GROMACS - Bug #2103

xlc/xlC: shellfc.cpp: empty array initializer "expression not supported"

01/26/2017 09:58 PM - James Ostrander

Status: Closed
Priority: Normal
Assignee:
Category:
Target version:
Affected version -
extra info:
Affected version: git master

Difficulty: simple

Description
I can get most of the way through the build process with xlc/xlC by disabling SIMD, but eventually:

```c++
[ 91%] Building CXX object src/gromacs/CMakeFiles/libgromacs.dir/mdlib/shellfc.cpp.o
  shfc->x = new PaddedRVecVector[2] {};
   ^
1 error generated.
Error while processing /home/u0017592/projects/gromacs/src/gromacs/mdlib/shellfc.cpp.
make[2]: *** [src/gromacs/CMakeFiles/libgromacs.dir/mdlib/shellfc.cpp.o] Error 1
make[1]: *** [src/gromacs/CMakeFiles/libgromacs.dir/all] Error 2
make: *** [all] Error 2
```

Setting -DCMAKE_CXX_FLAGS=-qlanglvl=extended0x doesn't make this go away. Neither does -std=c++1y, gnu++0x, gnu++11, etc.
If I compile a simple test with the empty initializer ({}) in latest gcc, it works.
Older versions of gcc need to have C++14 specified.

Related issues:
Related to GROMACS - Task #2102: decide future of xlc+power support - Closed

History

#1 - 01/27/2017 05:38 PM - James Ostrander
The formatting was butchered, but the error’s arrow should be pointing at the {}.

#2 - 01/27/2017 07:08 PM - Mark Abraham
- Related to Task #2102: decide future of xlc+power support added

#3 - 01/27/2017 07:13 PM - Mark Abraham
- Description updated

#4 - 01/27/2017 07:13 PM - Mark Abraham
That sounds like a limitation of (at least this version of) xlc, given that that code compiles fine on suitably recent versions of gcc, clang, msvc and icc in our continuous-integration testing.

However, probably that idiom will not be used in the source code for long, since there are doubts about some versions of clang + gcc stdlib with similar code.

Since xlc being useful is anyway blocked by the fixes needed for #2102, for now I can only recommend using gcc 4.9+ on POWER*

#5 - 12/13/2017 12:01 AM - Erik Lindahl
- Status changed from New to Rejected
This is indeed a bug, but unfortunately it's in the xIC compiler rather than Gromacs. We can consider adding a test for it in CMake to identify bad compilers.
Every time we have tested g++ has produced faster code than xlC, so there's no real reason to use it.

#6 - 12/13/2017 12:01 AM - Erik Lindahl
- Status changed from Rejected to Closed