



PreSPEC library, a tool for online/offline analysis

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A bit of history

Starting point:

PreSPEC Go4 for online analysis (2010/2011 RISING/PreSPEC campaign)

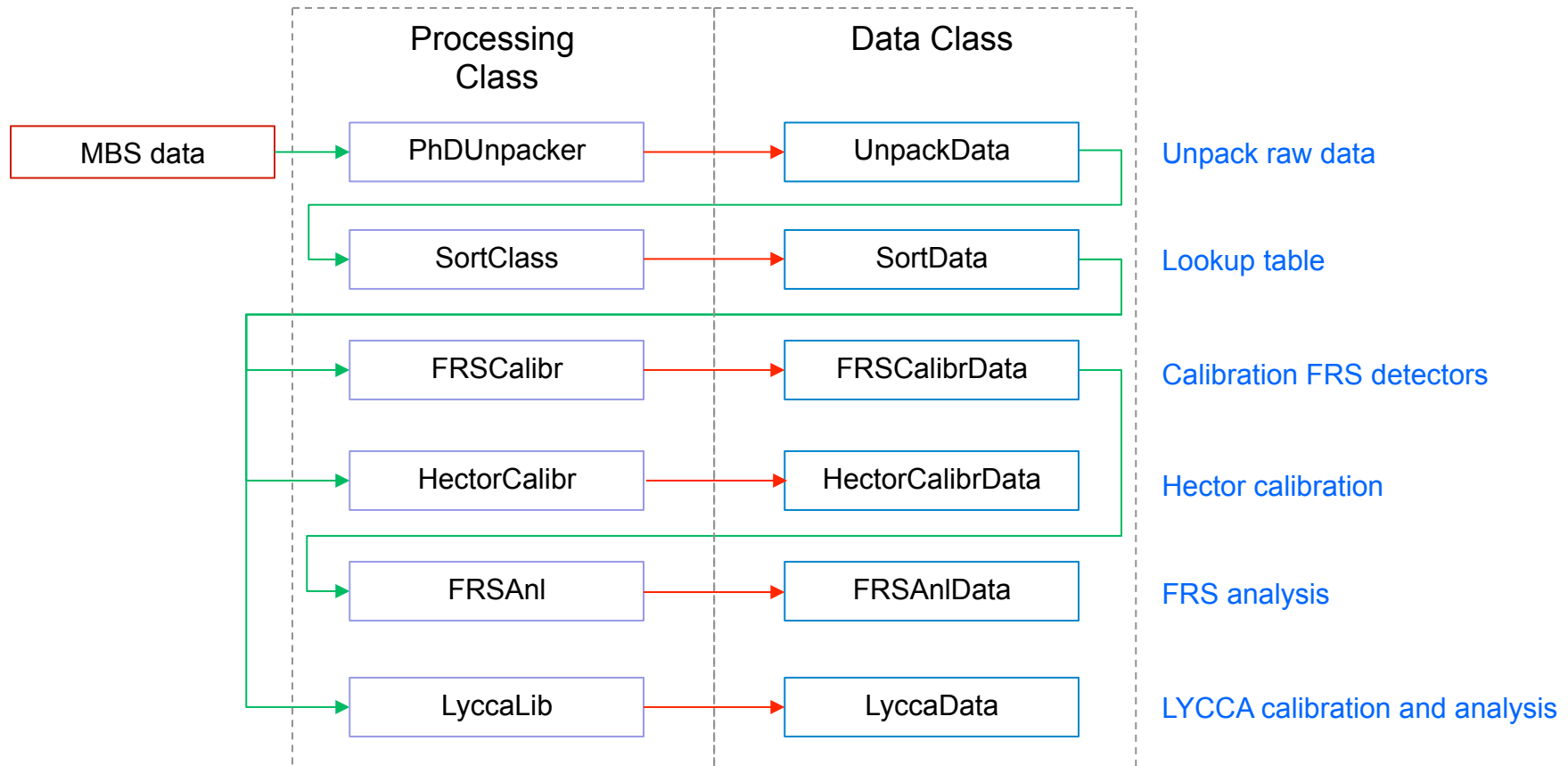
Plan:

- Independent library not “black box”
- Input MBS events
- Library should be used in Go4 PreSPEC/Agata online analysis or any other root based analysis software (e.g GammaWare)
- No histograms, they should be defined by user analysis
- Available for the community
- Doxygen documentation in html and LaTeX
- Version control system: mercurial

- Extracting/rewriting the existing code
- Configuration and calibration parameters in text files
- Go4 PreSPEC/Agata online analysis able to process MBS data or Agata merged data

PreSPEC library

- Processing classes filling data classes
- Configuration parameter files (xxxx.par): detector positions, FRS settings...
- Calibration parameter files (xxxx.cal): calibration coefficients for different detectors



PreSPEC/Agata Go4 online analysis

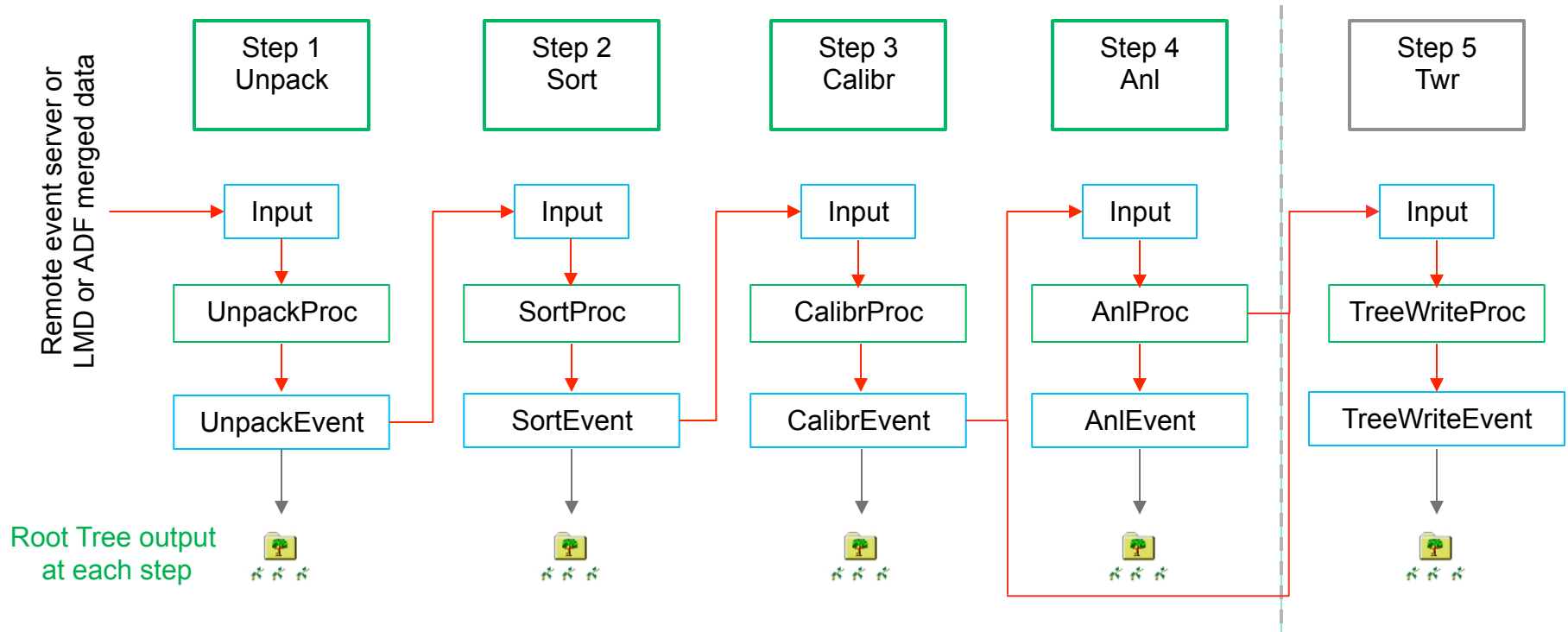
Go4

- **GSI Object Oriented On-line Off-line** system for more information see <http://go4.gsi.de>
- Root based analysis software developed at GSI
- Separate analysis and GUI

PreSPEC/Agata online analysis with Go4

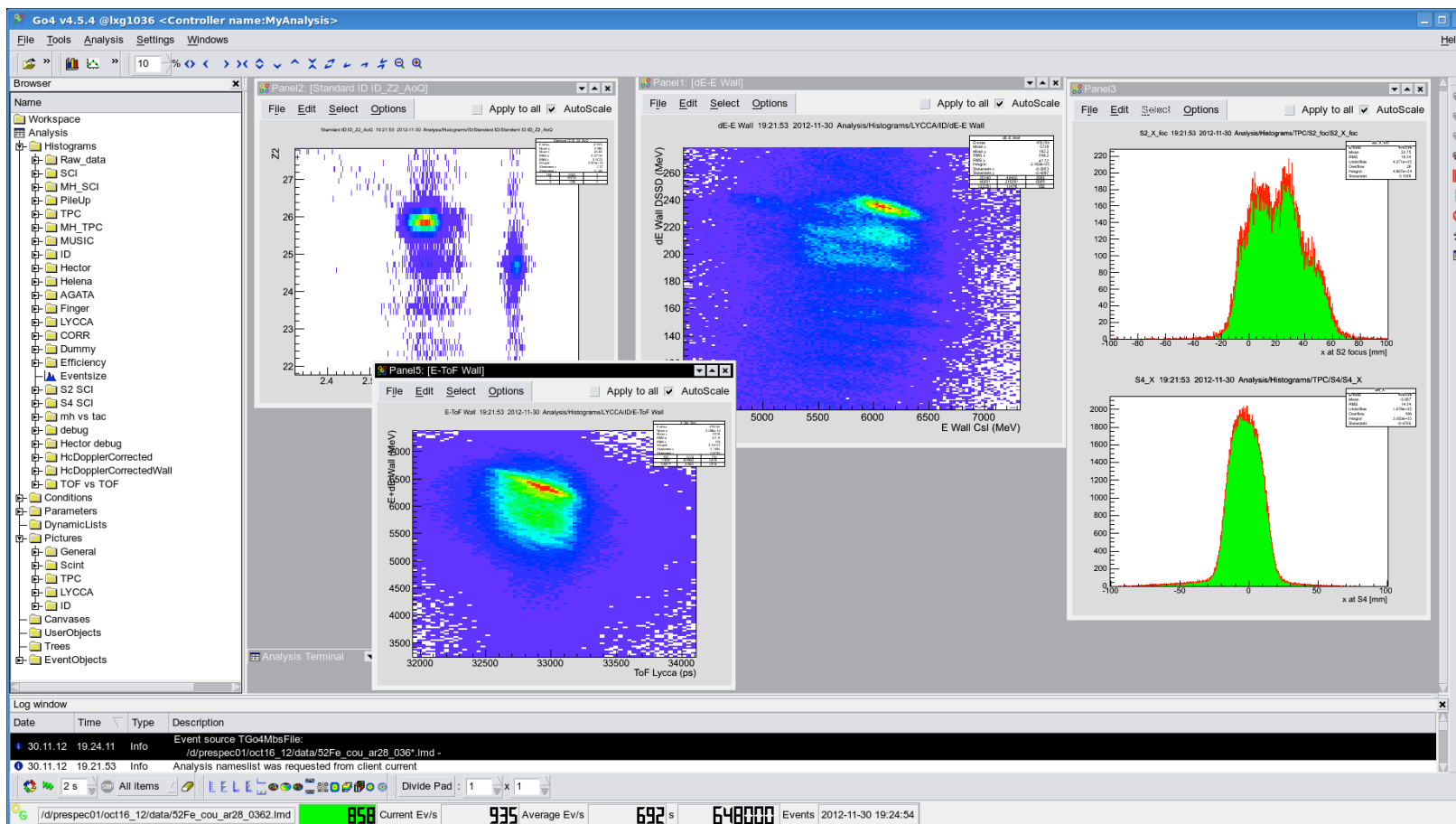
- Organization in 4 steps: unpack, sort, calibration, analysis
- Input can be:
 - Remote Event Server (online spy)
 - LMD files merged with Agata data or not
 - ADF files with help of the ADFlite library developed by M. Reese
- Output root tree at each step
- Histograms defined in Go4

PreSPEC/Agata Go4 online analysis



- Step Unpack: inputs data on the level of MBS event builder, LMD or ADF merged data
- Step Sort: Lookup table
- Step Calibration: FRS and Hector calibration
- Step Analysis: FRS analysis and LYCCA calibration/analysis
- Additional step producing a reduced root tree with merged data for near-line analysis

PreSPEC/Agata Go4 online analysis



Go4 GUI running the PreSPEC/Agata online analysis

PreSPEC/Agata Go4 online analysis

Getting started:

Make a clone of the mercurial central repository:

```
hg -v clone ssh://agatagsi@lx.pool.gsi.de/new_prespec_Go4
```

You'll get the complete source code for the PreSPEC package (library build tools, online Go4...)

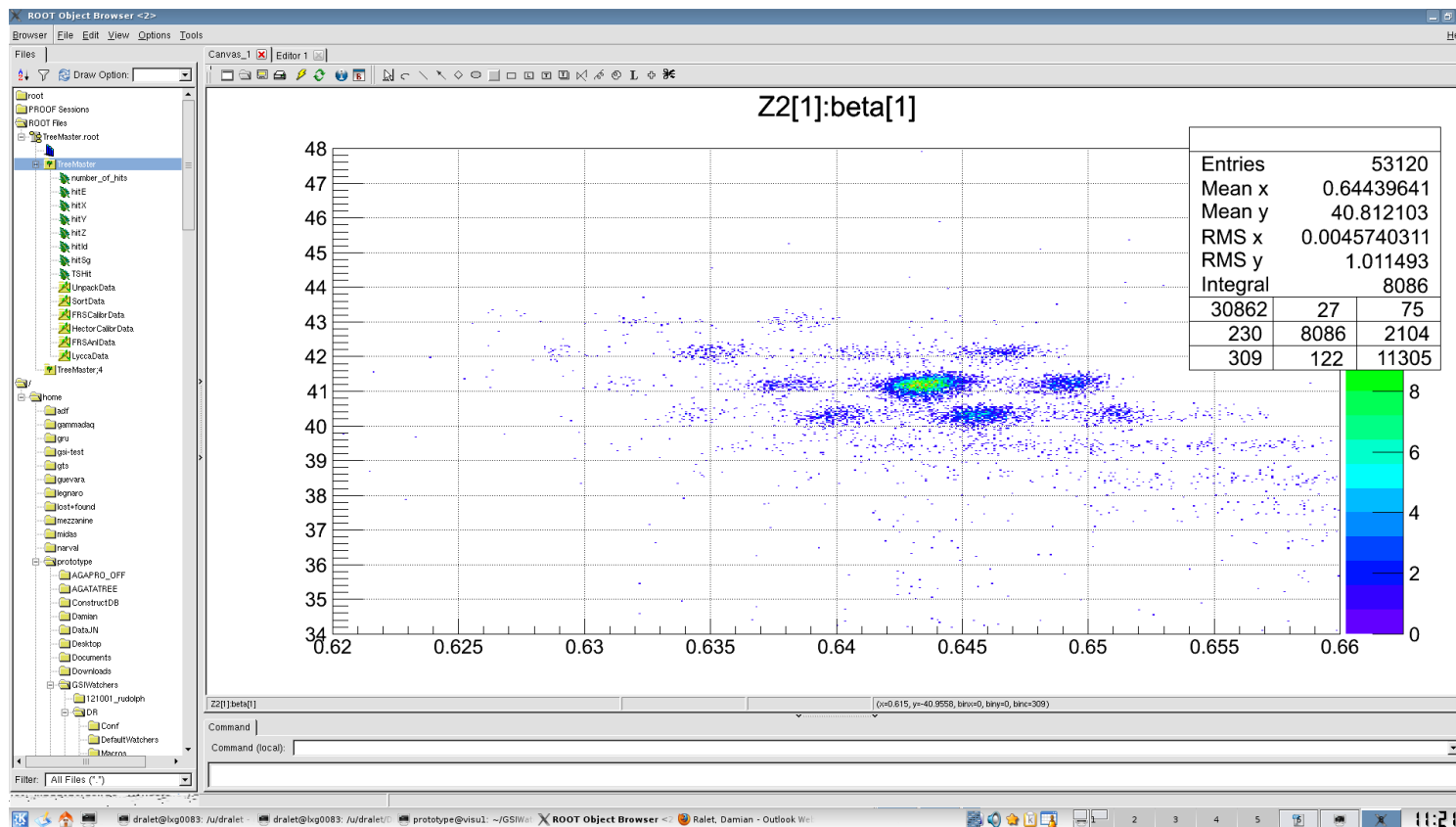
Choose which type of Go4 analysis you want to build using the script `go4type`

People who contributed:

Edana Merchan, Frederic Ameil, Plamen Butachkov, Liliana Cortes, Giulia Guastalla, Tobias Habermann, Damian Ralet, Michael Reese, Olivier Stezowski

PreSPEC Library in GammaWare

- Implementation completed: classes Unpack, Sort, Calibr, Anl defined in watchers
- Spy data from NARVAL actors and MBS receiver
- More histograms to be defined



Olivier Stezowski
Damian Ralet

Conclusion and further developments

Conclusion

- ✓ Working, ready to use, standalone PreSPEC library
- ✓ Go4 for PrePSEC/Agata online analysis
- ✓ Used during the 2012 PreSPEC/Agata campaign in Go4 and in GammaWare

Further developments

- Improvement of the code, some rewriting might still be necessary (increase execution speed)
- Provide a “Real” library package
- Doxygen documentation to be complete