
Subject: Re: Passing an array from IDL to MPI
Posted by [bruhwile](#) on Mon, 28 Jan 2002 04:03:21 GMT
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Hi Miska,

At Tech-X, we have developed prototype software that enables parallel computing with IDL, using MPI. You can find a little information at URL <http://www.techxhome.com/products/mpidl>

In our approach, you launch a light-weight application using mpirun (or whatever script your MPI implementation uses). Then each instance of your application brings in IDL as a shared object, via the "callable IDL" mechanism. Processor 0 gives you an interactive IDL prompt, while the other processors invoke IDL in a background mode.

The multiple IDL instances can now invoke IDL scripts that call out to the MPI library of your choice, using IDL-friendly routines that wrap the usual MPI functions through a dynamically loadable module. We've used MPICH under Linux and also Compaq's native MPI implementation under Tru64 Unix.

This is perhaps a bit more than you were asking for, but our approach will allow you to write a fully parallel application entirely in IDL.

We have prototyped this approach under a short-term gov't grant and shown that it works. We're now looking at parallelizing some IDL visualization features. A supported product won't be available for a year or so -- and then only if we get the second phase of funding. However, if you are interested in beta testing, then you can send a message to mpidl-users@txcorp.com and we'll discuss it.

Cheers,
David

Miska Le Louarn <lelouarn@eso.org> wrote in message <news:3C428D26.1080405@eso.org>>...
> Hi all IDL / parallel computing experts !
>
> I am trying to integrate a piece of MPI-code written in C into my IDL
> program.
> I have a cube of data produced in the IDL code, which needs to be
> Fourier transformed. So I want to write a little MPI program (in C)
> which uses several CPUs to compute the FFT of each plane in the cube.
> My problem is that I need to pass the data cube to the MPI program. This

> would not a problem with a plain C program (a simple call_external would
> do the trick), but MPI likes to be launched with the "mpirun" command
> which initializes all the parallel stuff.
>
> Any ideas ?
> Of course I could write the data cube to a file from IDL. I could then
> spawn the mpirun process from IDL and have the MPI code read the file.
> But I think there is a significant loss of time doing that. Plus it's
> not very elegant...
>
> I hope someone has an idea...
>
> Thanks in advance !
>
> Miska
>
>
> PS: I am using MPICH under Linux. The C code uses FFTW.
