Subject: Re: using GpuLib in IDL
Posted by Mort Canty on Thu, 05 Jun 2008 17:36:35 GMT
View Forum Message <> Reply to Message

Allard de Wit schrieb:
> Dear all,
>
> After Davids report on the Numerical Analysis Techniques Session, I
> have been trying to get the GpuLib from TechX working on linux (Fedora
> 6). I post my findings here, maybe they are useful to others.
>
> 1. First of all you may want to check if your NVIDIA GPU is supported
> (http://www.nvidia.com/object/cuda_learn_products.html), in the end I
> found out mine wasn't ;-(.
>
> 2. Install the CUDA library from http://www.nvidia.com/object/cuda_get.html,
> I used the CUDA Toolkit version 1.1 for Fedora 7. Add '/usr/local/cuda/
> bin' to your shell path and '/usr/local/cuda/lib' to your ldconfig
> path.
>
> 3. Untar the gpulib package. You will end up with folder
> 'gpulib-0.3p1' with a couple of folders in there related to MatLab,
> IDL, Python and some library routines. There is also a folder 'doc'
> which contains the install-notes. Please ignore these, Peter Messner
> from TechX told me they are a leftover from another project. Instead
> relevant installation details are in the 'IDL/doc' folder
>
> 4. Run the configure script in the gpulib root folder, then run the
> make command. In my case the make failed at the following statement
> because of some dependencies to OpenGL:
> g++ -fPIC -shared -Bsymbolic --warn-once -o gpulib.so gpulib.o ./../
> vectorOp/gpuVectorOp.o ./../vectorOp/gpuMT.o ./../physicsOp/
> gpuPhysicsOp.o -L/usr/local/cuda/lib -lcudart -lcublas -lcufft -lGL -
> lGLU
>
> According to Peter Messner the dependency on OpenGL wasn't necessary,
> therefore I run the following command manually (-lGL and -lGLU
> depencies removed):
> g++ -fPIC -shared -Bsymbolic --warn-once -o gpulib.so gpulib.o ./../
> vectorOp/gpuVectorOp.o ./../vectorOp/gpuMT.o ./../physicsOp/
> gpuPhysicsOp.o -L/usr/local/cuda/lib -lcudart -lcublas -lcufft
>
> This compiled succesfully.
>
> 5. Move to the 'IDL' folder and add it to your IDL_DLM_PATH variable.
> Start IDL and compile 'gpuinit.pro'. Check whether your device is
> recognized with:
> IDL> Print, gpuDectectDevice()

>
> In my case IDL printed -1, showing that no GPU was detected and
> hardware emulation was enabled. Therefore I cannot show you any
> performance tests.
>
> Peter Messner made the following remark on suitable hardware:
> "Regarding hardware: We have had pretty good experience with the
> GeForce 8800 GTX or Ulra models. They are a bit on the expensive side
> ($400-$600) but they are worth the money. You would probably also need
> to upgrade your power supply."
>
> Hope this is useful.
>
> Allard

I was also inspired by David's report to look at GPULib. I'm running IDL 7 on Windows XP with a GeForce 8600GT card (CUDA compatible and cheap). Peter kindly sent me a build for IDL 7 on XP and, after mistakenly installing the CUDA Toolkit 2.0 beta (no joy), I got it up and running in hardware mode pretty quickly. Now I'm keen to start re-coding some of my routines and see what happens. Unfortunately, I have to go on a long weekend vacation and can't start playing around again till Monday. Rats :-(

Cheers anyway,

Mort
