Subject: Re: how to debug IDL with call_external?
Posted by Craig Markwardt on Mon, 03 Jan 2000 08:00:00 GMT
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Nando <f.iavarone@acsys.it> writes:
> pei zeng wrote:
>
>> I have an IDL application which calls a FORTRAN code(quite large). When I
>> run it, it crashed the application and would not allow me to debug the
>> fortran code.
>
> Have you tried to use a debugger?
> I work with call_external of C code and I use dbx for debugging.
> I run the dbx after IDL launching (on the process id of IDL).
> After your code has linked the shared object, set a break point on your
> external code and
> it is possible to trace the execution.

In developing XFILTER, a devious add-on to IDL, I did a lot of debugging. I found that using the debugger worked fine and I could set breakpoints within my own code. In my case I used GDB on C code but any debugger that normally works should be okay for you. However, there are a few gotchas:

* of course, you need to compile with debugging support.

* you should be careful to debug the binary executable and not the script which is normally run. Usually this means that you have to set a few environment variables that the script would normally set, and then run the debugger on $IDL_DIR/bin/bin.arch/idl where arch is your architecture.

* there is a chicken/egg problem regarding loaded programs. The debugger won't know about your program until the object file is loaded; BUT you can't load your program without first running IDL. Therefore you can't immediately set a breakpoint on your first run.

  Usually I get around this by having a "dummy" function which does nothing. By CALL_EXTERNALing this dummy function, the object file is forced to be loaded. After that you can pop back to the debugger and set breakpoints within your code.

Good luck,

Craig

P.S. XFILTER is a graphics driver for Unix versions of IDL which saves entire graphics streams for subsequent playback. Equivalent to

David's XWINDOW but much more straightforward. Find it here:

http://cow.physics.wisc.edu/~craigm/idl/idl.html (look for XFWINDOW)

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