Subject: Re: IDL and supercomputers? Posted by Jamie on Thu, 18 Dec 2003 21:49:32 GMT

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There are DLMs written for using PVM and MPI using IDL. I sincerely hope you have read and understood the thread white paper, see bottom of http://www.rsinc.com/services/techtip.asp?ttid=3252. I doubt that using 1100 CPUs will prove particularly useful unless you are doing simple, independent calculations and comparing the results later (Monte Carlo runs of a model that is capable of running without inter-process communication would be a example). IDL has hard limits that you will undoubtedly run into if you were to try and solve a large memory SMP problem.

You must certainly will need to be careful with any version of IDL > 5.5 as you must synchronize the number of CPUs you allocate with the number of threads. IDL 5.6 has been banned from one cluster I know of because it is impossible for the admin to globally restrict the number of threads it uses. The number of threads using IDL-RT or IDL-VM can only be set by the user. In short, when IDL starts, it detects the number of CPUs present and then sets ncpu == nthreads. This is very bad form if you didn't allocate ncpu processors.

I suspect that you will have a very hard time convincing people that running IDL code on a big-iron supercomputer will provide benefit. Is there any particular reason you aren't writing this code in HPF/HPC?

Jamie

On Thu, 18 Dec 2003, Ben Panter wrote:

>

- > Jonathan Greenberg wrote:
- >> Has anyone worked with ENVI/IDL on any supercomputers? Any suggestions on
- >> optimizing code for use with them? I'm currently trying to get time on the
- >> San Diego Supercomputer, and was wondering if its worth the time -- one
- >> question I had, in this case, is there such thing as too MANY processors
- >> (the SDSC has 1100!) -- do I want to limit the number of threads when
- >> working on an array? Thanks! Any other stories related to this would be
- >> great!
- > > Jonathan,

> 0.

- > The nearest I get is trivially parallel jobs running on 30 machines
- > over a hetrogeneous cluster (in fact the more powerful observatory
- > machines at night). If you have any luck with this project I'd love to
- > hear about it I think one of your prime worries might be getting
- > enough licenses to run this stuff...

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