Subject: Re: unloading a dlm...
Posted by Nigel Wade on Tue, 11 Sep 2001 12:05:05 GMT
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Randall Skelton wrote:
> Rats!
>
> \begin{rant}
>
> My *real* problem here is with this Fortran 77 model, which is still
> being actively developed using F77!? Fortran 77 if fine for algorithms,
> but for writing large applications, use Fortran 90 at the very least!
>
> \end{rant}
>
> My problem is that I've been told to use a particular atmospheric
> radiative transfer model written in F77. The program reads a bunch of
> input cards/files (shutter), and outputs some rather large files (data is
> in 2-3 2 dimensional arrays). I need to run this model numerous times in
> an optimization/fitting process and a significant portion of the
> processing time is in the reading/writing of the files. My thought was
> that I would write a DLM that copies (or memory maps) between the Fortran
> data and IDL. This proved to be much easier than I thought it would be;
> however, the F77 routines don't pass around variables between subroutines
> (with the exception of error flags and the odd logical type). Rather,
> they use 30+ common blocks and, this being Fortran 77, each array in a
> block is fixed to a maximum size which makes the program rather bloated in
> memory. What I would like to be able to do is use a DLM to run the model,
> use mem-copy to copy the relevant portions of the data into IDL arrays
> (created in C), and then drop the bloated model from memory! I have a few
> objections to using a 'reset-session' as a programming call, not the least
> of which is that it will also destroy my newly created data arrays as
> well.
>
> Thanks for all the suggestions and sorry about the rant... It looks as if
> I am back to using shell scripts and 'spawn.'
>
> Cheers,
> Randall
>
> PS: If anyone has a radiative transfer model capable of producing
> high-resolution, atmospheric absorption, transmission, and emission
> spectra for occultation, nadir, and limb geometries from HITRAN data that
> is written in F90, C, C++, or IDL, please drop me an email...
>

If this is running in a virtual memory system does it matter that the

data is still residing in virtual memory?

If you don't touch the pages which contain that data it will get swapped out as other applications (or the same one) require physical memory. Provided you have sufficient swap space to accommodate the necessary swap pages you should not notice any difference to actually reducing the size of the application. In many environments, even if you can remove the DLM the amount of memory required by IDL won't reduce as the virtual memory is not given back to the OS.

As an alternative, can you use the data directly from the common blocks via IDL_ImportArray rather than creating a new array and copying the contents? I've never tried using a FORTRAN DLM, but I would have thought that if you can determine the address of the array that would be sufficient. You may need to reverse the indexing as I think IDL accesses arrays in C order rather than the FORTRAN order.
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