Subject: Stt external library glpk
Posted by Ralf Kliemt on Thu, 04 Feb 2010 10:40:08 GMT
View Forum Message <> Reply to Message

Hi,

Running on my Mac I noticed in pandaroot/stt/CMakeLists.txt:72 that libglpk.so is loaded.
However the Mac compiles this external package into libglpk.dylib causing stt to not compile.
Is there an approach in cmake to load either library type?

Regards, Ralf.

Subject: Re: Stt external library glpk
Posted by Radoslaw Karabowicz on Thu, 04 Feb 2010 10:41:57 GMT
View Forum Message <> Reply to Message

I had the same problem.
Make symbolic link to .dylib with a name of .so.
I also had later to add the glpk dir name to $DYLD_LIBRARY_PATH.

Hope this helps.

yours,
radek

Subject: Re: Stt external library glpk
Posted by Johan Messchendorp on Sun, 07 Feb 2010 20:25:51 GMT
View Forum Message <> Reply to Message

Hi,

Mohammad has modified the installation scripts of the external packages now, which makes
the link to an .so file to keep the MAC compatibility. You can fetch the new SVN revision 7719
with the update.

Another addition related to the glpk libraries: the corresponding (.so and .a) files in the external
packages are now copied to the directory ${SIMPATH}/basics/glpk/lib/. On my machine, this
was needed, otherwise running the macros didnt succeed since it couldnt find the libs.
However, in the CMakelist in the "stt" directory, the GLPK_LIB_DIR is still set to
${SIMPATH}/basics/glpk/src/.libs. I would like to change this asap to
${SIMPATH}/basics/glpk/lib in stead to be uniform with the rest of the links to external libraries.
This would require that everyone updates his external package and rerun the installation of the
"glpk" stuff: svn up, remove the glpk directories in basics, and rerun "configure.sh". Let me
know if anyone has major objection against this "small" change.

Johan.

Subject: Re: Stt external library glpk
Posted by Gianluigi Boca on Mon, 08 Feb 2010 10:13:41 GMT
View Forum Message <> Reply to Message

Johan Messchendorp wrote on Sun, 07 February 2010 21:25Hi,
Another addition related to the glpk libraries: the corresponding (.so and .a) files in the external packages are now copied to the directory ${SIMPATH}/basics/glpk/lib/. On my machine, this was needed, otherwise running the macros didnt succeed since it couldnt find the libs. However, in the CMakelist in the "stt" directory, the GLPK_LIB_DIR is still set to ${SIMPATH}/basics/glpk/src/.libs. I would like to change this asap to ${SIMPATH}/basics/glpk/lib in stead to be uniform with the rest of the links to external libraries. This would require that everyone updates his external package and rerun the installation of the "glpk" stuff: svn up, remove the glpk directories in basics, and rerun "configure.sh". Let me know if anyone has major objection against this "small" change.

Johan.

I agree with this change.
The reason for having the .libs directory was only 'historical' (that is the way the directories are arranged in the original web site from where I downloaded the libraries).
Gianluigi

Subject: Re: Stt external library glpk
Posted by Johan Messchendorp on Mon, 08 Feb 2010 17:32:13 GMT
View Forum Message <> Reply to Message

Dear all,

The change in the CMakeList has been made in rev 7740. So if you encounter problems, update the external packages, remove the directory glpk (in basics), and rerun the configure.sh....

Johan

Subject: Re: Stt external library glpk
Posted by StefanoSpataro on Tue, 09 Feb 2010 08:40:03 GMT
View Forum Message <> Reply to Message

Hi,
I have updated the external packages and so on, but now, when loading all the pandaroot libraries, I have the following error:

- RTDB container factory FairBaseContFact
- RTDB container factory PndFieldContFact
- RTDB container factory PndPassiveContFact

PSaid instance created... access via gSaid->f()

- RTDB container factory PndEmcContFact
- RTDB container factory PndTpcContFact
dlopen error: libglpk.so.0: cannot open shared object file: No such file or directory
Load Error: Failed to load Dynamic link library /home/spataro/jan10/cbuild/lib/libStt.so
(int)(-1)

library which of course is inside basics/glpk-4.39/lib

What should I do now?

And another question: do we really need to use glpk inside our code? I suppose root classes are doing the same job, or maybe there is another reason?

Subject: Re: Stt external library glpk
Posted by Johan Messchendorp on Tue, 09 Feb 2010 09:01:38 GMT

Hi,

Looks like there is still a link missing in the external packages, I have noticed this on the Dashboard as well. Mohammad, could you add the appropriate links. Probably, it makes sense just to copy all the libs in "src/.libs" to "/lib", not to miss anything for whatever system. For the moment, I changed the stt CMakeList to the old version again, to avoid the problems.

Concerning your second question, about whether to use glpk at all.... I agree with you that if the same functionalities can be found in root or other previously existing external packages, one should take that to minimize the dependencies. Maybe, Gianluigi can comment on this.

Greetings,

Johan

Subject: Re: Stt external library glpk
Posted by StefanoSpataro on Tue, 09 Feb 2010 09:55:17 GMT

It seems the problem stays in the missing file libglpk.so.0.
It is not clear to me why the code is searching exactly for libglpk.so.0, while libglpk.so and libglpk.a are existing and at the proper place.

However,
in my pc I have fixed it in the following way:

cd jan10/basics/glpk/lib
ln -s libglpk.so libglpk.so.0

I suppose another should be the official fix.

Subject: Re: Stt external library glpk
Posted by Gianluigi Boca on Tue, 09 Feb 2010 12:33:46 GMT

View Forum Message <> Reply to Message

Stefano Spataro wrote on Tue, 09 February 2010 09:40
And another question: do we really need to use glpk inside our code? I suppose root classes
are doing the same job, or maybe there is another reason?

Hi,
yes there are a couple of essential reason.

As far as I know there is no equivalent to GLPK in root.

GLPK is a pakage for performing minimizations of some function that is linear in the
parameters to fit AND ALSO in the case when some of the parameters are INTEGER
variables.

This branch of the minimization programming is called Mixed Integer Linear Programming
(MILP) as I explained in many presentations on the STT pattern recognition.

So GLPK is a package for doing MILP.

The main reason why I chose it is that it is superfast compared to Minuit, so I can use it in the
pattern recognition.

Also MILP has the nice feature that, thanks to the use of some integer variable, enables to :
   a) resolve the left-right ambiguity typical of the straw tubes;
   b) eliminate those hits which are clearly noise, authomatically already in the fit.

Without GLPK the STT real pattern recognition doesn't work.

Cheers   Gianluigi

Subject: Re: Stt external library glpk
Posted by Mohammad Al-Turany on Tue, 09 Feb 2010 13:46:51 GMT

View Forum Message <> Reply to Message

Hi,

So, finally the glpk is done properly! it is in SVN please remove glpk and glpk-4.39 in your
$SIMPATH/basic dirctory, make an svn update (release jan10) and run the configue.sh script
again, it will only install glpk.

regards

Mohammad

Subject: Re: Stt external library glpk

Posted by StefanoSpataro on Tue, 09 Feb 2010 15:51:49 GMT

Done,
but now the src folder has disappeared:

Scanning dependencies of target Stt
[23%] Building CXX object stt/CMakeFiles/Stt.dir/PndSttTrackFinderReal.o
[23%] Building CXX object stt/CMakeFiles/Stt.dir/PndSttDict.o
make[2]: *** No rule to make target `/home/spataro/jan10/basics/glpk/src/.libs/libglpk.so',
needed by `lib/libStt.so.0.0.0'. Stop.
make[1]: *** [stt/CMakeFiles/Stt.dir/all] Error 2
make: *** [all] Error 2

There was the CMakeList wrong. I have fixed it.