
Subject: structure length in files

Posted by [Helder Marchetto](#) on Tue, 18 Jun 2013 15:20:10 GMT

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Hi,

[Short summary: When IDL writes structures in unformatted binary data files, what size will the resulting file have, that described by `n_tags(Example1,/LENGTH)` or `n_tags(Example1,/DATA_LENGTH)?`]

I was just looking at the length/size of a structure. I'm reading data from a file and using structures looking like this:

```
Example1 = {Field1: 0      , $ ; Integer, 2 byte
            Field2: 0      , $ ; Integer, 2 byte
            Field3: 0      , $ ; Integer, 2 byte
            Field4: 0      , $ ; Integer, 2 byte
            Field5: 0ULL    } ; Unsigned Long64, 8 byte
```

```
Example2 = {Field1: 0      , $ ; Integer, 2 byte
            Field2: 0      , $ ; Integer, 2 byte
            Field3: 0      , $ ; Integer, 2 byte
            Field4: 0      , $ ; Integer, 2 byte
            Field5: 0ULL    , $ ; Unsigned Long64, 8 byte
            Field6: 0      } ; Integer, 2 byte
```

When I look at it using the help command with `/structure`, I get:

```
IDL> help, example1, example2, /struct
```

```
** Structure <edbf6a0>, 5 tags, length=16, data length=16, refs=1:
...
** Structure <104d4de0>, 6 tags, length=24, data length=18, refs=1:
...
```

What is bothering me is that the addition of a field in the second structure results in an increased length (24 bytes) for a data length of 18 bytes. In the first example, the length is the same as the "data length". [the origin of this is probably filling the structure up to multiples of 8 bytes...]
The same results can be obtained using `n_tags` with the `/length` and `data_length` keywords.

So, reading the `n_tags` documentation, it seems like the `Data_length` is constant (machine independent) and the `length` is machine dependent (as in 32-64 bit and other things).

However, my question:

I noticed that when I read structures, the sizes are the expected "data_length" (machine independent). When IDL writes, what size will I have to expect: "length" or "data_length"?

Thanks,
Helder
