GROMACS - Bug #1358

race condition in GPU detection with MPI

10/14/2013 08:20 PM - Szilárd Páll

<table>
<thead>
<tr>
<th>Status:</th>
<th>Closed</th>
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</thead>
<tbody>
<tr>
<td>Priority:</td>
<td>Normal</td>
</tr>
<tr>
<td>Assignee:</td>
<td>Berk Hess</td>
</tr>
<tr>
<td>Category:</td>
<td>mdrun</td>
</tr>
<tr>
<td>Target version:</td>
<td>4.6.4</td>
</tr>
<tr>
<td>Affected version - extra info:</td>
<td>4.6.3</td>
</tr>
<tr>
<td>Difficulty:</td>
<td>uncategorized</td>
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Description
With the MPI-build of mdrun all ranks in a node run the GPU detection. With NVIDIA GPUs set to process- or thread-exclusive mode a race condition occurs as detection that happens concurrently will lead to one of the participating ranks getting an error that the device(es) is/are not available/busy.

Associated revisions
Revision 82341057 - 11/05/2013 07:21 PM - Berk Hess
GPU detection is done once per physical node
Only one MPI rank in each physical node now run the GPU detection.
The resulting information is broadcasted to the other ranks.
Note that we should also implement this for the CPU detection.
Fixes #1358
Change-Id: I16c6ccc40bd53d96b99d3f6a0abed69cc89136d8

History
#1 - 10/22/2013 04:25 PM - Berk Hess
- Status changed from New to Fix uploaded

#2 - 11/06/2013 10:35 AM - Berk Hess
- Status changed from Fix uploaded to Resolved
- % Done changed from 0 to 100

Applied in changeset 823410572cc32505541f72ce7801d7dc31fe9f3f.

#3 - 11/08/2013 05:55 PM - Mark Abraham
- Target version changed from 4.6.5 to 4.6.4

#4 - 12/03/2013 04:21 PM - Rossen Apostolov
- Status changed from Resolved to Closed