Subject: Re: Call_external, IDL v5.5, Fortran and strings
Posted by Peter Mason on Mon, 17 Mar 2003 21:41:27 GMT
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Hugh,
I'll suggest a solution in case no-one has sent you a personal reply to your (unspammed?) email address.

Structures in IDL are automatically padded as necessary to align each field on its "natural word count". Here's how I think the IDL string structures actually look in the 32-bit and 64-bit worlds:

32-bit:	64-bit:
length.int32	length.int32
stype.int16	stype.int16
pad.int16	pad.int16
address.int32	address.int64
(12 bytes)	(16 bytes)

Now it's been many years since I used Fortran and I don't remember / know how Fortran handles structure padding. My guess is that it's not doing the same as IDL. Perhaps it doesn't do any automatic padding? How about explicitly declaring the "pad" field as above?

Cheers
Peter Mason

"Hugh D. R. Evans" <spam@hevans.xs4all.nl> wrote in message news:3e723cc9$0$49099$e4fe514c@news.xs4all.nl...
> Hello,
>
> So, I've happily been using some Fortran code interfaced with IDL via
> Call_external. It all used to work beautifully.
>
> Then, and I'm sure someone out there is absolutely over the moon about the
> change, they go in IDL v5.5 and increase the maximum string size to 2**31-1
> bytes. Normally, I'd be happy with such an improvement, but it completly
> breaks the old fortran interface.
>
> I tried to rehack the structure used to hold the meta data for the string,
> i.e.:
>
```
>     STRUCTURE /string/
>         INTEGER*4    slen
>         INTEGER*2    stype
>         INTEGER      s_addr
>     ENDSTRUCTURE
>
```

> which, managed to get me the correct string length again (before it was
just
> 0, as slen was only looking at the top 2 bytes, which were 0). However,
the
> address doesn't seem to be correct - or at least I can't seem to find
> anything remotely resembling the string I passed at the address specified.
>
> Has anyone out there managed to access strings in Fortran via the
> Call_external? An example would be greatly appreciated (esp for a SunOS
> machine - 64 bit version would be nice as well...). The one's provided in
> the $IDL_DIR/external/call_external/Fortran directory don't seem to work
> either.
>
> Regards,
> Hugh
>
>
