Subject: Re: Passing an array from IDL to MPI
Posted by Mark Rivers on Mon, 14 Jan 2002 14:03:34 GMT
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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 lauched with the "mpirun" command
> which initializes all the parallel stuff.

You might want to consider another solution to obtain rapid 2-D FFTs taking advantage of multiple CPUs. This is to use the Intel Math Kernal Library (MKL) routines. These are free, highly optimized for Intel CPUs, and take advantage of multiple CPUs if they are present. I have written tomography reconstruction code that is accessed via CALL_EXTERNAL from IDL, and uses this library. The MKL speeded things up a factor of 3-4 compared to non-MKL FFT routines. The latest version of the MKL is available for Linux as well as Windows.

Mark Rivers