
Subject: Structure of arrays or arrays of structures?
Posted by [Brian Larsen](#) on Thu, 22 Jan 2009 20:52:06 GMT
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All,

this may be philosophy but I have fought with both today and I am wondering if there are pros and cons to the different implementations.

My example is that when I read in text files I build a structure of arrays:

```
IDL> help, data
DATA      STRUCT  = -> <Anonymous> Array[1]
IDL> help, data, /str
** Structure <1a07a08>, 5 tags, length=212480, data length=212480,
refs=1:
    JD      DOUBLE  Array[5312]
    PAS0    DOUBLE  Array[5312]
    PAS90   DOUBLE  Array[5312]
    MEP0E3  DOUBLE  Array[5312]
    MEP90E3 DOUBLE  Array[5312]
```

and when I read cdf data (at least from ACE) I get arrays of structures

```
IDL> help, data
DATA      STRUCT  = -> <Anonymous> Array[36451]
IDL> help, data, /str
** Structure <19cf008>, 45 tags, length=200, data length=196, refs=1:
    DNUM    DOUBLE    0.0000000
    YEAR    LONG     2007
    DAY     LONG     165
    HR      LONG     0
    MIN     LONG     0
    SEC     FLOAT    8.98560
```

Are there memory issues with one way or the other? Other things I haven't thought about?

I prefer the feel of the structure of arrays since I like typing

```
tmp = data.jd[0:10]
more than I like typing
tmp = data[0:10].jd
```

Cheers,

Brian

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