Subject: Question about nVidia's CUDA.
Posted by nikki6ixx on Thu, 21 Aug 2008 19:30:23 GMT
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My question to anyone here who knows a thing or two about CUDA is whether they think it could be the next big thing in computing, or a big, fancy blip on the roadmap of technology. The reason I'm asking is because I own quite a few nVidia shares, and I need to weigh short-term vs. long-term, etc. I have a good handle on most of their other operations, but CUDA fascinates me, despite me not knowing all too much about its workings.

So does anyone here think CUDA, or its competition from AMD/ATI could turn the computing world on its head?

I've read up about it, at least as much as I can understand, and I am pretty amazed at the amount of power the GPU's of today have. One organization has used CUDA to run programs/applications in half a minute... programs that used to take half an hour, as well as performing other complex applications in real-time!

I'm asking it here, because I know I'll have a better chance of getting some really good answers that will be easy for my small mind to digest.

Subject: Re: Question about nVidia's CUDA.
Posted by saberhawk on Fri, 22 Aug 2008 09:01:23 GMT
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nikki6ixx wrote on Thu, 21 August 2008 15:30My question to anyone here who knows a thing or two about CUDA is whether they think it could be the next big thing in computing, or a big, fancy blip on the roadmap of technology. The reason I'm asking is because I own quite a few nVidia shares, and I need to weigh short-term vs. long-term, etc. I have a good handle on most of their other operations, but CUDA fascinates me, despite me not knowing all too much about its workings.

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CUDA is awesome if what you need to do doesn't require much branching (ie physics and graphics). Sadly, there's little chance of it running complicated things such as an operating system with the same amount of performance.

Subject: Re: Question about nVidia's CUDA.
Posted by CarrierII on Fri, 22 Aug 2008 10:17:08 GMT
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That's interesting, could be useful for applications that need that sort of processing power (I personally would've just stuck it in another thread) - but it's nice to know about that.

Subject: Re: Question about nVidia's CUDA.
Posted by saberhawk on Fri, 22 Aug 2008 14:37:30 GMT
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CarrierII wrote on Fri, 22 August 2008 05:17That's interesting, could be useful for applications that need that sort of processing power (I personally would've just stuck it in another thread) - but it's nice to know about that.

Threads are nice, but with CUDA you've got hundreds of dedicated floating point processors running your calculations instead of 1 to 8 general purpose processors.

Subject: Re: Question about nVidia's CUDA.
Posted by _SSnipe_ on Fri, 22 Aug 2008 20:46:21 GMT
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what is cuda i downloaded it i think but did not know what to do or how to run it?

Subject: Re: Question about nVidia's CUDA.
Posted by CarrierII on Fri, 22 Aug 2008 21:02:03 GMT
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I only read a couple of pages, and I can tell you it's a C-type language for running applications on GPU's. Read.

Subject: Re: Question about nVidia's CUDA.
Posted by nikki6ixx on Sun, 24 Aug 2008 21:52:30 GMT
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Saberhawk wrote on Fri, 22 August 2008 04:01

CUDA is awesome if what you need to do doesn't require much branching (ie physics and graphics). Sadly, there's little chance of it running complicated things such as an operating system with the same amount of performance.

That's a shame, but it looks like nVidia realizes this too, as I've been hearing about them developing a 45nm x86 processor. I'm not totally convinced this is true, but it'd be an interesting development, although it would be an absolute nightmare in the patent department.

Subject: Re: Question about nVidia's CUDA.
Posted by Ghostshaw on Mon, 25 Aug 2008 08:03:40 GMT
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NVidia is indeed working on a low voltage x86 processor, its suposed to compete with the VIA CPU's and Intel atom processor. And well CUDA is all fun, but its only usefull for high FPU load stuff and more importantly stuff that can be done accross a shitload of threads. Most normal programs will not benefit from it.

Subject: Re: Question about nVidia's CUDA.
Posted by saberhawk on Mon, 25 Aug 2008 09:31:21 GMT
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Ghostshaw wrote on Mon, 25 August 2008 03:03NVidia is indeed working on a low voltage x86 processor, its suposed to compete with the VIA CPU's and Intel atom processor. And well CUDA is all fun, but its only usefull for high FPU load stuff and more importantly stuff that can be done accross a shitload of threads. Most normal programs will not benefit from it.

Except games!

Subject: Re: Question about nVidia's CUDA.
Posted by Ghostshaw on Mon, 25 Aug 2008 09:39:58 GMT
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Games are not normal programs . And well with games the GPU is already heavily used anyway .

Subject: Re: Question about nVidia's CUDA.
Posted by saberhawk on Mon, 25 Aug 2008 09:45:07 GMT
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Ghostshaw wrote on Mon, 25 August 2008 04:39Games are not normal programs . And well with games the GPU is already heavily used anyway .

For the graphics part, sure. But physics which need basically the same type of math are mostly stuck on the CPU due to bandwidth issues (ie getting the data back from the GPU)

Subject: Re: Question about nVidia's CUDA.
Posted by Ghostshaw on Mon, 25 Aug 2008 09:48:20 GMT
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Well yeah unless you run PhysX of course . Anyway I see a problem with moving Physics to the GPU, it means a Game Developper will have to choose wether he makes kickass Physics or kickass GFX and I am afraid that most will choose GFX over physics.

Subject: Re: Question about nVidia's CUDA.
Posted by saberhawk on Mon, 25 Aug 2008 10:16:03 GMT
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Ghostshaw wrote on Mon, 25 August 2008 04:48Well yeah unless you run PhysX of course . Anyway I see a problem with moving Physics to the GPU, it means a Game Developper will have to choose wether he makes kickass Physics or kickass GFX and I am afraid that most will choose GFX over physics.

Unless the physics you run on the GPU don't ever need to come back to the CPU, like particles and 'splosions!

Subject: Re: Question about nVidia's CUDA.
Posted by nikki6ixx on Tue, 26 Aug 2008 00:08:41 GMT
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Ghostshaw wrote on Mon, 25 August 2008 03:03NVidia is indeed working on a low voltage x86 processor, its suposed to compete with the VIA CPU's and Intel atom processor.

Is this processor intended to have an embedded graphics solution by any chance?

In fact, could you point me to any websites about this processor?