



SCT Prompt Calibration Loop

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DESY SCT Meeting

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Yet Another Meeting?



◆ why:

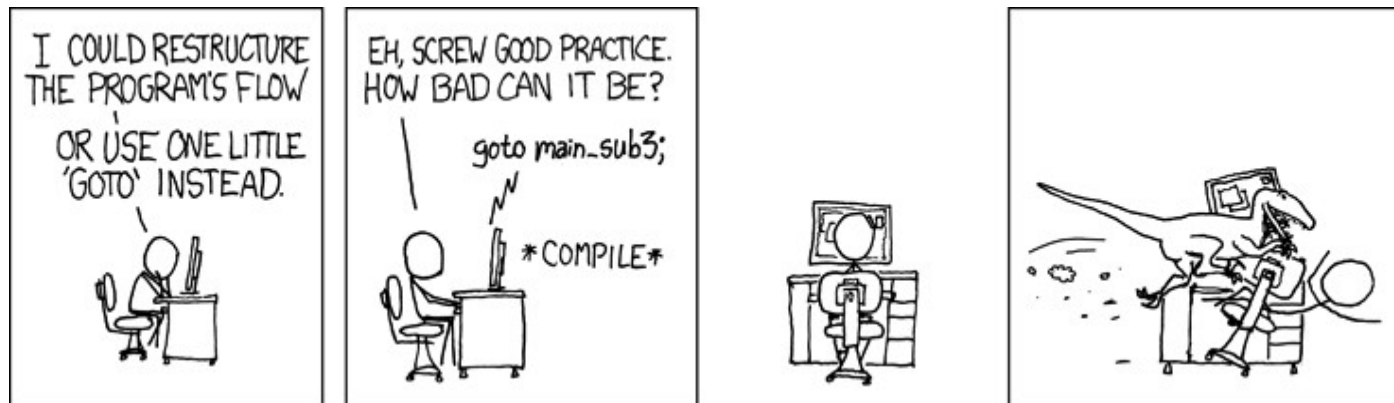
- **easy way to keep everybody in the loop**
- **communication with CERN sometimes very inefficient/slow**
- **try to gather SCT operation/performance knowledge within the DESY group**
- **talks can be used for a Wiki/help to keep track of what we did**

◆ however:

- **this should be useful for everybody → no need for a meeting when there is nothing new/to discuss**

◆ **SCT_CalibAlgs-00-00-51 was**

- **two classes: algorithm (SCTCalib: 3797 lines of code (loc)) and a write service (SCTCalibWriteSvc: 974 loc)**
- **a fine example of spaghetti programming, even with 'goto s'**



- **a violation of 'one class=one responsibility'**
- **working!**



Shaun's Changes



- ◆ **initial changes were ...**
 - **minor improvement (SCTCalib loses 1000 loc)**
 - **broken**
- ◆ **my first goal:**
 - **get the code running asap**
- ◆ **status:**
 - **after some bug fixes, all loops were running**
 - **histo based parts produced same output as old version of the code**
 - **BS reading parts (noisy strip, dead chip, dead strip) yield different xml output files**
 - **event/run number info broken for the first event in the loop →
after some deeper digging found that the part of handling event info was in twice**
- ◆ **went back to Shaun and indeed, some parts were still work in progress**

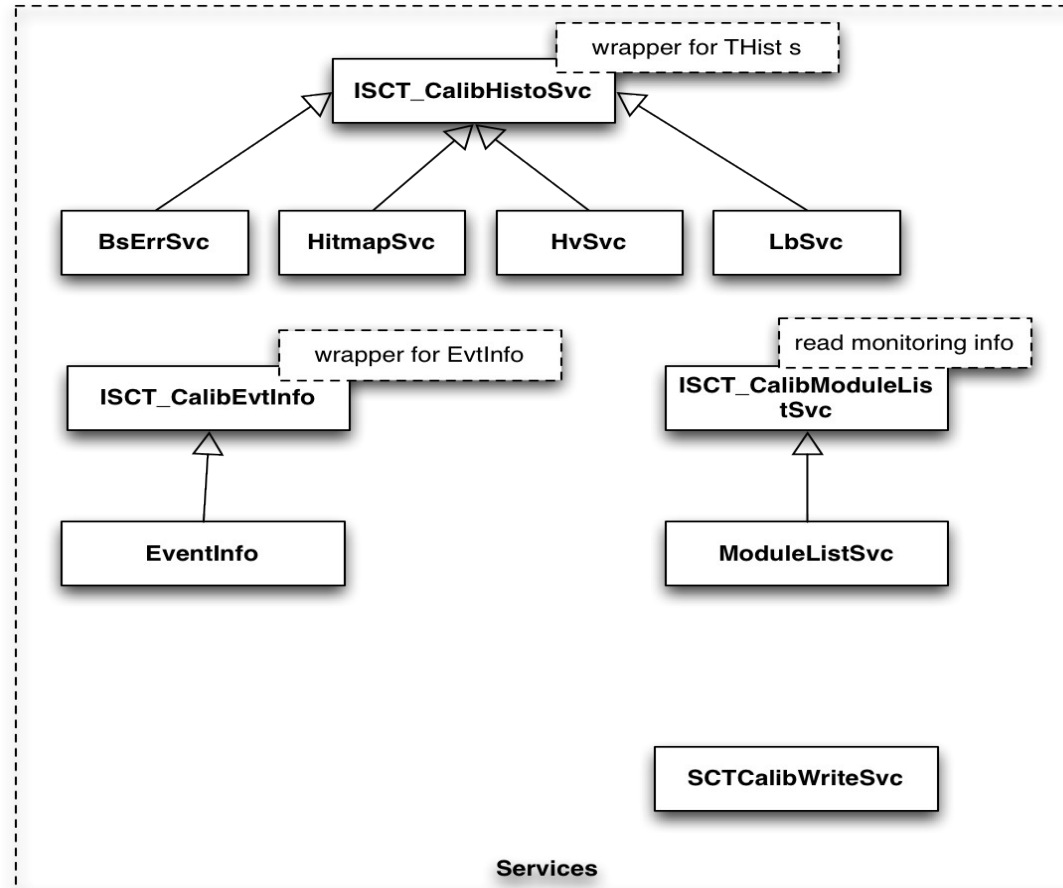


Shaun's Changes (Shaun)



◆ with tweaks

- the various responsibilities are now divided among services (=more classes, typically 200 loc)
- first test job working
- still not completely clean



SCTCalib

Algorithm originally had a call back to get event info, now the call back is in the EventInfo svc

This steering algorithm now uses the above services to get the information



To be Done



- ◆ **SCTCalib is still 2642 loc :-(
 - contains a lot of XML and database output
(should be at least two separate classes)**
- ◆ **why?
 - improve readability, maintainability, extensibility
(new numbers=new services)**
- ◆ **would like to continue working with Shaun on a new version of the calibration code
 - further splitting
 - still some hard-coded variables
 - sensible debugging
 - update Wiki accordingly, info often outdated**



Last Update



- ◆ **after some more debugging last week**
 - **BS based parts produce now exactly the same output**
 - **code seems ready to be used**
- ◆ **should do some more tests, process the same events and try upload etc. before replacing old one**
- ◆ **additional improvements/splitting could happen afterwards**



Since ICHEP



- ◆ **Junji asked to check mycool.db file before going to officially use the code**
- ◆ **generating the database file for noisoccupancy, I realized that the modified code crashed with a new seg fault in this loop that was already perfectly running**
- ◆ **found a potential difference in the MagnetFieldService**
 - **not sure what could cause this difference**
 - **wrote an email to Junji/Shاون → no reply yet**
 - **started comparing all modifications with Miash yesterday**



Things to Discuss



- ◆ **what should we do during the run break ?**
 - **additional improvements/modifications to the loop?**
 - **are there uncovered performance projects that we can start with despite the shutdown?**
- ◆ **can we get shifts at DESY ?**
 - **Petra didn't know the ID shift details, no reply from Helen so far**
 - **Ingrid will try to ask Ulrich to see what is on the market**
 - **should discuss which one we like**
 - **ideally 2 people (1 on shift, 1 trying to setup things in parallel on his/her laptop) should go to CERN before shutdown to learn the details in the ACR**
 - **make use of the break to set up things**