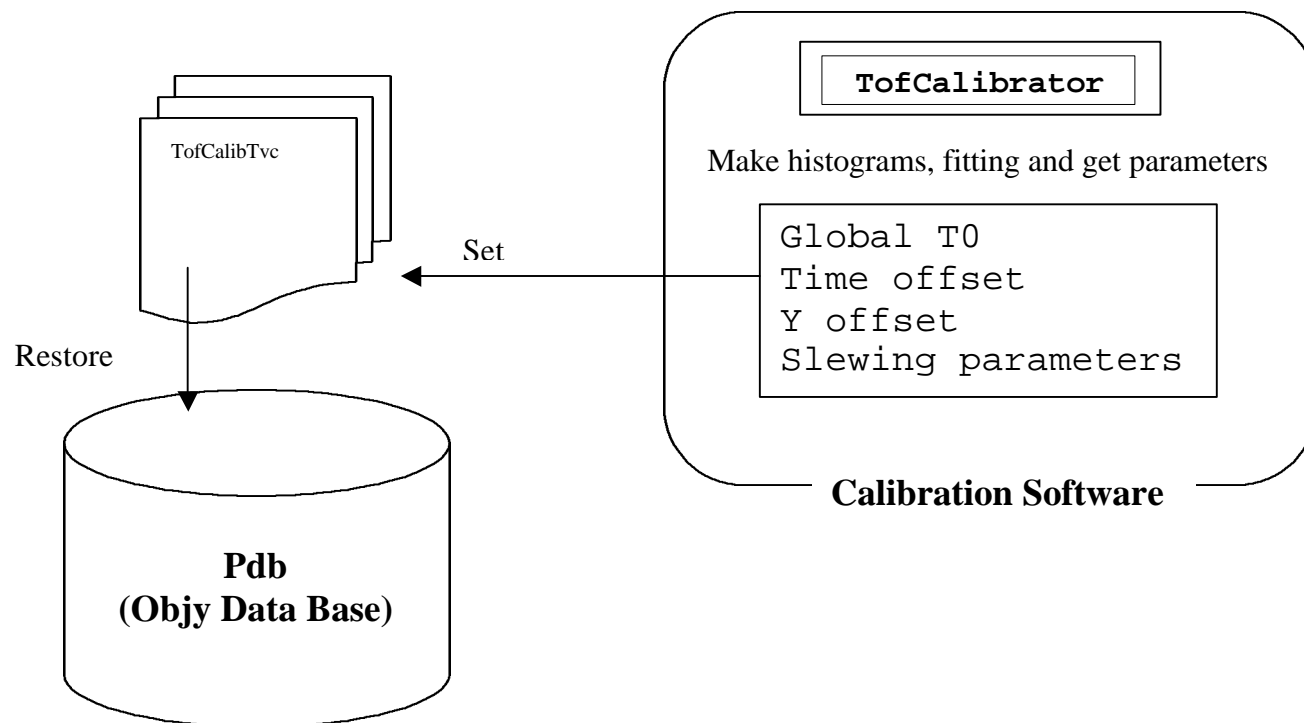
- Calculate Time and Charge for each PMT using corrected calibration parameters
- Database access method (store, restore)
- Used for RAW data calculation



- **Status: There are in CVS repository, needed minor modifications**

TOF Calibrator Class (calc. calibration parameters)

- Store integrated histograms from RAW data (several runs)
- Fitting and get calibration parameters
- Obtained (corrected) parameters are stored in DB via TofCalib class



- **Status: Under development, finish coding by next core**

How many boxes could be Green?

Subsystem Readiness Checklist

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5	Yes	Yes	Yes	Yes	Yes	No	Yes		Yes	Yes
6	No	Yes	No	Yes	No	No	Yes		No	No
7	No	No	No	Yes	Yes	No	Yes		Almost	Almost
8	No	No	No	Yes	No	No	Yes		No	No
9	No	Almost	No	No	Yes	No	No	No	Almost	Almost
10	No	No	No	No	Almost	No	Almost	No	Yes	Yes
11	No	Almost	No	No	Yes	No	Yes	No	No	No
12	No	No	No	Yes	No	No	Yes	No	No	No
13	Almost	Yes	Yes	Yes	Yes	Yes	Yes		Yes	No
14	Yes	Yes	Almost	Yes	Yes	Yes	Yes		Almost	Almost
15	No	Yes	No	No	Yes	No	Yes	No	Yes	Yes
16	No	No	No	No	No	No	Almost	No	Yes	Yes
17	Yes	Yes	No	Yes	Yes	No	Yes		No	No
18	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No
19	14, 5/5	3/3, 3/3?	2/2, 2/2	4/8, 4/6	2/3, 5/5	4/3, 5/4	3, 2	2/2, 1/1	??	??
20	No	Yes	No	Yes	Yes	No	Yes		Yes	Yes

**Not including online status in this expectation*
13 out of 20 should be green!