
Subject: OpenCL
Posted by [Novo](#) on Sat, 23 Jul 2011 04:32:17 GMT
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Is there any interest in UPP-friendly OpenCL wrappers?
APUs are coming ... GPUs are already here ...

Subject: Re: OpenCL
Posted by [Didier](#) on Sat, 23 Jul 2011 10:53:11 GMT
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Hi Novo,

I don't need for the moment, but this might come handy very quickly once it's available.

Thank's

Subject: Re: OpenCL
Posted by [281264](#) on Sat, 23 Jul 2011 16:13:23 GMT
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I am interested, although I only explored OpenCL superficially. It looks promising, does it not?

What have you in mind?

Javier

Subject: Re: OpenCL
Posted by [Novo](#) on Sat, 23 Jul 2011 16:42:31 GMT
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281264 wrote on Sat, 23 July 2011 12:13I am interested, although I only explored OpenCL superficially. It looks promising, does it not?

What have you in mind?

Javier

I mean replacement for this C++ wrapper. IMHO, wrappers should simplify things, and not make them more complicated.

Subject: Re: OpenCL
Posted by [281264](#) on Sat, 23 Jul 2011 16:49:40 GMT
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Ok. You are right; the C++ wrapper is a bit convoluted, so something simpler would be good.
Thanks.

Javier

Subject: Re: OpenCL
Posted by [Novo](#) on Mon, 25 Jul 2011 03:05:36 GMT
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Thanks to everybody who replied to my question. There is definitely more interest in OpenCL than in Firebird.

Subject: Re: OpenCL
Posted by [281264](#) on Mon, 25 Jul 2011 08:36:37 GMT
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Definitely I am interested, although it will take time to me to have a full control of it; I dare to say that also Mirek is interested, see this topic.

<http://www.ultimatepp.org/forum/index.php?t=msg&th=5808&start=0&>

I think it is a very potent tool for math calculations (for example for solving linear systems of equations). So your job will be very welcomed.

Javier

Subject: Re: OpenCL
Posted by [koldo](#) on Thu, 22 Nov 2012 05:46:48 GMT
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Hello Novo, hello Javier

I am now rather interested in OpenCL.

Have you done something about OpenCL in U++?

Subject: Re: OpenCL
Posted by [Novo](#) on Sat, 24 Nov 2012 01:30:28 GMT
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Hello koldo,

I started a U++ based wrapper to replace cl.hpp, but I haven't finished it yet unfortunately

I'll try to finish it this weekend or next week.

Subject: Re: OpenCL
Posted by [koldo](#) on Sun, 25 Nov 2012 08:33:56 GMT
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Thank you.

Subject: Re: OpenCL
Posted by [Novo](#) on Mon, 03 Dec 2012 05:43:58 GMT
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Status update:

I'm still far away from finishing the wrapper. It will probably take me another week to do that.

What is the best place to put initial version? Bazaar or sandbox?

Subject: Re: OpenCL
Posted by [koldo](#) on Mon, 03 Dec 2012 07:23:55 GMT
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IMHO any of them are good.

If the implementation is good, I think OpenCL should have to be part of U++ because it gives high performance computing and is implemented in all hardware (ATI, Nvidia, Intel) and OS.

Subject: Re: OpenCL
Posted by [281264](#) on Wed, 05 Dec 2012 21:38:38 GMT

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Quote:If the implementation is good, I think OpenCL should have to be part of U++ because it gives high performance computing and is implemented in all hardware (ATI, Nvidia, Intel) and OS.

Yes , absolutely.

Javier

Subject: Re: OpenCL
Posted by [Novo](#) on Wed, 12 Dec 2012 05:00:18 GMT
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Another status update:
I'm trying to make wrapper work with dli file. This requires redesign of previously working stuff. I also accidentally discovered that OpenCL 1.2 changed API in the way that one of descriptors that didn't require reference-counting in 1.1 requires it now. It turned out to be not that easy to make code work with different versions of API. I hope nobody is interested in supporting of OpenCL 1.0.

Subject: Re: OpenCL
Posted by [koldo](#) on Wed, 12 Dec 2012 07:25:19 GMT
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That is not a problem for me

Subject: Re: OpenCL
Posted by [281264](#) on Fri, 14 Dec 2012 19:49:24 GMT
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Hi,

I've downloaded the latest Nvidia CUDA SDK with the intention of updating the OpenCL.lib and the like; I've tested it with a simple application but it does not work. I can not tune TheIDE to access the correct library folders,etc..Any hint about how to tune the package organaizer to allow OpenCL to work?

What I'm doing is:

1.- I'm currently using OpenCL 1.1 version with the cl.hpp file for C++. All files can be downloaded together with the Nvidia SDK except the cl.hpp, which I downloaded from the Khronos web site (this file is not included in the new version of the SDK, to my surprise).

2.- I am running a simple OpenCL application that works (it worked with the 2010 version of the

Nvidia SDK); the application compiles but the linking process fails.

Any advice?

Thank you,

Javier

Subject: Re: OpenCL
Posted by [Novo](#) on Fri, 14 Dec 2012 21:12:29 GMT
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Hi Javier,

Have you added "c:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v5.0\lib\Win32" or "c:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v5.0\lib\x64" to "Setup->Build methods->Method->LIB directories"?

Subject: Re: OpenCL
Posted by [281264](#) on Fri, 14 Dec 2012 22:04:31 GMT
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Novo,

Thank you for your replay.

Yes, I've included:

in the SetUp->BuildMethod->LIB.

Also, in the package organizer, I've included the corresponding compiler instruction /I to allow it to access to the cl.hpp file.

Note: By the way, for a reason than I can't understand, the following does not work in the package

```
/I C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v5.0\include\
```

When it comes to link the program, it doesn't and the compiler says that the file 'Program.lib' can not be found.

I am doing something wrong but I do not know what.

Javier

Subject: Re: OpenCL
Posted by [Novo](#) on Sat, 15 Dec 2012 00:27:22 GMT
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281264 wrote on Fri, 14 December 2012 17:04:Novo,

Thank you for your replay.

Yes, I've included:

in the Setup->BuildMethod->LIB.

Also, in the package organizer, I've included the corresponding compiler instruction `/I` to allow it to access to the `cl.hpp` file.

Note: By the way, for a reason than I can't understand, the following does not work in the package

```
/I C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v5.0\include\
```

When it comes to link the program, it doesn't and the compiler says that the file 'Program.lib' can not be found.

I am doing something wrong but I do not know what.

Javier

IMHO, include path should be set up in "Setup->Build methods->Method->INCLUDE directories" because it is related to your machine and not to your package.

Can you check that you didn't set "All shared" in "Output mode" dialog? This, theoretically, can cause this 'Program.lib' error.

Subject: Re: OpenCL
Posted by [281264](#) on Sat, 15 Dec 2012 10:37:24 GMT
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Novo,

Thank you; eventually it works. I prefer using the Package Organizer with specific compiler instruction for specific applications; I reckon I was mixing the OpenCL.lib for 64 with the MSC10 for Win32.

What surprises me is that sometimes Thelde is unable to interpret /I C:\Program Files\.. in a correct manner; I do not know why.

Also, the lack of file cl.hpp in the Nvidia SDK is a surprise.

Anyway it works and I shall practice OpenCL a bit; have you got an easy example to share? Something like multiplication of matrices?

Cheers,

Javier