GROMACS - Task #2521

Feature # 2054 (Accepted): PME on GPU

Task # 2453 (Resolved): PME OpenCL porting effort

Implement alternating PME/NB wait for OpenCL

05/24/2018 07:10 PM - Aleksei Iupinov

Status:	New	
Priority:	Normal	
Assignee:		
Category:		
Target version:		
Difficulty:	simple	

Description

In CUDA version, alternating wait is implemented by polling the PME/NB GPU streams for readiness before synchronizing the last one.
In OpenCL, querying the stream state is not available. One can query the state of cl_event which was put in a stream though.
Therefore alternating wait can be reimplemented by using one GpuEventSynchronizer (https://gerrit.gromacs.org/#/c/7768/) per GPU task to mark the end of each computation and growing a method to query its state:

cl_int result;
clGetEventInfo(event_, CL_EVENT_COMMAND_EXECUTION_STATUS, sizeof(result), &result, nullptr);
return (result == CL_COMPLETE);

Related issues:

Related to GROMACS - Task #2527: Rename GpuEventSynchronizer to something mor...	**New**

History

#1 - 05/25/2018 01:56 PM - Szilárd Páll

Aleksei Iupinov wrote:
ing wait can be reimplemented by using one GpuEventSynchronizer (https://gerrit.gromacs.org/#/c/7768/) per GPU task to mark the end of each computation and growing a method to query its state:

Except that it's not a synchronizer anymore so it would be a misuse of the class, hence it doesn't really seem appropriate.

#2 - 05/25/2018 04:30 PM - Aleksei Iupinov

What's wrong with Synchronizer being able to check if there is actually synchronization needed? :-)
I don't think it warrants a rename :-)

#3 - 05/25/2018 09:22 PM - Szilárd Páll

Aleksei Iupinov wrote:

> What's wrong with Synchronizer being able to check if there is actually synchronization needed? :-)
> I don't think it warrants a rename :-)

Well, the idea of the alternating poll/wait is exactly the opposite: to check when the sync can be called *on the other* stream. ;)

#4 - 05/28/2018 11:57 AM - Aleksei Iupinov

- *Related to Task #2527: Rename GpuEventSynchronizer to something more fitting (after mergin PME OpenCL) added*

#5 - 10/15/2018 12:39 PM - Gerrit Code Review Bot

Gerrit received a related DRAFT patchset '1' for Issue #2521.
Uploader: Szilárd Páll (pall.szilard@gmail.com)
Change-Id: gromacs~master~I0dc9edc44137a1c2f58699f2ba038c6568dbae7b
Gerrit URL: https://gerrit.gromacs.org/8556