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Problems when running nvcc from command line

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I need to compile a cuda .cu file using nvcc from command line. The file is "vectorAdd\_kernel.cu" and contains the following piece of code:

extern "C" \_\_global\_\_ void VecAdd\_kernel(const float\* A, const float\* B, float\* C, int N) { int i = blockDim.x \* blockIdx.x + threadIdx.x; if (i < N) C[i] = A[i] + B[i]; }

I used the following command (I need to get a .cubin file):

nvcc --cubin --use-local-env --cl-version 2010 -keep -I "C:\Program Files (x86)\Microsoft Visual Studio 10.0\VC\include" vectorAdd\_kernel.cu

The compiler creates files vectorAdd\_kernel.cpp4.ii and vectorAdd\_kernel.cpp1.ii then it stops with the following output:

C:\Users\Massimo\Desktop\Pluto>nvcc --cubin --use-local-env --cl-version 2010 vectorAdd\_kernel.cu  
vectorAdd\_kernel.cu  
vectorAdd\_kernel.cu  
c:\program files (x86)\microsoft visual studio 10.0\vc\include\codeanalysis\sourceannotations.h(51): error: first parameter of \_\_declspec(align) must be a power of 2  
C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/include/new(51): error: first parameter of \_\_declspec(align) must be a power of 2  
C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/include/new(55): error: first parameter of \_\_declspec(align) must be a power of 2

Can you please help me in solving this issue?

Cheers,

Massimo

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edited Mar 1 '18 at 22:03

asked Oct 11 '12 at 16:03

Mike Wise

14.4k 4 47 75

user1738687

137 8

3

What else is in the .cu file? Why do you need to -I the VC/include path? Why do you need --use-local-env and --cl-version ? – harrism Oct 12 '12 at 0:12

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2 Answers

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I just encountered this in Visual Studio 2017 and Cuda v9.0 trying to compile from the command line with nvcc. After a lengthy session I realised my Visual Studio Command line tools were setup to use cl.exe from the x86 director instead of the x64. There are a number of ways to resolve it, one way is to override the directory it looks for its compiler tools with - for example as in :

nvcc -ccbin "C:\Program Files (x86)\Microsoft Visual Studio\2017\Enterprise\VC\Tools\MSVC\14.16.26322\bin\x64\_x-ww" vectorAdd\_kernel.cu

It then worked fine.

I'll also mention that I used the which.exe utility from the git tools to figure out what version of cl.exe it was accessing, but the where command - native to windows - works as well.

Update:

Another way - probably a better way - to handle this is to just set the Visual Studio environment variables correctly to 64 bits like this for the Enterprise edition:

"C:\Program Files (x86)\Microsoft Visual Studio\2017\Enterprise\VC\Auxiliary\Build\vcvarsall.bat" x64

For the Community edition substitute "Community" for "Enterprise" in the path.

You can also select the toolset with (for example) --vcvars\_ver=14.0 which selects the 14.0 toolset, necessary to compile CUDA 9.1 with the 15.5 version of Visual Studio.

Then you can build simply with this:

nvcc -o add\_cuda add\_cuda.cu

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edited Mar 2 '18 at 10:06

answered Dec 11 '17 at 4:31

Mike Wise

14.4k 4 47 75

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Thanks, greate tip. After reading this I tried the VS17 x64 native tools command line prompt. Worked. – anhoppe Oct 5 '18 at 19:46

Another solution is to simply launch the "x64 Native Tools Command Prompt for VS 2017" from the start menu. – Dave P. Feb 22 at 16:58

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I've had similar problem.

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The code where build breaks in SourceAnnotations.h :

#ifdef \_WIN64 typedef unsigned \_\_int64 size\_t; #else typedef \_M64 unsigned int size\_t; #endif

I've added \_WIN64 compiler symbol with this --compiler-options "-D \_WIN64". My nvcc build string looked like this:

nvcc kernel.cu --cubin --compiler-options "-D \_WIN64"

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edited Feb 15 '15 at 21:22

answered Feb 15 '15 at 20:54

Jon Surrell

6,755 5 38 48

Yevgen Nabokov

21 2

1

Can you elaborate on the cause of the problem, or how this solution fixes it? – Jon Surrell Feb 15 '15 at 21:02

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