Subject: Mac Clusters & IDL
Posted by Trae on Sat, 12 May 2007 14:57:35 GMT
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First the setup:

I do a lot of numerical simulation and image rendering in IDL. This is amazingly CPU intensive and I've been using the new parallel processing capabilities of IDL with good success. (It might not be the most efficient, but man is it easy!)

We are running a mostly Mac shop and my boss just bought me the nice, new 3GHZ two Quad Core bad boy. We will probably be buying more computers in the near future and I'm being asked for advice on what to buy to expand our capabilities to do numerical simulations.

Now the question.

I've been reading a lot of material about clustering Macs, and it seems relatively "easy" especially if you buy some additional software. I would like to use the Macs in our group to form a cluster and buy some new Macs with the Quad Core to give the cluster some umph.

I was wondering if anyone on this list has used IDL on a Mac cluster? Specifically, a Pooch cluster? There are some good threads on other forms of clusters. Mac clusters seem easy to make but expensive. Linux clusters seem to be cheaper hardware wise but harder to keep running. I am a grad student, so I'm not going to get paid for the work I'm about to do, and want to keep the work invovled in making and maintaining a cluster to a minimum. I wanted to know if anyone on this list had any ideas about the effort to pay-off ratios for setting up a Mac cluster? How well does the native IDL multi-threading work on a Mac cluster? Has anyone used IDL_IDLBridge on such a cluster?

Thanks,
-Trae

Subject: Re: Mac Clusters & IDL
Posted by Trae on Wed, 23 May 2007 22:05:52 GMT
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Yes, I know. This isn't the first time you have given my this advice.

BUT IT TAKES SO LONG!!!

We've gotten a new 2X 3.0 GHz Quad core machine that I can use for my

nefarious purposes. We also got hte nice big Mac screen with it.

But my boss is wanting to do more and more simulation type work, with more and more complexity. Sooner or later, I'm going to need the cluster.

However, it should be after I'm Dr. Winter. <Mutter, mumble, gripe>

On May 23, 2:57 pm, Brian Larsen <balar...@gmail.com> wrote:
> Trae,
>
> as another former grad student I would recommend more long walks
> (preferably with your wife) while you let the code run on a single
> machine. Any setup you do on computers is a huge one time investment
> with little payoff for you unless you are planing on sticking around
> MSU for long enough to make up for the investment. I think the
> formula is pretty simple
>
> [(decrease in run time) * (number of times you run it)] /
> [(time required to setup and maintain the system) + (time spent
> recoding)]
>
> The number on the bottom is large and according to Murphy always comes
> when you have posters and talks due so if the numerator isn't
> sufficiently big to make this ratio like 4 I wouldn't bother. Any
> guess at actual numbers is a guess as I have done lots of linux but
> very little mac, but you are easily looking at a meltdown once a month
> that sucks up one whole day, and setup and testing will take the
> better part of week. So over the course of 6 months this is easily 88
> hours (40 + 6*8). So the savings in run time had better be 352 hours
> or more.
>
> Well enough ranting, papers don't write themselves, spacecraft don't
> build themselves, and certainly paperwork doesn't move from one side
> of my desk to the other by itself.
>
> Cheers,
>
> Brian
>
> --
> -- --------------- ------
> Brian A Larsen
> RBSP-ECT Instrument Suite Scientist
>
> Boston University
> Center for Space Physics

> 725 Commonwealth Ave, Rm 506
> Boston, MA 02215-1401

Subject: Re: Mac Clusters & IDL
Posted by edward.s.meinel@aero. on Thu, 24 May 2007 15:00:09 GMT
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On May 23, 6:05 pm, Trae <traewin...@gmail.com> wrote:
> But my boss is wanting to do more and more simulation type work, with
> more and more complexity. Sooner or later, I'm going to need the
> cluster.
>
> However, it should be after I'm Dr. Winter. <Mutter, mumble, gripe>
>
Ah, yes, the old conflict-of-interest conundrum. You want to graduate as soon as possible, your advisor wants cheap labor to further his career. You might ask your advisor how spending your time setting up this cluster will help you in completing your degree. If it is not intimately part of your thesis, he should get a comp sci student to set up the cluster.

Ed Meinel

P.S. Many of us have "been there, done that." My Numerical Analysis prof gave some great advice: If it takes longer to optimize your code than to run it, you've wasted your time.