

GROMACS - Bug #2810

running on Fermi throws cryptic error

12/17/2018 11:25 PM - Szilárd Páll

| | |
|--|----------------------------------|
| Status: Closed | |
| Priority: Low | |
| Assignee: | |
| Category: mdrun | |
| Target version: 2019 | |
| Affected version - extra info: | Difficulty: uncategorized |
| Affected version: 2019-rc1 | |
| Description | |
| <p>The consistency / support checks have not been updated and when we removed Fermi support we left no consistency checks that can detect the lack of support for an architecture. As a result, it neither defaults to CPU nor does it emit a message that users can understand.</p> | |
| <pre>\$ gmx mdrun -quiet -nb gpu -gpu_id 0</pre> | |
| <pre>----- Program: gmx mdrun, version 2019-rc1-dev-20181217-eeda455 Source file: src/gromacs/gpu_utils/cudautils.cuh (line 347) Function: void launchGpuKernel(void (*)(Args ...), const KernelLaunchConfig&, CommandEvent*, co nst char*, const std::array<void*, sizeof... (Args)>& [with Args = {}; CommandEvent = void]</pre> | |
| <pre>Internal error (bug): GPU kernel (Dummy kernel) failed to launch: invalid device function</pre> | |
| <pre>For more information and tips for troubleshooting, please check the GROMACS website at http://www.gromacs.org/Documentation/Errors -----</pre> | |
| Related issues: | |
| Related to GROMACS - Task #2665: remove fermi support | Closed |
| Related to GROMACS - Bug #2811: CUDA binary target support check can't work | Closed |

Associated revisions

Revision ba3ab170 - 12/20/2018 10:33 PM - Szilárd Páll

Correct CUDA compatibility check

The CUDA compatibility check became ineffective after the deprecation of Fermi as it could not detect and flag these GPUs correctly as "incompatible" but instead was throwing a kernel execution error when trying to launch the sanity checker kernel.

This change does the minimal necessary corrections for the now deprecated Fermi arch to be correctly detected. As expected, CPU fallback can now automatically selected (unless the user request a GPU).

Minor refactoring was also necessary, but was kept at minimum.

Fixes #2810

Change-Id: I81bf12cca43a2a5e16d48d9faf4b9fc9627e4452

History

#1 - 12/17/2018 11:25 PM - Szilárd Páll

- Related to Task #2665: remove fermi support added

#2 - 12/17/2018 11:39 PM - Szilárd Páll

- Description updated

- Priority changed from Normal to Low

#3 - 12/17/2018 11:41 PM - Szilárd Páll

PS: the original check was also misplaced and should have been called in `is_gmx_supported_gpu_id()` rather than at initialization as otherwise it can't detect the error that would occur already when first executing the dummy kernel.

#4 - 12/18/2018 01:08 AM - Szilárd Páll

- Related to Bug #2811: CUDA binary target support check can't work added

#5 - 12/18/2018 01:09 AM - Gerrit Code Review Bot

Gerrit received a related patchset '1' for Issue [#2810](#).

Uploader: Szilárd Páll (pall.szilard@gmail.com)

Change-Id: gromacs~release-2019~l81bf12cca43a2a5e16d48d9faf4b9fc9627e4452

Gerrit URL: <https://gerrit.gromacs.org/8844>

#6 - 12/19/2018 02:17 PM - Szilárd Páll

- Status changed from New to Fix uploaded

#7 - 12/20/2018 10:45 PM - Szilárd Páll

- Status changed from Fix uploaded to Resolved

Applied in changeset [ba3ab1703239c208f78ec98ea817e0a737ff264e](#).

#8 - 12/21/2018 09:19 AM - Paul Bauer

- Status changed from Resolved to Closed