

Minutes of meeting on the transition from CVS/make to SVN/SCONS (courtesy of J. Gilfoyle)

The meeting was held on Thursday, Sep 10 at 10:30 am at JLab.

In attendance: approximately 35 people including some remote connections; see list below.

The meeting opened with a presentation by Dennis Weygand on the problems associated with the current software version control and make systems (CVS and make) and the advantages of the proposed systems SVN and SCONS. The presentation is attached.

Summary of points from Dennis Weygand's talk.

The current CLAS6 software system is difficult to maintain and hard for new users to learn. The system is more prone to error than the proposed replacements.

SVN and SCONS are both designed as replacements for CVS and make (SVN is written by at least some of the people who developed CVS). CVS is no longer supported. SCONS uses the python programming language which is more powerful and flexible than make. Python is the successor to Perl. Another advantage of SCONS is automated dependencies where the SCONS program reads through the source code to locate dependencies.

The current status of this transition is the following.

- 1) The CLAS6 CVS repository has been moved over to SVN. This is primarily the packages area in CLAS_PACK. Packages that have been orphaned or appear to be unused or improperly used have not been moved. **Guidance on additional packages to move is needed from detector experts and analysis coordinators.**
- 2) A new directory structure is being used in the SVN repository for the CLAS6 software that is more transparent and coherent (see attached slides).
- 3) Members of the CLAS6/CLAS12 software group have been maintaining both repositories.
- 4) There has been only a limited response to Dennis' offer of support for switching over the software for the different run groups.
- 5) The g12 run group has switched to SVN/SCONS.
- 6) Some users have been using SVN/SCONS for a year now.

At the end of Dennis' talk there was discussion and questions about many points. These are summarized below.

1. What are the costs in time and effort to make this transition?

The costs of the transition were discussed at length. Dennis emphasized that everyone, but especially analysis coordinators for different run groups and detector experts should check out the CLAS6 software using SVN and try to build the software. Documentation for doing this is

available at the CLAS software wiki at the following address.

[http://clasweb.jlab.org/wiki/index.php/CLAS Offline Software CVS to SVN Transition](http://clasweb.jlab.org/wiki/index.php/CLAS_Offline_Software_CVS_to_SVN_Transition)

Johann Goetz estimated that it would take about 30 minutes to check out the CLAS6 software and about 15 minutes to build it. Dennis Weygand and the members of his group are available for assistance. The CLAS offline mailing list (clas_offline@jlab.org) is also a useful source for getting help.

2. What are the benefits?

See the attached talk for a full discussion. Some of the advantages mentioned in the meeting are (a) automated dependencies make code more reliable, (b) ease of use for new users, (c) binary files can be put under version control, (d) SCONS uses Python which is a full-fledged programming language, (e) CVS no longer supported, (f) parallel build of CLAS6 software is much faster than the current system.

3. Can the current directory structure of the CLAS6 software (i.e. the 'packages' directory) be maintained along with the make files?

The packages area could be reproduced in SVN using SVN links, but this would require time and effort that Dennis and his group are unable to provide at this time. Maurizio Ungaro and Jixie Zhang expressed an interest in developing this parallel directory tree. The Makefiles in the CVS repository were not imported into SVN because they would not work. Those files can be imported into SVN, but require some work in order to function with the SVN links. Dennis and the CLAS6 software group do not have enough people to do this without considerable additional help. The current Make software system will still be available after the transition, but will not be officially supported.

4. Will the software history in the CVS system be lost?

No. All of the CLAS6 software will be still be available under CVS. Once the transition is made, the CVS repository for the CLAS6 analysis software will be made read-only. Users can still check out files, but cannot check changes back in. This applies only to the CLAS6 analysis software. See items 5 and 7 below.

5. What happens to the other files under CVS that are not part of the CLAS6 analysis software?

Nothing. There is no effort to move over software outside the existing CVS package repository so directories containing shift documentation, files for papers and other projects will be unaffected.

6. Will the new system be as open as the current CVS one?

Not quite. Users will be readily able to check out, modify, and check in existing code under SVN as they are able to do now under CVS. However, if a user wants to create a new analysis package, then permission is necessary. Dennis proposed having a software czar/czarina. This managed approach will only apply to the main CLAS6 analysis software. Other projects like papers or individual branches will operate like they do now under CVS.

7. Can tagged versions of the CLAS6 software be put under SVN/SCONS?

Yes. Dennis and his group are willing to do this on demand. Please get in touch with them.

8. Does SVN/SCONS work for remote users?

Yes. This has been demonstrated, but remote users should check with their system administrators on availability/installation of SVN, Python, SCONS (they are readily available for free). They should also try the new scheme as soon as possible so that any bugs can be detected and fixed.

9. Can a branch of the old software be checked out under CVS and then imported into SVN?

Yes. This should be done as a separate SVN branch.

After the main meeting, the CLAS Coordinating Committee met to discuss the next steps. The summary of that meeting is below.

1. It is the consensus of the CCC that we should try to go forward with the transition to SVN/SCONS.
2. Current detector experts and analysis coordinators stationed at JLab should attempt in the next couple of weeks to check out and build the CLAS6 analysis software under the new system. Eugene Pasyuk stated that the g9 group would do this next week. Users at remote institutions should try that as soon as possible, indicatively within a month from now. If problems arise, users should immediately consult with Dennis Weygand and his group, plus they should notify Marco and Eugene.
3. The Offline Technical Working Group should meet in about two weeks with Dennis Weygand and members of his group, detector experts, and analysis coordinators to evaluate the progress of the transition. Input from remote users will be very important and appreciated.
4. The focus of this transition is now on the main, CLAS6 reconstruction and simulation software.
5. For people working on this transition, this work can be counted as part of their Collaboration service contribution.

In attendance:

CLAS Coordinating Committee: M.Ripani, E. Pasyuk, G. Gilfoyle, V.Burkert, M.Guidal (by phone).

CLAS Collaboration Members (partial list, sorry I couldn't get everybody's name):

Stepanyan, Egijan, Weygand, Kubarovsky, Park, Avakian, Elouadrhiri, Mineeva, Gyurjyan,

Daniel, Heddle, Ungaro, Kalantarians, Prok, Goetz, Zhang, Girod, Bookwalter, Nadel-Turonski,
Mirazita (phone), Rossi (phone), Hafidi (EVO) El Alaoui (EVO)