Subject: make_dll and call_external woes
Posted by James[2] on Sun, 18 Apr 2010 22:02:27 GMT

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Hi everyone,

I'm working on some code that's loop-heavy, so I'd like to do the
loopy part with an external C program. I'm using MAKE_DLL to compile
and then CALL_EXTERNAL. My system is Windows XP with the Microsoft
Visual C++ Express compiler, running in 32-bit mode.

I'm using very large data sets, so I would like to pass only pointers
to my C function. I wrote a little test program like this. It takes
all the arguments that my actual program needs, but it just alters one
value to see if anything happens:

```
void raycast(unsigned char * image, unsigned char * angles, unsigned
char * magnitudes, int * dims)
{
 angles[0] = 100;
}
```

I compile this using MAKE_DLL successfully. I've tested if the code
is getting called by adding an IDL_message(), and it works - the
message prints out on the IDL console. Unfortunately, the above code
does not work. I call it in IDL like this:

```
[stack is a preexisting 3-dimensional byte array]
   dims = fix(size(*stack, /dimensions))
   angles = ptr_new(bytarr(dims))
   magnitudes = ptr_new(bytarr(dims))
   dimsptr = ptr_new(long(reverse(dims)))
   call_external (dir + "raycast.dll", "raycast", $
         stack, angles, magnitudes, dimsptr, /cdecl, /all_value)
```

but when I check the value of (*angles)[0] afterward, it's still 0. I
also check with max(*angles) and it's 0 as well. Why is my C program
not changing anything in the array? I get the same problem whether I
include the /ALL_VALUE keyword or not.

Many thanks to anyone who can make sense of this issue!

Subject: Re: make_dll and call_external woes
Posted by Craig Markwardt on Sun, 18 Apr 2010 23:33:05 GMT

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On Apr 18, 6:02 pm, James <donje...@gmail.com> wrote:

> Hi everyone,
>
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> loopy part with an external C program. I'm using MAKE_DLL to compile
> and then CALL_EXTERNAL. My system is Windows XP with the Microsoft
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> also check with max(*angles) and it's 0 as well. Why is my C program
> not changing anything in the array? I get the same problem whether I
> include the /ALL_VALUE keyword or not.
>
> Many thanks to anyone who can make sense of this issue!

From the documentation:
"/CALL_VALUE. Set this keyword to indicate that all parameters are
passed by value."

Parameters passed by value can be changed by the called routine, but
changes do not appear to the caller.

Craig

Subject: Re: make_dll and call_external woes
Posted by James[2] on Fri, 21 May 2010 16:26:31 GMT

Just an update for anyone who reads this: I figured out my error(s).
The /ALL_VALUE tag was incorrect: IDL automatically passes arrays to C
as pointers, so e.g. an IDL integer array shows up as a short int * in
c. It's not necessary to make pointers of your IDL data before
passing it to C. But the main issue was that I didn't call my
function with the /AUTO_GLUE keyword. I was under the impression that
MAKE_DLL inserted glue code in the DLL for you, but /AUTO_GLUE is
still necessary.

- James

Subject: Re: make_dll
Posted by Michael Galloy on Tue, 10 May 2011 21:47:51 GMT

On 5/10/11 3:41 PM, Cindy wrote:
> Hello,
>
> I'm trying to use make_dll to create a shareable library. I get the
> following error:
>
> 'cl' is not recognized as an internal or external command, operable
> program or batch file.
>
> Is 'cl' referring to 'c linker'? If so, is it a problem that the !
> dll_make.compiler_name system variable name is Microsoft Visual C++
> 8.0 while I have Microsoft Visual C++ 10.0 (express) installed on my
> machine?
>
> Any comments or suggestions?

It's been awhile since I have had to do this on Windows, but I know I
have gotten the Express version to work for me with MAKE_DLL. I think
the problem is that you have to have the right environment variables set
(I think it is just that cl has to be in the PATH). This happens
automatically if you launch the MS VS command line (from the Start menu)
and then run IDL from that command line. Otherwise, you can find the
location of cl and put it in your PATH (and I think ld also).

Mike
--
Michael Galloy
www.michaelgalloy.com

Modern IDL, A Guide to Learning IDL: http://modernidl.idldev.com
Research Mathematician
Tech-X Corporation

Subject: Re: make_dll
Posted by cgoethel on Wed, 11 May 2011 00:26:02 GMT

On May 10, 2:47 pm, Michael Galloy <mgal...@gmail.com> wrote:
> On 5/10/11 3:41 PM, Cindy wrote:
>
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> automatically if you launch the MS VS command line (from the Start menu)
> and then run IDL from that command line. Otherwise, you can find the
> location of cl and put it in your PATH (and I think ld also).
>
> Mike
> --
> Michael Galloywww.michaelgalloy.com
> Modern IDL, A Guide to Learning IDL:http://modernidl.idldev.com
> Research Mathematician
> Tech-X Corporation

Thanks for responding! I appreciate your comments. I'll give the MS VS
command line suggestion a try.

Subject: Re: make_dll

Posted by Wout De Nolf on Wed, 11 May 2011 13:58:25 GMT

On Tue, 10 May 2011 14:41:59 -0700 (PDT), Cindy
<cgoethel@igpp.ucla.edu> wrote:

> I'm trying to use make_dll to create a shareable library.

Is this about the serial.dll for Windows 64bit you asked a while back?
If you give me a link to the source code, I can try to build it for
you.