
Subject: Re: IDL and C-
Posted by [MKatz843](#) on Thu, 20 May 2004 06:55:56 GMT
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This is just a guess, but you might try the following.

```
    ;--- declare image as a pointer to an array of byte type
image = ptr_new(bytarr(640,480))
image = call_external("C:\11ryan\temp\Debug\testDLL.dll","testDLL ")
window, xsize=640, ysize=480 ;--- open a window for display
tvsc1, *image ;--- scale and display the contents of the image pointer
```

after the call_external, you might also issue
print, image

If it returns something like this <PtrHeapVar1> then it's certainly a pointer.
M. Katz

Subject: Re: IDL and C-
Posted by [rsmith1](#) on Thu, 20 May 2004 20:50:43 GMT
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M. Katz-

Thanks a bunch for your response. I tried the code and ran into more issues. Upon using the call_external it simply converts the image variable back to a long since IDL does its variable type declarations on the fly. I then tried the following code:

```
image = ptr_new(bytarr(call_external("C:\Users\11ryan\CIDLFinal\testDLL\Debug\testDLL.dll", "testDLL")))
window, xsize=640, ysize=480 ;--- open a window for display
help, image
tvsc1, *image
```

And the help, image says that it is a pointer, but when trying to display it i get an error saying TVSCL: Width and Height must be less than 32000. It looks as if it is trying to take the value and use it as a dimension instead. Any more advice on what I could try? thanks again for all the help-

-Ryan

MKatz843@onebox.com (M. Katz) wrote in message
news:<4a097d6a.0405192255.693cd62b@posting.google.com>...

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Subject: Re: IDL and C-
Posted by [JD Smith](#) on Thu, 20 May 2004 21:49:31 GMT
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On Thu, 20 May 2004 13:50:43 -0700, Ryan Smith wrote:

> M. Katz-
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>> after the call_external, you might also issue
>> print, image

>> If it returns something like this <PtrHeapVar1> then it's certainly a pointer.
>> M. Katz

You can't just return a raw character pointer from C and expect IDL to convert it into an IDL array variable. The traditional way to do this is first make an array in IDL, pass it by reference to the function via `call_external`, and copy the camera data over to it before returning. Something like:

```
image=bytarr(1024,1024)
ret = call_external("C:\11ryan\temp\Debug\testDLL.dll","testDLL ",image)
```

and in the C code:

```
int _blah _blah newtestDLL(int argc, void *argv[]) {
    char *buffer,*out;
    int i;
    /* Grab buffer from the camera */
    ...
    /* Copy to output array */
    out=(char *)argv[0]; /* This points to the IDL image variable's data */
    for(i=0;i<1024*1024;i++) out[i]=buffer[i];
    return 1;
}
```

Note that IDL pointers and C pointers are completely different beasts which share almost nothing in common (IDL's could more properly have been called "references").

JD

Subject: Re: IDL and C-
Posted by [MKatz843](#) on Mon, 24 May 2004 18:51:50 GMT
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```
> .... I then tried the following code:
> image = ptr_new(bytarr(call_external("C:\Users\11ryan\CIDLFinal\testDLL\Debug\testDLL.dll",
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> as a dimension instead. Any more advice on what I could try? ...
```

When you say
BYTARR(something) you're creating a new array of zeros with a size given by "something." That's not what you wanted. You might want the BYTE() function, but even that should be unnecessary. I have found that in some cases, it's important to use a RETURN_TYPE keyword with call_externals. You're telling the call_external what type of data is being returned. Double check the list below with the IDL manual, but I think it goes like this:

- 1 = Byte
- 2 = Integer
- 3 = Longword Integer
- 4 = Floating-point
- 5 = Double-precision floating
- 6 = Complex floating
- 7 = String
- 8 = Structure
- 9 = Double-precision complex
- 10 = Pointer
- 11 = Object reference
- 12 = Unsigned Integer
- 13 = Unsigned Longword Integer
- 14 = 64-bit Integer
- 15 = Unsigned 64-bit Integer

Your camera software will probably return Byte or Unsigned Integer types (or a pointer to them). So in the Call_External, you'd add RETURN_TYPE = 1, if appropriate.
image = ptr_new(call_external("...testDLL.dll","testDLL",
RETURN_TYPE=1))

If that doesn't work, figure out exactly what types these data are coming back as.

IDL> print, size(call_external("...testDLL.dll","testDLL") , /type)
See the SIZE() function for more information on this.
If it's returning a pointer, then don't do the RETURN_TYPE=1 above.

M. Katz
