Subject: Re: Do netCDF Files Have a DataType of INT? Posted by SonicKenking on Mon, 03 Jun 2013 05:11:44 GMT

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```
On Monday, June 3, 2013 12:36:19 PM UTC+10, David Fanning wrote:
> Folks,
>
>
  I've run into a problem with a netCDF file and I need a sanity check.
>
>
>
  I define a variable attribute "colortable" with an integer value, say
  33. As far as I know netCDF files don't have a datatype named "INT", so
>
  I use the datatype "SHORT" when I create the attribute:
>
>
>
    NCDF ATTPUT, fileID, self.ID, 'colortable', 33, /SHORT
>
>
>
  Now, I want to read this attribute out of the file and copy it to
>
  another file. To learn something about this attribute I use the IDL
>
  routine NCDF_ATTINQ:
>
>
>
    attrInfo = NCDF_AttIng(fileID, GLOBAL=1, 'colortable')
>
>
>
  But, the datatype field of this attribute structure is inexplicably set
  to INT:
>
>
>
>
    IDL> Print, attrInfo.datatype
>
>
       INT
>
```

```
>
  Does that make *any* sense to anyone?
>
>
>
 Cheers,
>
>
  David
>
>
>
>
>
>
  David Fanning, Ph.D.
  Fanning Software Consulting, Inc.
  Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")
```

My understanding is that NCDF Short is equivalent to IDL Int. They are both 2 byte integers. But since IDL does not have a Short type, the data type is reported by NCDF_AttInq (an IDL routine) as INT, which is the result of an implicit type conversion.

They are basically the same thing. But I do think the fact that you get INT from AttInq but have to use SHORT in VarDef is rather confusing.

Subject: Re: Do netCDF Files Have a DataType of INT? Posted by David Fanning on Mon, 03 Jun 2013 12:03:36 GMT View Forum Message <> Reply to Message

David Fanning writes:

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```
> routine NCDF ATTINQ:
>
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>
 But, the datatype field of this attribute structure is inexplicably set
> to INT:
    IDL> Print, attrInfo.datatype
>
       INT
>
> Does that make *any* sense to anyone?
Oh, never mind. After sleeping on this, I think this is a user error on
my part. :-(
Cheers.
David
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")
```

Subject: Re: Do netCDF Files Have a DataType of INT?
Posted by Paul Van Delst[1] on Mon, 03 Jun 2013 14:23:37 GMT
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From the netCDF docs:

<quote>

A variable external data type is one of a small set of netCDF types. In classic and 64-bit offset files, only the original six types are available (byte, character, short, int, float, and double).

That indicates to me that the netCDF "int" is equivalent to the IDL "long", i.e. a 4-byte integer.

Similarly, the netCDF "short" is equivalent to the IDL "int"

```
From netcdf.h:
/*

* The netcdf external data types
*/
```

```
#define NC NAT
 #define NC BYTE
 #define NC_CHAR
 #define NC SHORT 3
 #define NC_INT
 #define NC_LONG NC_INT
 #define NC FLOAT 5
 #define NC_DOUBLE 6
 #define NC UBYTE 7
 #define NC USHORT 8
 #define NC UINT 9
 #define NC INT64 10
 #define NC_UINT64 11
 #define NC_STRING 12
 #define NC_MAX_ATOMIC_TYPE NC_STRING
cheers.
paulv
On 06/02/13 22:36, David Fanning wrote:
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>
>
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