

cet-is - Support #23678

pythia6 build

12/02/2019 11:09 AM - Lynn Garren

Status:	Feedback	Start date:	12/02/2019
Priority:	Normal	Due date:	
Assignee:	Christopher Green	% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:		Spent time:	0.00 hour
Scope:	Internal	SSI Package:	
Experiment:	-	Co-Assignees:	Christopher Green

Description

The build of pythia6 changed as reported by Robert.

Between ROOT v6_12_06a and v6_16_00 there was a minor version change in the pythia6 build:

```
root v6_12_06a -q e17:prof
|__clhep v2_3_4_6 -q e17:prof
| |__gcc v7_3_0
|__fftw v3_3_6_pl2 -q prof
|__gsl v2_4 -q prof
|__pythia v6_4_28k -q gcc730:prof
|__postgresql v9_6_6a -q p2714b
| |__python v2_7_14b
| | |__sqlite v3_20_01_00
|__mysql_client v5_5_58a -q e17
|__libxml2 v2_9_5 -q prof
|__xrootd v4_8_0b -q e17:prof
|__tbb v2018_2a -q e17:prof
```

vs.

```
root v6_16_00 -q e17:prof
|__numpy v1_15_4b -q e17:p2715a:prof
| |__python v2_7_15a
| | |__sqlite v3_26_00_00
| |__lapack v3_8_0c -q e17:prof
| |__gcc v7_3_0
|__fftw v3_3_8 -q prof
|__gsl v2_5 -q prof
|__pythia v6_4_28p -q gcc730:prof
|__postgresql v9_6_11b -q p2715a
|__mysql_client v5_5_62 -q e17
|__libxml2 v2_9_9 -q prof
|__xrootd v4_8_5b -q e17:prof
|__tbb v2019_3 -q e17:prof
```

Since pythia6 has no sub-dependence it's unclear what drove this change. The `k` vs. `p` version is indicative of a change in SciSoft build and not a change in the pythia6 code itself.

But it does look like the v6_4_28p version was built somehow differently ... (possibly) without all the necessary bits needed for correct integration:

```
v6_4_28k/Linux64bit+2.6-2.12-gcc730-prof/lib/:
libpydum.a libPythia6.so libpythia.a
```

```
v6_4_28p/Linux64bit+2.6-2.12-gcc730-prof/lib/:
libPythia6.so
```

There might also be some odd interaction with

```
diff -u -r -b -w v6_4_28k/source v6_4_28p/source/
Only in v6_4_28k/source/pythia: src
Only in v6_4_28p/source/pythia: ssmssm.f
Only in v6_4_28p/source/pythia: structm.f
Only in v6_4_28p/source/pythia: structp.f
Only in v6_4_28p/source/pythia: sugra.f
Only in v6_4_28p/source/pythia: update_notes.txt
Only in v6_4_28p/source/pythia: upevnt.f
Only in v6_4_28p/source/pythia: upevnt.f.orig
Only in v6_4_28p/source/pythia: upinit.f
Only in v6_4_28p/source/pythia: upinit.f.orig
Only in v6_4_28k/source/pythia: ups
Only in v6_4_28p/source/pythia: upveto.f
Only in v6_4_28p/source/pythia: upveto.f.orig
Only in v6_4_28p/source/pythia: visage.f
Only in v6_4_28p/source/: tpythia6_build
```

I think those `structm.f` and `structp.f` shouldn't be there ... internally they say:

C...Dummy routine, to be removed when PDFLIB is to be linked.

Chris replied:

Between v6_4_28k and v6_4_28p, apart from the usual minor changes to add support for new compilers, we moved from using our own spit of the source to one provided by Lund officially, request channeled via Steve Mrenna. This was done contemporaneously with the inauguration of a Spack recipe for Pythia6, to avoid FNAL being encoded forever in the upstream repository as the place to obtain the code.

PYTIME, UPEVNT, UPINIT and UPVETO are now handled via patch (see <https://cdcv.s.fnal.gov/redmine/projects/build-framework/repository/pythia-ssi-build/versions/master/entry/patch/pythia6.patch>).

We no longer produce a static library, and (so far) have had no complaints.

It's possible that we missed a couple of dummies when we were dealing with the new Lund-split tarballs, but again, we have had no complaints. We can certainly meet later today and discuss specifics if you still have concerns.

History

#1 - 12/02/2019 11:11 AM - Lynn Garren

- Assignee set to Lynn Garren
- Status changed from New to Assigned
- Co-Assignees Christopher Green added

I think Robert is correct. The dummy routines are not meant to be part of the main library.

#2 - 12/02/2019 11:11 AM - Lynn Garren

- Status changed from Assigned to Feedback

Robert, do you have an example of a specific problem you are seeing when using the latest pythia6?

#3 - 12/09/2019 11:00 AM - Kyle Knoepfel

Pinging again: Robert, do you have an example of a specific problem you are seeing when using the latest pythia6?

#4 - 12/09/2019 11:05 AM - Robert Hatcher

Yes, but it's also convoluted with some other things (LHAPDF5 and possibly changes to GENIE, whether using debug or prof) I spent part of last week looking into this (to no complete resolution) and will continue this week.

#5 - 12/16/2019 10:23 AM - Kyle Knoepfel

Any update on this Robert?

#6 - 01/06/2020 10:29 AM - Kyle Knoepfel

- Assignee changed from Lynn Garren to Christopher Green