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Subject: SGI 6.5 and CALL\_EXT Problem  
Posted by [rmlongfield](#) on Thu, 03 Jun 1999 07:00:00 GMT  
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Hi all,

I need help with something that used to work and now doesn't.  
My SGI O2 has just been upgraded to 6.5. Prior to this I have used  
CALL\_EXTERNAL successfully with C and Fortran programs.

The line in my code is:-----

```
result = CALL_EXTERNAL('idl_calc_pos.so', 'idl_calc_pos',  
yydddhmm_double)
```

-----

Here is the error message:

```
% CALL_EXTERNAL: Error loading sharable executable.
```

```
Symbol: idl_calc_pos, File = idl_calc_pos.so
```

```
7509:/d/rsi/idl_5.2/bin/bin.sgi/idl: rld: Fatal Error:
```

```
Cannot Successfully map soname
```

```
'idl_calc_pos.so' under any of the filenames
```

```
./idl_calc_pos.so:/d/rsi/idl_5.2/bin/bin.sgi/idl_calc_pos.so :/usr/lib/idl_calc_pos.so:/usr
```

```
/lib/internal/idl_calc_pos.so:/lib/idl_calc_pos.so:/lib/cmplrs/cc/idl_calc_pos.so:/usr/lib
```

```
/cmplrs/cc/idl_calc_pos.so:/opt/lib/idl_calc_pos.so:
```

```
% Execution halted at: IDL_CALC_POS 31
```

I am also having trouble with the new f77 compiler, independent of IDL  
and maybe this is related somehow.

Hope someone can help!

Rose

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Subject: Re: SGI 6.5 and CALL\_EXT Problem  
Posted by [Liam Gumley](#) on Thu, 03 Jun 1999 07:00:00 GMT  
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rmlongfield@my-deja.com wrote:

> I need help with something that used to work and now doesn't.

> My SGI O2 has just been upgraded to 6.5. Prior to this I have used  
> CALL\_EXTERNAL successfully with C and Fortran programs.  
[error messages removed]  
> I am also having trouble with the new f77 compiler, independent of IDL  
> and maybe this is related somehow.

Rose,

Did you recompile your shared object library under Irix 6.5? If not, I'd try that first. Also, make sure your FORTRAN compiler was upgraded to the right version for Irix 6.5.

Cheers,  
Liam.

--

Liam E. Gumley  
Space Science and Engineering Center, UW-Madison  
<http://cimss.ssec.wisc.edu/~gumley>

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Subject: Re: SGI 6.5 and CALL\_EXT Problem  
Posted by [Nigel Wade](#) on Fri, 04 Jun 1999 07:00:00 GMT  
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rmlongfield@my-deja.com wrote:

>  
> Hi all,  
> I need help with something that used to work and now doesn't.  
> My SGI O2 has just been upgraded to 6.5. Prior to this I have used  
> CALL\_EXTERNAL successfully with C and Fortran programs.  
>

There are various reasons why a DSO failed to load. The simplest is that IDL really couldn't find it, either because it is incorrectly named or because it isn't on the run-time library search path. Another reason is that IDL requires the DSO to be built using the O32 ABI under IRIX. A third reason is that it may have undefined externals if you link against library which has changed between OS releases.

You can check for the first by copying the DSO to the directory where you are running IDL from, the current directory should be searched for DSOs.

You can check for the second reason by using the 'file' command:  
% file idl\_calc\_pos.so  
will tell you what type of library has been created.  
IDL needs mips-2 dynamic libs. If it is a mips-3 dynamic lib it was  
built using  
the N32 ABI and will need to be re-compiled.

If the compiler defaults have changed this could happen. See the man  
page for the  
compiler and ABI(5) for more details. If the installation has changed  
the compiler  
defaults to N32 then you will need to compile and link with the -o32  
option  
added to the command line.

Finally, to check for undefined externals use the nm command. There will  
be many  
instances (e.g. any calls to routines in the C library). But if you  
eliminate these  
you should be able to find which external is not satisfied.

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Nigel Wade, System Administrator, Space Plasma Physics Group,  
University of Leicester, Leicester, LE1 7RH, UK  
E-mail : nmw@ion.le.ac.uk  
Phone : +44 (0)116 2523568, Fax : +44 (0)116 2523555

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Subject: Re: SGI 6.5 and CALL\_EXT Problem  
Posted by [rmlongfield](#) on Fri, 04 Jun 1999 07:00:00 GMT  
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In article <3756D843.B9F2646A@ssec.wisc.edu>,  
Liam Gumley <Liam.Gumley@ssec.wisc.edu> wrote:

> Did you recompile your shared object library under Irix 6.5? If not,  
I'd  
> try that first. Also, make sure your FORTRAN compiler was upgraded to  
> the right version for Irix 6.5.

Hi Liam (and anyone else who might encounter this problem),

Yes, I recompiled everything and still no go. However, I wandered over  
to your Web page and had a look at some of your SGI FAQ guides. I was  
just scrolling down the page and I spotted in an error discussion the  
line:

(-32 may be omitted on non Irix 6 systems) AHA!

Well, yesterday, when I was frantically searching around for a solution, I found that my new system is n32. I tried returning to o32 but did not know that the compiling AND ld commands had to have this -32 flag. This I saw on the FAQ.

Everything seems to work now, except some #84 warnings:  
definition of main preempts that in /usr/lib/libftn.so  
I hope they aren't serious.

Thanks !  
Rose

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Subject: Re: SGI 6.5 and CALL\_EXT Problem  
Posted by [rmlongfield](#) on Mon, 07 Jun 1999 07:00:00 GMT  
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In article <3757A4B0.86F86BAE@ion.le.ac.uk>,  
Nigel Wade <nmw@ion.le.ac.uk> wrote:  
> There are various reasons why a DSO failed to load.  
...(see previous thread)

Thanks Nigel, for the information. I was told today that eventually IRIX will no longer use o32. I hope IDL will be prepared to deal with that when it happens.

Rose

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Subject: Re: SGI 6.5 and CALL\_EXT Problem  
Posted by [Vapuser](#) on Thu, 10 Jun 1999 07:00:00 GMT  
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rmlongfield@my-deja.com writes:

> In article <3757A4B0.86F86BAE@ion.le.ac.uk>,  
> Nigel Wade <nmw@ion.le.ac.uk> wrote:  
>> There are various reasons why a DSO failed to load.  
> ...(see previous thread)  
>  
> Thanks Nigel, for the information. I was told today that eventually  
> IRIX will no longer use o32.

Do you know the time frame for this? There are linkimage routines that I  
CANNOT do without. I certainly don't want to program them in IDL.

> I hope IDL will be prepared to deal with  
> that when it happens.  
>  
> Rose  
>  
>

Me too, or there'll be violence! Or, at least a lot of screaming.  
You'd better be listening RSI!

William

--

William Daffer: 818-354-0161: [daffer@catspaw.jpl.nasa.gov](mailto:daffer@catspaw.jpl.nasa.gov)

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Subject: Re: SGI 6.5 and CALL\_EXT Problem  
Posted by [rmlongfield](#) on Fri, 11 Jun 1999 07:00:00 GMT  
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Hi William,

I do not know when the change will be made. I just happened to be  
chatting with someone from SGI who was fixing my machine (with different  
problems). I told him that some of my colleagues had libraries in o32  
which they did not want to re-compile. This isn't only IDL, it is C and  
Fortran compiler stuff.

I agree, it is a bit scary. I worked hard to get the C programs to  
work from IDL.

Rose

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Subject: Re: SGI 6.5 and CALL\_EXT Problem  
Posted by [Nigel Wade](#) on Mon, 14 Jun 1999 07:00:00 GMT  
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Vapuser wrote:

>  
> rmlongfield@my-deja.com writes:  
>  
>  
>> In article <3757A4B0.86F86BAE@ion.le.ac.uk>,  
>> Nigel Wade <nmw@ion.le.ac.uk> wrote:  
>>> There are various reasons why a DSO failed to load.  
>> ...(see previous thread)  
>>  
>> Thanks Nigel, for the information. I was told today that eventually  
>> IRIX will no longer use o32.  
>  
> Do you know the time frame for this? There are linkimage routines that I  
> CANNOT do without. I certainly don't want to program them in IDL.  
>  
>> I hope IDL will be prepared to deal with  
>> that when it happens.  
>>  
>> Rose  
>>  
>>  
>  
> Me too, or there'll be violence! Or, at least a lot of screaming.  
> You'd better be listening RSI!  
>  
> William  
>  
> --  
> William Daffer: 818-354-0161: daffer@catspaw.jpl.nasa.gov

I guess that eventually they will have to switch to n32, I don't suppose  
SGI will  
provide o32 forever!

I asked this very question today and was told that the next release  
(5.3) will be  
in o32 only. n32 or 64 would be classed as a different operating system  
requiring  
an effective port and complete verification.

This is really beginning to bite us here as people convert to n32 and  
have to keep  
two copies of libraries to be able to link to their n32 programs and the  
o32 IDL.

The FORTRAN90 compiler won't produce o32 code...

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