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Subject: Re: Bug? yea or nay.

Posted by [Paul van Delst](#) on Thu, 15 Feb 2001 22:34:40 GMT

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Vapuser wrote:

```
>
> I greatly simplified the structure in question to elucidate the point.
>
> IDL> print,!version
> { mipseb IRIX unix 5.3 Nov 11 1999}
>
> IDL> r={a:0.d, c:0L} & print,n_tags(r,/length),totsize(r)
> 16      12
>
```

<snip>

> What say you? Bug or not?

From the IDL online manual (I know you already know this, Vapuser. It's here for completeness):

NTAGS  
KEYWORDS  
LENGTH

Set this keyword to return the length of the structure, in bytes.

Note - The length of a structure is machine dependent. The length of a given structure will vary depending upon the host machine. IDL pads and aligns structures in a manner consistent with the host machine's C compiler.

This sounds like a similar scenario I have encountered with COMMON blocks in F77 and structures in F90 (to use or not to use the SEQUENCE statement? :o). If I want to read in a series of numbers of different types, although my data structure consists of variables adding up to N bytes, the actual amount of memory used could be more depending on what system I was on. I always presumed this was done because various OS's were "optimised" to deal with data (i.e. store, retrieve) lined up on either 8-byte or 4-byte boundaries in actual memory. The user shouldn't have to worry about the number of bytes (with padding) in memory (unless you have \*humungous\* data structures).

I wouldn't consider it a bug, but it does seem rather, uh, lazy to return the actual memory used rather than the sum size of the components when the latter is what is required to define record sizes to read data - producing side effects such as you have found. I though the one of the strengths of IDL was its system independence?

Maybe you can sell Kodak/RSI TOTSIZ() for IDL 5.4.1? :o)

BTW, on my linux box with IDL 5.4, `print,n_tags(r,/length) = 12`

paulv

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Paul van Delst            A little learning is a dangerous thing;  
CIMSS @ NOAA/NCEP       Drink deep, or taste not the Pierian spring;  
Ph: (301)763-8000 x7274   There shallow draughts intoxicate the brain,  
Fax:(301)763-8545        And drinking largely sobers us again.  
pvandelst@ncep.noaa.gov            Alexander Pope.

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