

cet-is - Bug #20240

OSX builds take an extraordinary amount of time (companion to issue 20079)

06/28/2018 09:43 AM - Tracy Usher

Status:	Assigned	Start date:	06/28/2018
Priority:	Normal	Due date:	
Assignee:	Lynn Garren	% Done:	0%
Category:		Estimated time:	20.00 hours
Target version:		Spent time:	0.00 hour
Scope:	Internal	SSI Package:	
Experiment:	-	Co-Assignees:	

Description

This is related to issue 20079 [<https://cdcv.sfnal.gov/redmine/issues/20079>] but is during the running of cmake to build the makefiles. Again, this step takes a large amount of time and after some investigation it seems due to searching for dependent packages. This gets triggered for every "find_ups_package" listed in the top level CMakeLists file of a larsoft package.

On OSX it appears that if you include a high level package (e.g. larreco) then for some reason include paths to header files in its dependent packages are not included in the top level package being set up. It seems that one needs to specify a "find_ups_package" for every package that will be used by the one being set up (which seems a bit counterintuitive... was it always this way and is this intended?). This means one ends up specifying a number of "find_ups_package"s in the CMakeLists file, and this means searching for a lot of dependent packages.

The next thing noticed is that the code does not seem to remember when it has already found a dependent package and so initiates a search each time it sees a package. For whatever reason, this searching process is not especially rapid on OSX, taking several seconds per package.

I found the CMake macro definitions for find_ups_product and also for finding root, I inserted a few "message" statements just to watch what was happening. Below is an example of the setup for a single package in my develop area.

I'm wondering if there is anything that can be done to optimize this... The specific problem I'm having now is in getting a build on my laptop of the new split uboonocode area which is something like 13 packages now. Just executing the cmake step takes a long time, in particular given that it seems I need to keep adding "find_ups_product" statements to the CMakeLists files to get the build to work.

A final note - the new split uboonocode builds fine on linux so the behavior noted above regarding dependent packages appears to not be consistent with the OSX builds.

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-- Checking for unparsed arguments
-- Matching root string root v6_12_06a f-Darwin64bit+17-z/LArSoft/Products-q-c2:debug
-- find_ups_root: ROOT version and qualifier are v6_12_06a c2:debug
-- qualifer: c2, inc:
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History

#1 - 07/02/2018 11:10 AM - Lynn Garren

- Project changed from LArSoft to cet-is-public
- Status changed from New to Assigned
- Assignee set to Lynn Garren
- Estimated time set to 20.00 h
- Experiment deleted (-)

Is this a complaint about the time or about complex mrb builds?

We are aware that High Sierra builds take significantly longer than Sierra builds for the same code. We note that a large fraction of this appears to be system time. We have not found any solutions yet. Be aware that this also affects Jenkins builds and we are motivated to find an answer.

We are able to reproduce the problem building larreco and the split uboone code on macOS. However, it may take some time to investigate and resolve the issue. The workaround is as you suggest: checkout larsoft portions of the code before checking out the uboone code.

#2 - 07/23/2018 10:34 AM - Kyle Knoepfel

We would like to meet with you regarding this issue when you are at Fermilab this week. Can you please coordinate such a meeting with Lynn, Erica, and Kyle?

#3 - 03/11/2019 11:46 AM - Christopher Green

- *Scope set to Internal*

- *Project changed from cet-is-public to cet-is*

- *Experiment - added*