
Subject: Re: One for the experts...

Posted by [menakkis](#) on Thu, 05 Nov 1998 08:00:00 GMT

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One for the experts? This is entrapment! But it's interesting; I'll bite regardless...

gadagkar@norland.com wrote:

- > I have been using IDL (on a Linux OS) for R&D work but our normal application
- > software is a DOS application written in C. The database and image header
- > structures have been written such that there are no bytes appended to fields
- > of structures that do not align themselves on 8 byte boundaries. The spaces
- > (if any) between fields of a structure are removed by using the "packed"
- > attribute (GNU CC). So what I have to do is read binary files that have
- > headers that are "packed" from an IDL application running on a Linux box.

I haven't looked into this thoroughly, just a bit, but as far as I can tell, IDL's READU and WRITEU (with structures) keep files lean. READU expects to find no padding bytes in the file (it pads up after reading), and WRITEU writes no padding bytes (it strips them off before writing). By padding bytes I mean both alignment bytes before multibyte structure members and alignment bytes between structure array elements (if you have an array of structures).

So if you define an IDL structure that exactly matches your C structure, READU and WRITEU *will* work.

Well, I guess I forgot about strings for the moment. If your C structure includes string members, they will be defined as fixed-length char arrays, of course. You should do the "same" in your IDL structure - use BYTARRs of the same size as in the C structure for these members.

IDL's other method for accessing binary files - ASSOC - is a bit different. The past and current-default behaviour for ASSOC is that it DOES read and write padding bytes. In IDL 5.2, though, there's a new keyword PACKED that will make ASSOC work lean.

I don't know IDL/Linux but with IDL/Windows there is another little nasty lurking about. If you want to be 100% sure of doing strict BINARY I/O on IDL/Windows, you have to open your files with /BINARY,/NOAUTOMODE, otherwise things can occasionally go bizarrely wrong.

Peter Mason

-----== Posted via Deja News, The Discussion Network ==-----

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Subject: Re: One for the experts...
Posted by [davidf7203](#) on Fri, 06 Nov 1998 08:00:00 GMT
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Peter Mason, always elegant, writes:

> One for the experts? This is entrapment! But it's interesting; I'll bite
> regardless...

[...excellent analysis snipped...]

I know other people have mentioned it lately, but I just want to
say that I **really** like this newsgroup. :-)

> I don't know IDL/Linux but with IDL/Windows there is another little nasty
> lurking about. If you want to be 100% sure of doing strict BINARY I/O on
> IDL/Windows, you have to open your files with /BINARY,/NOAUTOMODE, otherwise
> things can occasionally go bizarrely wrong.

Seriously!? In what way?

Cheers,

David
davidf@dfanning.com
[Please follow up with e-mail. My news feed is kaput!]

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