Subject: Call_external and link libraries - SunOS
Posted by keith on Wed, 19 Apr 1995 07:00:00 GMT
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I wonder if anyone can offer any suggestions on the following problem. I am attempting to use CALL_EXTERNAL to interface to a FORTRAN subroutine, using IDL 3.5 and Sun Fortran 1.4 running under SunOS 4.1.3_U1. I have a C wrapper to pass the arguments to the FORTRAN.

The problem is that the FORTRAN code makes calls to the math library - simply the cosine function _Fcos. However when I build the shared-object file, viz

```
% cc -c -pic idl-link.c
% f77 -pic -c -O approx.f
% ld -o approx.so -assert pure-text *.o /usr/lang/SC1.0/libF77.so.1.4.1
```

and call "approx.so", IDL crashes because the binary makes an unsatisfied reference to _Fcos.

Allright, _Fcos is in the math library /usr/lang/SC1.0/libm.a so I should link *that* into assert.so just like I did with the FORTRAN support library above. BUT in SunOS, there is only a static version of this library! (ie no libm.so).

Second try. Extract the relevant objects from libm.a with "ar" and link them in. But the link with "-assert pure-text" fails because they are not position-independent code. Presumably this is why there is no dynamic version of libm.a.....

Is this a general problem? Or one specific to the particular software versions I am using? Any ideas for how to fix it would be appreciated.

One other point - if anyone knows of IDL code to fit Chebyshev polynomials to an X-Y (1d) dataset I'd be vary grateful for a pointer. "approx.f" above is the netlib routine to do that, but I suspect it would be easier in IDL alone.

sincerely

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