LArSoft - Bug #25149

Implicit conversion loses integer precision in lardataalg/DetectorInfo/DetectorClocksData.h

10/29/2020 01:21 PM - Iker de Icaza Astiz

Status:	Assigned	**Start date:**	10/29/2020
Priority:	Low	**Due date:**	
Assignee:	Iker de Icaza Astiz	**% Done:**	0%
Category:		**Estimated time:**	0.00 hour
Target version:		**Spent time:**	0.00 hour
Occurs In:		**Co-Assignees:**	
Experiment:	-		

Description

This is a rather nit picky issue, and I don't know wether it actually causes any problems or not. However I've experienced problems with type conversion in other places, so I've started to use compilation flags that throw errors when type conversion occurs.

Namely, I'm using this on one of my CMakeLists.txt:

```
cet_set_compiler_flags(DIAGS CAUTIOUS
  WERROR
  NO_UNDEFINED
  EXTRA_FLAGS  -Wconversion -Wno-sign-conversion
  )
```

With that in place I'm getting errors that look like this:

```
In file included from /sbnd/app/users/icaza/work/sbndcode/srcs/lardataalg/lardataalg/DetectorInfo/
DetectorClocks.h:12:
/sbnd/app/users/icaza/work/sbndcode/srcs/lardataalg/lardataalg/DetectorInfo/DetectorClocksData.h:4
52:69: error:
      implicit conversion loses integer precision: 'const size_t' (aka 'const unsigned long') to '
int'
      [-Werror,-Wshorten-64-to-32]
      return fOpticalClock.TickPeriod() * tick + fOpticalClock.Time(sample, frame) - TriggerTime()
;
                                                                  ~~~~ ^~~~~~
```

The function Time() is defined in lardataalg/DetectorInfo/ElecClock.h

Don't know how large sample or frame can get, but this might be a silent issue somewhere.

History

#1 - 11/02/2020 10:25 AM - Kyle Knoepfel

- Status changed from New to Feedback

Iker, if you are aware of other places where implicit narrowing conversions are taking place, please let us know. Would you like to create a PR that addresses this?

#2 - 11/10/2020 04:32 AM - Iker de Icaza Astiz

Hi Kyle. Sure I can do the PR, but it will take me a couple of weeks to have time to come back to this. Feel free to assign the issue to me.

#3 - 11/10/2020 07:49 AM - Kyle Knoepfel

- Assignee set to Iker de Icaza Astiz

- Status changed from Feedback to Assigned